"An AI tutor for every kid": Promise and reality

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Illustration: Aïda Amer/Axios

While AI's boosters predict the technology will solve education's most persistent woes by providing personalized AI-powered tutors for K-12 kids, the ed tech trenches harbor plenty of skeptics, too.

The big picture: Ed tech companies have been trying to create personalized learning for decades, but so far have had mixed results.

What they're saying: OpenAI CEO Sam Altman wrote last month that [in the future](#), "our children will have virtual tutors who can provide personalized instruction in any subject, in any language, and at whatever pace they need."

Khan Academy founder Sal Khan shares Altman's belief — and says that, in some ways, Altman's future is already here.

- Khan Academy has its own [AI-powered tutor](#), Khanmigo, that the company calls a "never-judgy study buddy." It's designed not to [give students answers](#) but to help them solve problems on their own.
- Learners can watch a video (many of them starring Khan) and then ask Khanmigo questions about it — like "I don't understand why A leads to B," or "Two minutes into the video Sal mentioned this. What's he talking about? I don't understand."
- Khan says generative AI is already skilled at answering questions like that: "I would say it's actually comparable to a very good human being in many of those cases."

Yes, but: Khan also notes that "there's a lot of overpromising right now," with many new startups claiming their AI can do things that it actually cannot.

- Coursera's co-founder Andrew Ng is famous for saying "AI is the new electricity," while others in the field are cautious to the point of banning the tech in schools.

Zoom out: AI tutors are quickly moving into both classrooms and homes without a lot of oversight or tracking.

- A key difference between previous waves of ed tech adoption and today's AI boom is that this time, kids are [adopting the technology first](#), before their parents and teachers, says Robbie Torney, a former kindergarten

teacher and elementary school principal who is now the AI program manager at Common Sense Media.

- That mirrors YouTube's path to adoption in K-12 classrooms.

By the numbers: Among K-12 teachers who say they use AI in the classroom, only 6% say they use "intelligent tutoring systems," compared to 80% who say they use virtual learning platforms and 53% who say they use chatbots like ChatGPT, according to an April study from RAND.

- Out of the 231 districts RAND surveyed, only three districts have partnerships with tutoring programs or other software that uses AI to support student learning.
- "We wouldn't underestimate the number of kids using an AI tutor in school," Torney told Axios. "If you look at what the companies say, AI tutors are also in schools."

The case for AI tutors centers on the promise of personalized instruction. Students approach learning in different ways, and AI holds the potential for detecting and delivering what works best for each one.

- After moving from Siberia to California, Ivan Crewkov watched his preschool-aged daughter struggle to learn English. This inspired him to build an AI character called Buddy that uses speech recognition to help children practice speaking English.
- "To learn a language, you need to speak it," Crewkov told Axios. English is a mandatory school subject in countries all over the world, but there's also a global

teacher shortage. A conversational AI tutor designed specifically for children can help, Crewkov says.

The other side: As a former educator, Torney has seen firsthand how the promises of personalized learning have played out in the classroom.

- Torney told Axios that there was a lot of enthusiasm in the mid-2010s, with people talking about "blended learning, hybrid learning, voice and choice in the curriculum, personalized pathways, and student-centered instruction."
- Those promises haven't panned out, Torney says. "Some people have argued that the last technology that was adopted at scale in the American education system was the chalkboard."

One big obstacle to AI tutors for kids is regulation, especially around using children's voices, Crewkov says.

- Buddy.AI focuses on children under 12, and that puts its product into one of technology's most highly regulated areas.

AI proponents say the technology will spread opportunity more widely since it's convenient and less expensive in some ways than human-to-human teaching. Critics fear it will duplicate the same divides we've seen in previous technology eras and, as Torney puts it, further entrench "patterns of persistent inequities."

- "The reality is that we need to strike a balance," writes

Amy Tyson, founder of Everyschool, a nonprofit focused on eliminating "problematic" ed tech. "We should invest in technology that provides students with unique, high-level skills, while limiting tech that produces questionable outcomes, impairs human connection, and exposes students to unnecessary screen time."

The bottom line: Even the best AI will never replace teachers, says Khan.

- "If I have to pick between an amazing teacher and no technology or amazing technology, no teacher," Khan says, "I would pick an amazing teacher every time."

Previously in this series: An AI guide through health care's red-tape maze

Editor's note: This story was corrected to reflect that Andrew Ng is a Coursera co-founder (not its CEO).