Q&A: Can AI in school actually help students be more creative and self-directed?

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Katie Davis, a University of Washington associate professor in the Information School, discusses how generative AI might support learning, instead of detracting from it, if kids can keep their agency. Credit: Kiyomi Taguchi

One fear about generative artificial intelligence, such as ChatGPT, is that students will outsource their creative work and critical thinking to it. But Katie Davis, a University of Washington associate professor in the Information School, is also interested in how researchers might use AI tools to make learning more creative.

In her book, "Technology's Child: Digital Media's Role in the Ages and Stages of Growing Up," Davis examines how technology affects kids, teens and young adults. She distills research in the area into two key qualities of technologies that support development: They should be "self-directed" (meaning the kids are in control, not the tech makers) and "community-supported" (meaning adults and peers are around to engage with the kids' tech use).

Davis spoke with UW News about her research and how generative AI might support learning, instead of detracting from it, provided kids can keep their agency.

What issues do you study around young people and technology?

My research focuses on the impact of new and emerging technologies on young people's learning, development and well-being—especially on early teens up through college-age kids. Over the years, I've explored a variety of topics, but I always come back to this broad question: How are the technologies around young people shaping their sense of self and how they move through the world?

Since ChatGPT was released under a year ago, what are you paying attention to as research develops around AI and learning?

I'm fascinated by emerging research on what kids are doing with generative AI, such as ChatGPT, when they have free time and want to explore. How are they thinking and making sense of generative AI and its potential—not just for learning, but for going about their daily lives?

It seems like with generative AI, there's been a lot of focus on whether kids will use it to outsource their creativity, but you're also looking at how they can support their creativity by playing with these tools.

Some of the questions I ask in my research are: When does technology support young people's agency in their learning? When do they feel like they're in the driver's seat of their technology use? And when does technology do the work for them and direct them one way instead of another?

My hope is that kids will learn to give ChatGPT and other AI tools creative prompts and use chatbots as a source of inspiration rather than an answer bank. But teaching kids to use AI creatively and critically isn't easy. Plus, I'm mindful that there's an unfortunate pattern in education technology whereby innovative uses are traditionally found in more affluent, well-resourced schools. Whereas the same technologies, when they're introduced into less well-resourced schools, are often used more for drill-type activities, or even to control kids and make sure that they're on task.

Are you researching generative AI? What questions are you asking?

In my lab, we want to see if generative AI can make teen social media experiences better. We've found that teens often go onto social media

for one purpose, only to find themselves quickly sucked down a rabbit hole of unintended scrolling. After 20 or 30 minutes, they're thinking: What have I just done with my time? It's a very common experience in adults as well. We're exploring whether we can use generative AI to reorient teens' initial entry into social media experiences toward meaningfulness, toward their values or goals and away from habitual use.

We're also looking at disparities in how generative AI tools are being taken up in different schools and school systems. We're hoping to understand how young people use AI chatbots outside of school and in their daily lives, and then use those emerging mental models to shape what's possible in schools and for learning.

Can you describe a way that people have been using ChatGPT without instructions that surprised you?

I'm most interested in kids who try to break ChatGPT because that suggests to me that they're using a tinkerer's mindset, which suggests that they are in control. They're asking: What can I do with this tool? How can I push it and stretch it?

Kids are sophisticated users of technology. And they're not afraid to break things. I think that's one reason they tend to learn how to use new technologies so quickly, because they don't care if they make mistakes. That mindset provides a real opportunity that schools can take advantage of, to teach critical understandings of AI and other emerging technologies. Otherwise, I worry that the technology will start to use us and we'll lose some of our agency. But I don't think that's inevitable.

Are there ways to design AI tools to emphasize 'self-directed' and 'community-supported' experiences of the sort you recommend in your book?

One example is Khan Academy, which has come out with an AI chatbot, Khanmigo. The company is framing Khanmigo as a tutor that's not just going to give you answers, but actually ask you open-ended questions to help you come to your own answer. That's a great vision. Now, my understanding is that it's not quite there yet. It's not perfect, but I think the goal is a good one.

It's fascinating: Generative AI is really rattling some notions around learning through rote exercises, because it basically takes away these exercises.

Even in my university teaching, I have had to think carefully about the kinds of assignments that I'm giving students. I can't just ask them to write a paper on some topic, because, odds are, they're going to use ChatGPT to write it. So I have to really think about what is it that I want them to know and be able to do. It's not easy, but I love the conversations we're having as educators.

AI is bringing up all these meaty questions: How can we use AI to teach better? Are there new things that we need to teach? Are there things we don't need to teach anymore? This upheaval is unsettling for teachers at all levels, including me. But I think it's a good unsettling. It's one that really forces us as educators to focus on the goals of teaching.

What approach have you been taking with generative AI for teaching? Have your policies changed going into this new school year?

I was fortunate to not be teaching for the first two quarters when ChatGPT was introduced. So I got to watch my colleagues try things out and see what worked and what didn't. I started teaching again in the

spring and decided to lean into ChatGPT. In a course on child development and learning with technology, I asked students to use ChatGPT to help them create a lesson plan and then critique what it gave them. The students and I found that ChatGPT creates perfectly reasonable lesson plans, but they're all a bit 'blah." They're uninspired. I wanted students to make them better, and so did they.

This fall, I'm teaching a course on research methods. And I want students to use ChatGPT to help them scope and develop their research projects. They'll discover that ChatGPT may give them a good starting point, but it's also likely to give them some bogus citations, which are completely made up. I want them to engage with these benefits and limitations head on.

Provided by University of Washington

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