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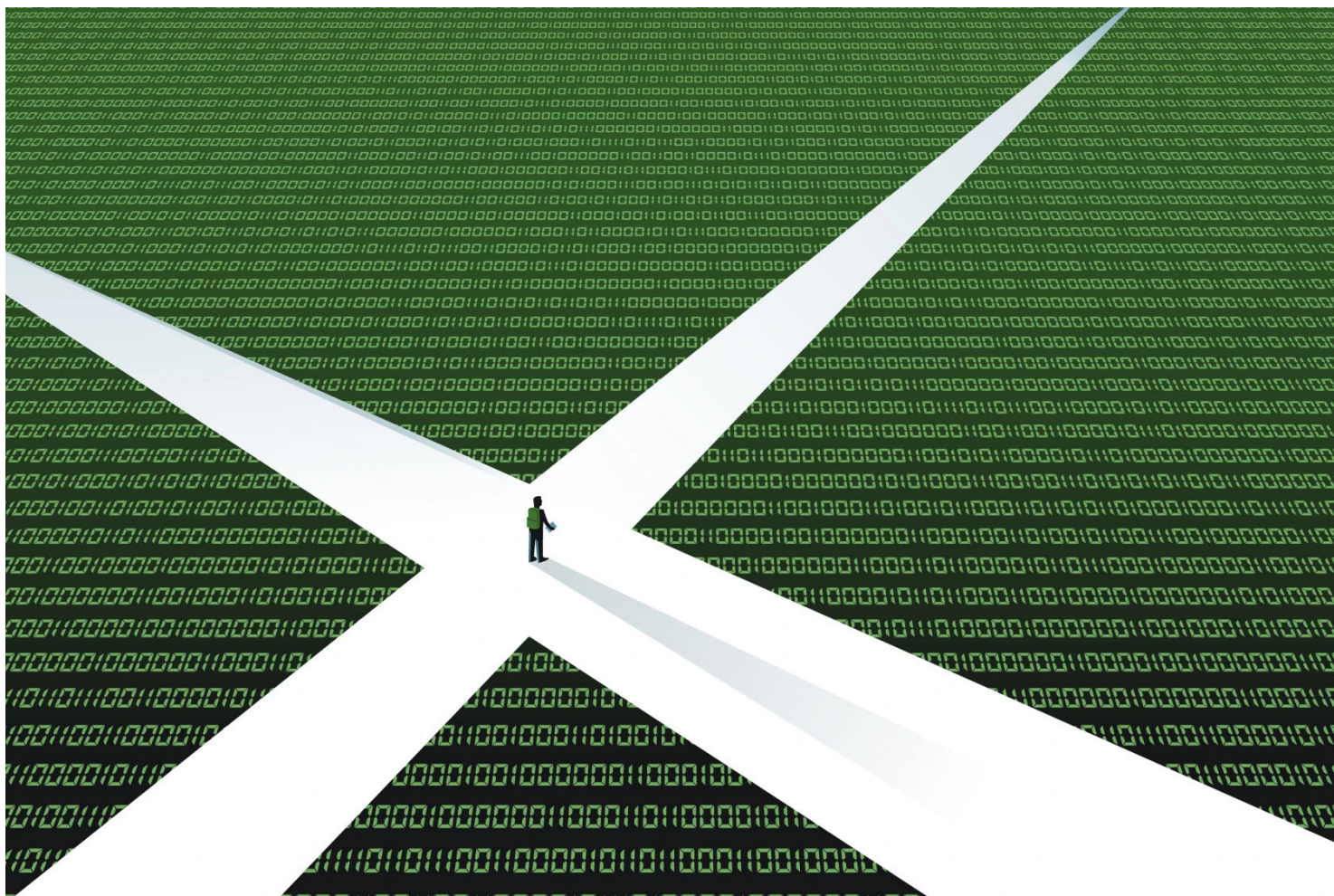
ADVICE

You've Checked Out the New AI Tools. Now What?

Three steps to help you envision the role of ChatGPT — first in your academic discipline and then in your classroom.

By *Michelle D. Miller*

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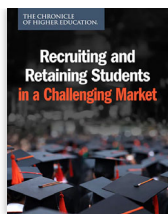


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By now, as a faculty member, you're well aware that you need to take ChatGPT into account in your teaching this fall. With a new semester nigh, that fact probably has you feeling some combination of intrigued, uneasy, and alarmed. I love technology and enjoy thinking about [how to weave it into teaching](#). But even this confirmed technophile felt a bit queasy at the thought of overhauling everything I do to fit into an AI-driven world.

Take course planning. Contemplating how these new tools fit into my courses made me feel like a rookie teacher all over again. I mean that literally — it brought back an episode from my very first year of teaching, which I will describe briefly here because I think it reveals a path forward.

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In that first year, I was teaching an intimidating rite of passage for psychology majors: the research-methods course. It marks their transition from consumers of research to fledgling researchers in their own right, and inevitably requires scaling some steep intellectual hurdles, especially in the case of the quantitative skills so prized within our discipline. The biggest hurdle back then was introducing these sophomores to a statistics package they would use for the rest of their coursework. They had to learn to write detailed code, and I was determined to teach them how. But my precise planning all fell apart at the beginning of the semester when the latest version of the stats package came out, featuring a brand-new, intuitive interface. Now, rather than laboriously writing code line by line, students could use easy-to-navigate drop-down menus and a built-in spreadsheet to define and analyze their data. Suddenly, it no longer seemed necessary to learn how to write up the commands from scratch — a point my students argued rather strenuously in the first lab session.

But I required them to master the “old” system anyway. My reasoning: It would ensure they understood, at a conceptual level, what the various menus and dialog boxes were actually doing. I was also skeptical that the new technology would be around for the long haul. But beyond such reasonable objections, I can see now that some of my resistance really related to my own fears as a teacher. I was afraid to let go of what had been, up to then, a core skill within my profession. No doubt my discomfort also arose from having to rethink big stretches of the course so unexpectedly.

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That experience revealed an assumption about my chosen profession that I had not realized I held: that researchers in my field would always tackle their work in a particular way, one that happened to coincide with how I was taught.

The recent faculty reaction to AI — confusion, distrust, resistance, panic — shows I am far from alone in that assumption. But it also points to what I think is the best course of action for anyone who has played around with ChatGPT and other AI tools and is puzzled about next steps:

- First, envision what the role of these new tools will be within your academic discipline.
- Then let that vision guide how you incorporate AI into your teaching.

I'll assume that you've learned a bit about the basic capabilities of AI tools and their implications for teaching (perhaps by reading Flower Darby's excellent planning [guide](#) that appeared here earlier in the summer). Your goal is to develop ideas that you're genuinely excited to try — ones that fit your students, your teaching style, and most important, your academic discipline and its idiosyncrasies.

The advice that follows is about turning those ideas into reality, with examples drawn from some of the many emerging studies on teaching with AI. That body of research is now moving beyond generalities about the promise and threats of the new technology toward much more concrete applications. One caveat: I've chosen not to focus here on academic dishonesty and AI. To be sure, that is an important issue but a separate one from the positive uses of these tools in research and teaching. That said, here's what to do next.

Step 1. Experiment with AI tools from the perspective of your discipline. The shortest route to uncovering good ideas for how to use Bard or ChatGPT is to ask yourself how you, as an expert, could productively apply them to work you are already doing.

During this phase, challenge yourself to use AI in at least one way in each of your own projects. For example, as a social scientist, I might use the tool to help check and revise instructions when creating a survey geared toward a particular demographic and reading level. Or, say you're grappling with a dense research article. Once you're done reading, it can be helpful to prompt an AI chatbot to ask you a few questions about it to quickly surface any big points you may have missed (a trick I used myself after a recent research session).

To get into the habit, you can also try reminding yourself every now and again to try AI first instead of Googling (one of many helpful pieces of advice offered in [this podcast](#)). Take advantage of the features that distinguish the new AI tools from traditional search engines. That includes the ability to generate novel content (text passages, lists, images). But just as important, the queries you make in AI aren't one-shot, memory-free exchanges. Rather, they work best when you refine them in an ongoing fashion, a shaping process that's described beautifully in [this article](#) on how to steer ChatGPT "to better results."

Step 2. Identify at least one genuinely helpful way to use AI in your own field. If no discipline-specific ideas leap to mind, you can take inspiration from the following examples, which I've adapted from [a recent study](#) of academics who were early adopters of ChatGPT. Try using it to:

- Generate data visualizations. Ask an AI tool to suggest ways of arranging information in charts, slides, and graphics. It may come up with approaches you hadn't considered, and it can quickly do the lower-level work of building draft illustrations.

- Identify and summarize academic sources. ChatGPT can't, and should not, take the place of expert scholarly judgment. However, it can be helpful in your initial foray into a new area of research, helping you more quickly winnow large bodies of content to a set of the most relevant works.
- Take a first look at work you will be peer-reviewing. Here, too, an AI tool can help you get oriented to the major claims and approaches within a draft before you dive in.
- Summarize your own work as you convert it to a different format. You can feed your own drafts into ChatGPT as well. Asking it to outline the main ideas of your article can give you a head start on creating a conference talk based on the paper, for example.

Step 3. Devise at least one AI-based teaching activity suitable for your own courses.

Every day brings more and more teaching guides with ideas for using AI tools in college courses. Some activities ask students to use AI to produce an early draft of an assignment. Others ask students to critically analyze AI-generated content for biases and/or inaccuracies. You'll find concrete examples of both types of activities in [this guide](#). Another [useful guide](#) demonstrates how an AI tool can be used to mentor students on their individual class projects. This involves first inputting a detailed prompt (a sample of which is helpfully included) instructing the AI tool on how it should respond to the questions and content it will encounter throughout the mentoring session.

Here are some examples of discipline-specific activity ideas drawn from recent guides and research articles.

- In a [physics](#) course: Students ask ChatGPT a question about the nature of photons. Have them critique the result, and then pair up with classmates to compare the responses (which may differ). Then ask students to revise their ChatGPT responses by drawing on other sources and share those revised versions in class.

- In a [foreign-language](#) course: Have students use an AI tool to identify and explain grammatical errors in text they've written.
- In a [writing](#) course: Ask students to rewrite AI-generated content using specific rhetorical devices, sentence structures, or vocabulary.

As a psychology teacher, I can envision asking students to use ChatGPT to generate and assess rich examples of concepts they're reading about. For example, AI does a decent job of creating detailed dialogues between therapists and their clients. (A sample prompt: "Come up with a conversation between a client who has anxiety and a therapist who is practicing cognitive behavioral therapy.") Students could also ask an AI tool to produce a basic study design to investigate a hypothesis. Here again, ChatGPT would be a jumping-off point, enabling the students to elaborate and improve on the design. And as a big advocate of [retrieval practice](#) in teaching and learning, I plan to show students how to use AI to create (and, once again, evaluate) questions they can use for self-quizzing.

In sum, the best thing you can do right now is to envision how AI could be used productively in the context of the research and teaching you actually do right now. This kind of focused brainstorming can help you sort through the bewildering array of suggestions and opinions being offered to academics at the moment.

I'll end by revisiting what became of those old-school statistical skills I was clinging to so long ago. As it turned out, the new menu-driven interface wasn't a passing fad but rather a design that has endured to this day. But it ended up coexisting nicely with the old way, which is also still going strong. Today, we social scientists frequently harness the easy-to-use interface to generate lines of code that specify how the different analyses will be done, and then we use our stats expertise to modify the results to fit a particular project.

And so, those skills I agonized over teaching my students haven't become obsolete — they're just used in a different way, one built on the interplay between raw materials

generated by machine and the researcher's expert judgment. The interface ended up being used as a "[supportive tool rather than a replacement](#)" — exactly the happy medium being prescribed today by thoughtful AI experts.

That theme of support, coupled with the lens of academic discipline, will be the most enduring and helpful way to make sense of faculty work in the age of AI. Keep your eye on those beacons, and you may find yourself feeling a lot better about the semester to come.

We welcome your thoughts and questions about this article. Please [email the editors](#) or [submit a letter](#) for publication.

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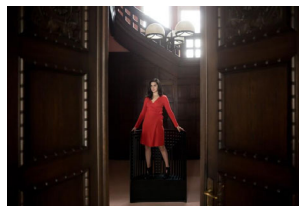
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Michelle D. Miller is a professor of psychological sciences at Northern Arizona University. Her [latest book](#) is *Remembering and Forgetting in the Age of Technology: Teaching, Learning, and the Science of Memory in a Wired World*, published in April 2022 by West Virginia University Press. She is also the author of *Minds Online: Teaching Effectively With Technology*, published by Harvard University Press.

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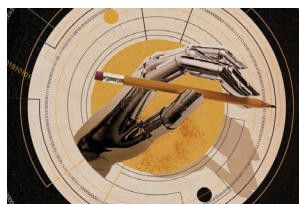
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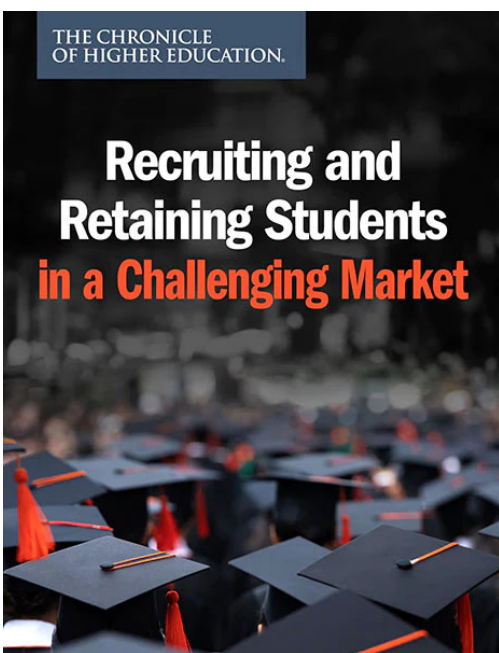


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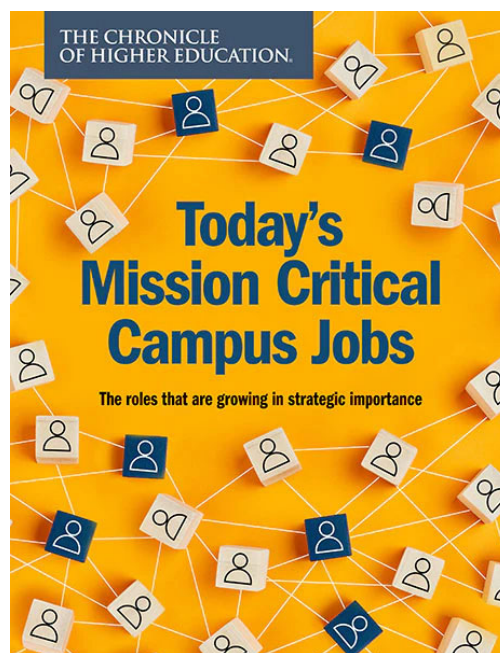


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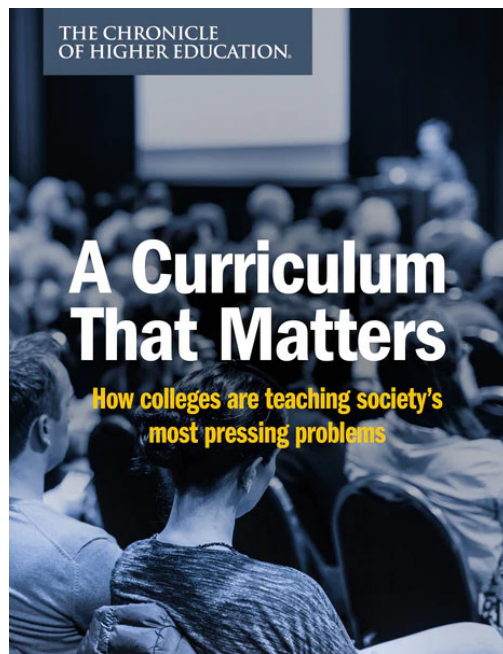
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