Can educators warm up to AI? Experts weigh in

Chatbot technology can boost learning motivation and student engagement. But first, educators must put parameters in place.

Robin Chenoweth: In November, it will have been two years since ChatGPT was released to the world. The artificial intelligence chatbot, which can manufacture an essay or solve a math problem in an instant, reverberated in one community in particular. In the United States alone, nearly 5.5 teachers and college faculty reacted to how the technology changed their professions overnight.

Nathan Gower, Help Me Understand Clips: What I'm worried about is, because of the power of the tool, and the tool's only going to get better, is that over the course of a generation, say, the sort of atrophy we will see in the ability to write in general…

@allyrooker, TikTok: Do you want pilots and contractors and plumbers to cheat their way through school and use a robot to prove that they know how to do what they say they know how to do? What kind of world are we creating? We're literally using robots to do the one thing that makes us human.

@gibsonishere, Instagram: Me figuring out how to tell whether or not they did the job and whether or not it is just straight plagiarism cut and paste, is going to be more difficult as time goes on. Anybody else feel like we all need to go back to school and take a course in philosophy?

Robin Chenoweth: Detra Price-Dennis is executive director of Ohio State's Center for Digital Learning and Innovation.

Detra Price-Dennis: Teachers are concerned: I don't know if my students are learning. I don't know what they know. I don't know how to support them. I don't know if this is their ideas, where they're struggling. You know, the assessment piece is really up ended.

Robin Chenoweth: Some districts and universities banned the use of chatbots outright. But then, educators began playing with the tool and some of them were clearly smitten.

@TeachersOnFire, YouTube: Look at that. That is amazing. Just like that, it reached it into a lot of knowledge about a protagonist in a novel written in the last 10 years and compared it to another protagonist ….

@drtylertarver, TikTok: And then, bam! It literally creates the questions for you with an answer key.

Rick Voithoffer: Teachers are saying, “Hey, this is potentially helping me.”

Robin Chenoweth: Rick Voithoffer, associate professor and director of Critical Innovation in Research with Technologies at the center.

Rick Voithoffer: You want to put more students in my class, or you want me to be more responsive, or more individualized? Here are some tools that I can use to help me to do that.

Robin Chenoweth: So, last year, districts and colleges rolled back the bans. Many began putting up guardrails on how generative AI can be used to educate, which data should and shouldn’t be entered. And that left educators in a nebulous space, grappling with how to cope, but also how to harness AI in ways that help students to become critical thinkers and realize the technology’s limitations. In this episode of the Ohio State University Inspire Podcast, we talk to four education experts about generative AI, how it can propel and motivate learning, and how to deal with cheating. Where are we now? And, have we been here before? What does history say about how technology is received by those charged with teaching the next generation of thinkers? I’m Robin Chenoweth. Carol Delgrosso is our audio engineer. Inspire is a production of the College of Education and Human Ecology.

Robin Chenoweth: In the months since ChatGPT was introduced, innovation has happened at a lightning pace. Many iterations are now available, a number of them focused on education. Math chatbots are much better at helping students solve problems. Others help organize outlines for essays. Some are specifically geared to educators. But what hasn’t changed: Educators’ misgivings about the technology. I asked Eric Anderman, professor of educational psychology in the College of Education and Human Ecology, about those concerns.

Robin Chenoweth with Eric Anderman: What are the reservations? What are they worried we might be losing if we allow students to use AI?

Eric Anderman: I think they're worried that students will not be problem solvers, that students will let the AI solve the problem for them, and that they will not be able to, when they get into the real world, when they get into higher education, be able to think on their feet and solve problems and come up with creative solutions to problems. I think that's a very big fear.

Robin Chenoweth with Eric Anderman: Is it a valid concern?

Eric Anderman: It could be. It goes back to really thinking about — we're so new at this — creating guidelines for best practices for teachers. I mean, this is the wild west. Teachers don't know what to do with it. College professors don't know what to do with it. It's so new. I'm going back into the classroom this fall. I haven't taught in the last two years because I've been an admin job. And I'm thinking about, what am I going to do with this? How am I going to use it? I haven't figured it out. But I'm working on it. And so, you could be afraid of it and or you could embrace it. And I think we just need to embrace it very, very slowly.

Robin Chenoweth: If you are panicking, it might help to remember that this isn't our first rodeo with technology, says Ana-Paula Correia, professor of learning technologies and director of the Center on Education and Training for Employment.

Ana-Paula Correia: So what's happening now (with) ChatGPT has been happening recurrently. Let's just think about COVID-19 pandemic. It's been like four years ago, maybe three. So we did the same thing to ensure that students don't cheat. On assignments, that we were giving them online and in virtual spaces, we used remote proctoring. Many institutions, many schools, colleges did that. And that was one of the strategies that brought a whole new set of not-so-good consequences.

Robin Chenoweth with Ana-Paula Correia: You said earlier that when calculators were invented, that people took to the streets kind-of-thing?

Ana-Paula Correia: Yes. The scientific calculator. It was introduced to the general public in the early 70s. … It was a different scale, but it was very similar. It was a disrupter. And yes, people were very afraid that… Even though the scientific calculator made advanced calculations accessible to many, teachers accused it of undermining mathematical thinking and mathematical skills. … There was protesting on the streets about that invention.

Robin Chenoweth: Those protests? They did happen in the United States, at the annual meeting of the National Council of Teachers of Mathematics in 1986. The council debated the issue for years. The College Board had permitted scientific calculators in 1983, banned them in 1984 and reinstated them in 1994 — almost two decades after they were introduced.

Ana-Paula Correia: And look at us: We all carry a scientific calculator on our smartphones. And math teachers, in particular, they master the skill of integrating scientific calculators into the math curriculum.

Robin Chenoweth: We can do the same with generative AI, Correia says. Here's Detra Price-Dennis.

Detra Price-Dennis: I love the perspective of, so how do we embrace this in a way, and create assignments where AI is a part of .. it's just a thinking tool. It's part of what you're using, like a calculator. Like any tech tool, and so what would we use AI for in the classroom? How would students use that to help them think, process, get feedback, grow their work, engage with information that they may not necessarily know how to engage with, and not necessarily use AI like they use Google.

Robin Chenoweth: We can't run from AI. So how can educators strap on the jetpacks and find ways to use generative AI to help students, even motivating them to learn better than before? Our experts have ideas. But first things first. Eric Anderman is a top researcher on student cheating and motivation. Banning or not engaging with AI will backfire, he said. So set some ground rules now.

Eric Anderman: If I could get any message to teachers, it would be: Treat it as an exciting resource with kids. If you start treating it as, you know, this is like prohibition, and you just can't use it, they're going to want to use it more. It's going make it more tempting. So, show them creative ways to use it.

Eric Anderman: The key, absolutely, I think, is telling students, whether it's a K-12 setting or in a college classroom, what the parameters are, what the limits are, what you and your class will permit with it, and what you will not permit with it. And making that really, really clear, like in a syllabus. That's what really is, I think, important right now.

Robin Chenoweth with Eric Anderman: I'm wondering if you're even asking yourself this, what parameters are you going to set?

Eric Anderman: Depends on the subject area. So, for example…

Eric Anderman: You might want to say, if you're a math professor using any of the AI tools, chatbots, to solve a problem is not permitted in this class. However, using it to help guide you through the steps to solve a problem is something that is acceptable. But you need to turn in exactly how it helped you and what you used. … Mathematics produces so much anxiety for so many students, and they see some equation and their blood pressure goes up, and they can't do it. You can flip it around and say to a ChatGPT, or Microsoft Copilot, "Here's my problem. Can you give me a hint on the first step?" Or … Here's what I'm going to do with the first step. Give it to ChatGPT and say, "Is this a good first step?" It will give you feedback. You have to play around with it to get it to give feedback in the right way, but it definitely can do that. And it could say, "No, you're in the wrong direction. Would you like me to give you a hint?" And again, having students maybe turn that in to show how they are learning the process themselves. But it's all about presenting it as a tool and not as a shortcut.

Robin Chenoweth: Businesses already use AI audit trails or audit logs to trace AI use. Will education do the same?

Eric Anderman: It's probably going to be a moving target because it's a work in progress. It's, it's going to change as we figure out what is and isn't permissible, and how to make the best use of it.

Robin Chenoweth with Eric Anderman: We're going through some growing pains right now, aren't we?

Eric Anderman: Yes.

Robin Chenoweth: Next step: Experiment with AI yourself. Detra Price-Dennis.

Detra Price-Dennis: I would really love to see people be curious about it. And be curious about what it can do for them in their personal life, and then in their professional life. Whether it's productivity, whether it's supporting student learning, whether it's assessment. What is the possibility and the potential and why should it even be a tool that anyone would consider using? … What is your experience with using any type of the GPT or AI? And what is that helping you understand about yourself as a learner? Because if they don't have experience with the tool, it's really hard to imagine how to develop curriculum or pedagogies, or strategies, or even troubleshoot with students.

Robin Chenoweth: Free versions are available. Start fiddling with writing better prompts, Price Dennis and Voithoffer say, key to getting better results.

Detra Price Dennis: People aren't seeing the type of productivity they thought they would see. But that's because they're using AI like a Google search, instead of really taking advantage of the prompting that they could do.

Rick Voithoffer: If you ask a general question, you're likely to get a very general, generic answer. And so prompt engineering is this idea of writing just the right prompt to get the information that you would like. … It could be creating a persona, you're a third grader, you're writing an essay … It can include delimiters, like 500 words, or 250 words. It could include tone, help me write a friendly response to this email to my professor. Include a metaphor about cycling. The more specific you can be, the more you can play with the answers.

Robin Chenoweth with Rick Voithoffer and Detra Price-Dennis: Say a high school student is doing, a history report on the Civil War. How might they not be using it the right way?

Detra Price Dennis: They might just say, tell me what happened at a particular battle and Chat GPT will relay that. Well, they can get that from Google. So they're not really taking advantage of the affordances of using ChatGPT. Where they could say something like, "You are general so-and-so at the Battle of blah, blah, blah. Give me a perspective of your strategic battle plan: why you made the battle plan that way. What were you trying to accomplish by doing that?" … They would get that general's perspective. The student could write the report and then position ChatGPT as a historian. They could pick a university: You are a top historian at Ohio State

University, studying the Civil War. Read my essay and give me three key talking points that I need to highlight within five minutes. Generate three slides with images to go with it.

Robin Chenoweth: Work AI in slowly as you assess students' needs and the technology's limitations.

Detra Price Dennis: It's overwhelming to try to figure out how to do this for everything, every day. So let's pick a unit of study that's going to happen in six weeks. Building up towards that six weeks, what are some of the things that you've learned and experienced that you can incorporate? What are the objectives? What is it that you want students to know and be able to do?

Robin Chenoweth: Let's say you want students to figure out what motivates a character in *Anne of Green Gables* to pursue her dreams.

Detra Price-Dennis: Does that even make sense to use GPT for? If it does make sense, then I feel like we can have some conversations about what could be possible. What kind of instruction do students need to know around prompt engineering, around data, around privacy, around security?

Robin Chenoweth: Remember: Free versions of AI collect all data people enter.

Rick Voithoffer: You don't know what students can type in. They type in their friend's name and address. All of a sudden, it's part of the datasets, part of the model.

Detra-Price Dennis: I don't know if school districts have gotten to that level of specificity. … There's a bunch of that that I think should have to happen, and some play time, lots of play time, before, okay, here's what you go in and do. … I think all of those steps set teachers up to be able to grow their own knowledge about how to use it, instead of always waiting for someone to come in and tell you what to do.

Robin Chenoweth: More about the limitations. Generative AI have screwed up, providing false information that techies call hallucinations. A New York lawyer was fined after submitting a legal brief written by ChatGPT that included fake court cases. Microsoft Bing infamously claimed Billie Eilish performed at the 2023 Superbowl.

Rick Voithoffer: These models are designed to mimic the patterns in the data in which they are based. And so if those patterns have things that aren't accurate, it's just reproducing that. … If there's a piece that's missing, they might just fill it in. … If you, say, give it a prompt: "Synthesize the research on "x" and give me full citations after." If you look at those citations, a certain percentage of them, they don't exist.

Robin Chenoweth: And because AI draws from large language models, their outputs can be biased, too. So, students and educators must approach AI with a critical mindset.

Detra Price-Dennis: I think the one piece I don't want teachers to lose is that kind of healthy criticality or skepticism. Maybe move away from the fear but also still ask really good, critical questions. Because that will help with some of the ethics and the data and some of the big picture questions or issues that we're running into.

Robin Chenoweth: Back to that Civil War assignment. If a persona output says that the general failed to advance because he was afraid to die, leaving his children orphaned…

Rick Voithoffer: They have to read and, like, critically assess, would this general actually think this way?

Detra Price-Dennis: Yes!

Rick Voithoffer: Did that general actually have children? We talked about hallucinations. It could make up something like that. … Part of the assignment can be, "How did you fact-check the information that you've got?" So communicating, not just the product, but the process is a big part of, I think, one of the ways we have to maybe rethink some of our assessments.

Detra Price-Dennis: I've been trying to play around with how to even put this in my syllabus. What does that audit trail need to look like? And then how does that impact the moves you make as a learner? Once you find out that the general didn't have any kids at all … Or maybe he had kids, and then he also had kids that he wasn't necessarily claiming because they could have been with enslaved women. What do you do when you find that out? So how does that information factor into your report? How does it factor into your understanding of the battle? And having students be able to document every time they're getting information from a generative AI, how does that impact their learning?

Robin Chenoweth: For younger students, it might take proving AI's limitations.

Rick Voithoffer: If you can find an example that's relevant to the students that they know about… someone that they know a lot of very subtle information about. And you ask AI, a series of questions about, let's just say, Billie Eilish. Test this out ahead of time, if you're a teacher, to make sure that it starts to give you some things that are not accurate. But for them to say, "Oh, that's wrong!" To look at and say, "That is not accurate. I know that she," whatever, "didn't perform in Australia…"

Robin Chenoweth: Or in the Superbowl.

Rick Voithoffer: Where does the authority lie? If you put all the authority in the AI, it's a problem, right? And so if they can take back some of the authority to knowing and knowledge themselves, then they're more likely to be critical in terms of what the AI can give.

Robin Chenoweth: They’re talking about engaged learning — the very thing educators are worried students will lose. I asked Ana-Paula Correia and Eric Anderman using AI to engage students and increase motivation.

Robin Chenoweth with Ana Paula Correia: What about when it seems like it's doing the thinking for you, and you're not doing that thinking?

Ana-Paula Correia: It's only doing the thinking for you if we allow that to happen.

Robin Chenoweth with Ana-Paula Correia: Right…

Ana-Paula Correia: Because if you have this critical mind that we've been teaching our students to develop, you're going to be critiquing the output. Because the beauty of the ChatGPT and these large language models is that there's an input that is human generated. That's your question, right? And there's this output that you can critique. So where you put your creativity or human fingerprint … you write the question to the machine. So the more time you spend on writing that prompt, the more thinking you’re putting on it, the better is going to be the output. But you still have to critique it. … Now you're going to use that brilliance to critique the output. It's only going to be a problem if there's no motivation and pride of getting your human imprint on the output.

Robin Chenoweth with Ana Paula Correia: Do you think, though, that that isn't a danger? That a student might not have the motivation? All they want is the output.

Ana-Paula Correia: I don't think we make anyone to be motivated. It just takes the learning experience you create for them. If you teach things related with their life, and they are excited about it, they will react to that. They want to have an imprint at the end. They want to have something to say. They want to have a voice. And if you create a learning experience that tells the students you want to capture their voice, their thinking, their learning in the moment, they will recognize it. So, I will say it's on us, educators, to make these exciting experiences for them to feel motivated to be quite critical to the output.

Robin Chenoweth: Eric Anderman.

Eric Anderman: I think this is one of the greatest, so far untapped potentials of all of these AI tools. …Students’ motivation often is curtailed because they get frustrated. As soon as they can't solve a problem, they have a challenge that they can't even begin to think about how they're going to engage with it. … All of these programs have the possibility of jumpstarting that for the students. So when the student is experiencing the anxiety, saying, hey, ChatGPT, give me a hint on the first step for that. The other thing that it can do that is so, so helpful. is helping students to set short-term goals. One of the things that causes people to lose motivation in all areas of life is we set goals, we start to achieve but work toward the goal, we don't reach the goal, we get frustrated and give up. … So as a student going in, particularly one who isn't confident about their writing, it can break it down into steps and say, “I have to write this essay.

It's due in two weeks. Can you provide me steps that I should take each day so that I can meet my goal?" And then the student each day just does what it says: write an outline, the second day it might be gather the information that you need, day three, day four, day five, to break it up into those steps for them. That is where it has so much potential to help. As opposed to the student who just sits there for 10 days and says I don't know what to do, I don't know where to start.

Robin Chenoweth: Let's talk about the elephant in the room.

Robin Chenoweth with Eric Anderman: How often do students cheat using AI?

Eric Anderman: There's been some unscientific studies so far, that … meaning unscientific they haven't really used as far as I can tell, really representative samples. The best answer I can give you is a lot. One study that I saw, again, that was not representative, estimated that almost 50% have already used it in some kind of illicit manner. But we just don't know, it's so new.

Robin Chenoweth with Eric Anderman: What should teacher do if they suspect a student of misusing AI?

Eric Anderman: There are AI detectors that right now, they're not very reliable. So that's, a problem clearly, and so you shouldn't be dependent on those. If you suspect that someone has used AI, first thing I would do is talk to the student and try to confirm your suspicions. … You have to use your judgment because we know our students. So, it's like with any kind of cheating, if suddenly the quality of the writing is different, you may get a little suspicious. By the same token, I like to be very cautious about that, because I've seen many cases doing research on cheating, where people will see something improved and assume it was cheating, when actually it wasn't. And it was the student really trying harder and taking the feedback. So. I'm not giving an easy answer to the question because there isn't one.

Robin Chenoweth: Correia tested 10 AI detectors in January. Read her blog, linked in our episode notes. When she fed detectors her own writing, most flagged it as AI generated.

Robin Chenoweth with Ana-Paula Correia: That could ruin a student's academic career.

Ana-Paula Correia: Yes. Even just one student is already bad. It's already too many. … Talk with a student. Don't mention the tool, just do some investigation yourself, as a human being, and as an educator. … Just ask, did you enjoy writing this piece? What parts of it did you like? What made you think about this sentence? In that kind of interaction you can see if the student did it or not. And then if the student has a hard time verbalizing, you can ask, so did you get help? … You can be honest with me. This is a journey, a learning journey. We're learning from both sides. So, I expect you to be honest, as I'm trying to be honest when I teach. Your students are humans, are not our enemies. This is not us and them. This is us together learning.

Robin Chenoweth: Human beings, at our best, are also creative. Here's my lurking worry: What threat does AI pose to human creativity in the societal sense?

Robin Chenoweth with Ana-Paula Correia: If you're depending on generative AI to write something for you, it's borrowing thoughts from everybody else. But it's all been said and done before, right? And then regenerating that and spitting it back out as something unique. But it can never be unique, because it's all been said before. Is there any danger of us losing that kind of creativity? ... What new invention is not going to happen? What new idea? What new poem is not going to be written? Because — take your washing machine example — what you throw in basically is what comes back out. You're not creating anything new.

Ana-Paula Correia: Okay, let me unpack your question. Renaissance.

Robin Chenoweth with Ana-Paual Correia: During the Renaissance.

Ana-Paula Correia: Yes! The Greeks, they had time to think. They had people to do all the work around them; their servants and slaves and all these men thinking, having all this awesome time for thinking. Oh, give me that, please! I don't want the servants or the slaves. But I want the robots to do all the housework for me, well, so I don't have to redo it. And I want to think. I want to lay down the bed, looking at the ceiling and think. ... Okay, time to think because that's — I agree with you — where the innovation and the creativity comes from. And that moment where the bulb goes on, right? ... Before generative AI tools, we already remixing, reusing, expanding art and music and literary works. In schoolwork, we're building on ideas, expanding modules, adding new pieces, tweaking this, tweaking that. That rubric was already present.

Robin Chenoweth with Ana-Paula Correia: Right. You're saying we were already influenced by it, whether we want to admit it or not?

Ana-Paula Correia: Yes! But I'm just saying, we've been there. So now we have a different voice that we can build upon. We have a synthetic voice, an amalgam of everything else out there on the internet, that will add to our voice, because we have more time to think, because those tools will release some time for us to think. ... For example, I had to write this email to United Airlines about a complaint. Before ChatGPT, first, I would not want to do it because it's going to take me so much time. ... I had it done in 10 minutes.

Robin Chenoweth with Ana-Paula Correia: Because ChatGPT?

Ana-Paula Correia: Because ChatGPT, great! Now I take all this time and not worry about, "Oh, I have something to do that I need to do, and I'm not doing it." And I'm thinking about preparing the questions you sent me in advance for this podcast. And I loved it, because it's going to propel the writing of my new blog post. And I'm so happy. So now I have more time to think. That's all I want.

Robin Chenoweth with Ana-Paula Correia: So, you're saying that the thinking process, we're not sidelining that.

Ana-Paula Correia: I don't think so.

Robin Chenoweth with Ana-Paula Correia: So, teachers, maybe just need to build that discussion in.

Ana-Paula Correia: Yes!

Robin Chenoweth with Ana-Paula Correia: About the lying on the bed and looking at the ceiling.

Ana-Paula Correia: Yes, that's something we all need.

Robin Chenoweth with Ana-Paula Correia: I agree. Okay, you're making me more hopeful.

Ana-Paula Correia: I'm hopeful because that complaint for United Airlines is going to fly because it’s well done.