

Episode: [Curiously App: Custom AI Teaching Assistants](#)

Series: [AI in the Classroom](#)

Produced by: Digital Futures Institute, Teachers College, Columbia University

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I'm Yipu Zheng. I'm a recent doctoral graduate from the Instructional Technology and Media program at TC. My project is called Curiously, and it won the Learning Engineering Tools Competition in 2024. It was also supported by a couple of grants in innovation for learning and teaching. I started in 2023 at the time that ChatGPT was becoming popular and there were a lot of concerns around AI might take away learning opportunities from students. So I wanted to build a tool that to invite educators to think and experiment together about alternative ways that we can design AI to actually support students to learn more and to think more deeply. So that's also why I call this tool Curiously, because I really hope this tool can empower educators to create AI in a way that actually spark curiosity in their students.

So Curiously, it's basically a local platform that enabled educators to create knowledge base out of their class materials and to create custom AI learning companions that tailor to the unique needs of their classrooms and their learners. And one unique feature about Curiously is that it enabled educators to join each conversation students have with the AI. So it's not just about having students talking to the AI or learning from the AI, but about imagining ways that we can support learning through this three-way conversations between educators, learners and the AI.

In this process of testing Curiously with educators, I'm really excited to see many creative ways that educators came up with to design AI with Curiously. I think the most common and straightforward use case is to create a Q&A bot with class materials to answer students' questions. Another interesting example is to build a reflective partner with Curiously. There are some educators actually using Curiously to build teachable agents where the AI role-plays as a student, as a learner, and the educator

actually asks their students to teach AI about the subject matter as a way to deepening their understanding or as a way to assess students' understanding.

So for the next step, one is that I'm exploring multimodal interactions with Curiously. So besides just text-based interactions, we are also experimenting with real-time audio chat, video chat with AI. So in this demo, I'm trying to role-play a novice who is trying to learn and build a circuit with the AI.

Yipu: Can you teach me how to build an LED circuit?

Computer: Sure, I'd love to. Do you have your components ready?

Yipu: What are the components?

Computer: To build a simple LED circuit, you'll need an LED, a resistor, some jumper wires, a breadboard, and a power source like a battery or microcontroller. Do you have those?

Yipu: Is this an LED?

Computer: Yep, that's an LED. You can tell by its small bulb shape and two legs. The longer leg is the positive side called the anode, and the shorter one is negative, the cathode.

We have been collaborating with experts in specific disciplines such as engineering or medical education, to know more about the specific learning needs in each discipline, and then to think about how can we create really good AI plus learning experience for that discipline and address the needs specifically.