

# Education insights: Unpacking the hype of generative AI

Lenovo leaders are exploring the potential of generative AI in education. While acknowledging inherent challenges and ethical considerations, they emphasize positive impacts on personalized learning, efficiency and accessibility.

Although the education sector hasn't always been seen as a leader in technology adoption, it has always been adaptive and innovative. The recent proliferation of 1:1 devices in classrooms is a testament to this adaptability. As one of the first sectors actively embracing generative AI, education has transitioned from early adopter to eager trailblazer. With today's affordable, cloud-based generative AI tools, the need for extensive IT setup is eliminated, saving valuable time and resources, making it even easier for generative AI to gain traction in classroom.

Studies differ on the exact number, but some suggest **10-33% of educators are now using generative AI in the classroom** for tasks such as drafting tests, developing lesson plans, creating instructional content and grading. About 74% of early adopters plan to **increase their usage in the coming year**, while many others who are not yet using generative AI plan to try it.

We asked three Lenovo Education leaders to weigh in on why generative AI is finding such a willing audience in the K-12 education space and how it could reshape the classroom in the coming years. Keep reading to discover how responsible implementation and human-centered learning environments are key to maximizing AI's benefits.



**Dan Verwolf**

Director of Education  
Software



**Travis Wilcox**

Director, General Manager,  
Stoneware



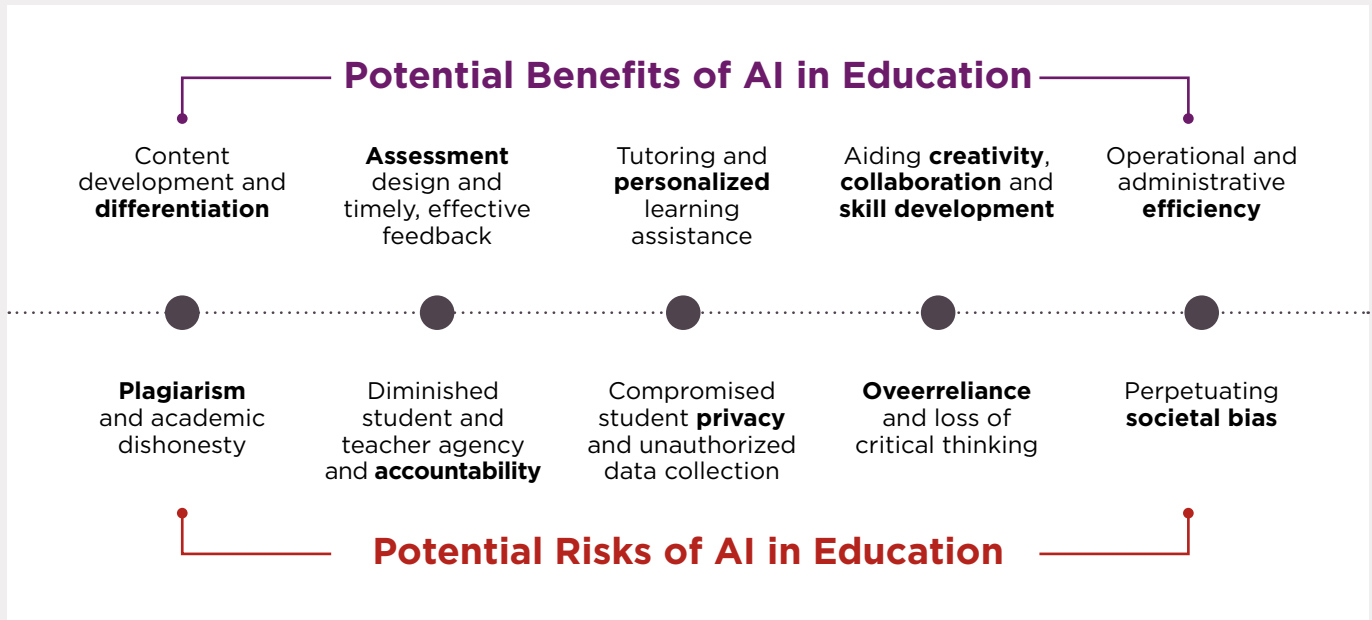
**Tyler Nicholls**

Senior Product Manager  
Education Software

# The positive power of AI in schools

Almost **half of educators** surveyed believe generative AI has the potential to create positive outcomes in the classroom, while 28% are uncertain so far. AI's proponents point to its applications for facilitating personalized learning, reducing inequity and helping teachers battle learning loss.

## The bigger picture of AI in education



Source: [AI Guidance for Schools Toolkit \(teachai.org\)](https://www.teachai.org/)

**Q. Even as many educators embrace the idea of generative AI, there is still some apprehension about how it will change education. What are some of the positive potential benefits of AI tools?**

**Travis Wilcox:** One of the biggest areas I think we will see positive outcomes is going to be how generative AI paves the way for 1:1 intelligent tutoring, personalized to each student's unique needs. Gone are the days of one-size-fits-all education. Instead, students will receive continuous assessment, targeted support, and the ability to master any topic at their own pace. This is going to revolutionize learning, ensuring every student can achieve mastery, regardless of where they excel or struggle.

**Tyler Nicholls:** I think the apprehension around AI is understandable, because people think this technology has the capability of doing everything a teacher could do, and that can be unsettling. But at its core, education is deeply human. Teachers like the ones who sparked your curiosity and set you on a new path cannot be replaced by technology.

The power of AI in education lies not in erasing humanity but amplifying it. Imagine these amazing educators equipped with superpowers: give them increased transparency in the classroom, enlarge their reach, and enhance their ability to inspire kids.

**Q. In other words, the power of AI is not in replacing teachers but empowering them to do what they do best — nurture, inspire, and guide the next generation. We know that learning loss is one of the crises facing education today. How could AI potentially help overcome or avoid further learning loss in classrooms?**

**Dan Verwolf:** The monumental shift to remote learning during the pandemic exposed pre-existing educational inequities, creating a learning loss crisis. Some children were fortunate to have schools well-equipped for online learning, but others lacked access to technology, reliable internet, and adequate online resources, resulting in significant learning gaps. This unequal access has left us facing a critical situation where some students have fallen considerably behind, widening the educational divide.

The personalized tutoring that Travis was talking about can play a role in helping each kid get the unique help and resources they need, because every kid is in a different situation.

**Travis Wilcox:** Also, I think the disparity between where students are in their learning can create an environment where a student may be embarrassed to ask a question, which just further exacerbates the problem. A personalized AI assistant tool offers a safe space for students to ask questions without fear of judgment, empowering them to seek clarification and strengthen their understanding.

The assistant could also assess students' knowledge with personalized quizzes, for example. Based on their answers, the assistant could create a tailored study plan that addresses specific weaknesses. As students progress through these plans, the assistant can reassess their knowledge, creating a cyclical process of personalized learning. When it comes time to take examinations, the assistant could curate review materials specifically targeted at the student's identified areas of struggle. I think AI could become a learning partner, adapting to each student's needs and contributing to a holistic solution for addressing learning loss.

**Tyler Nicholls:** To add to those two ideas, I think the biggest way to make up lost ground is to move faster than you were moving before. Currently the grade-level system is built like a conveyor belt — after second grade, you go to third grade and so on. There are some inefficiencies with that approach. but with the AI technology Travis and Dan were talking about, schools will be able to pinpoint individual student struggles and craft targeted plans for improvement. This acceleration is crucial, especially considering the current challenges educators face. Oversized class sizes and overwhelming workloads often limit teachers' ability to provide the deep personalization each student deserves. AI assistants can bridge this gap, offering individualized support that empowers students to learn at their own pace.

Many teachers I have spoken with have also commented on how hard it is to compete with social media platforms that are designed to be fast-paced and grab your attention in 10 seconds or less when they are in a classroom asking kids to look at them for eight hours a day. I think AI will give teachers some additional tools to help present information in an engaging way, using the principles students are used to on other platforms.

**Q. If a student can use AI to generate a piece of work for them, how will AI tools positively impact their critical thinking and writing abilities?**

**Dan Verwolf:** This was the big fear that everyone had when ChatGPT first came out — that students were instantly going to start cheating, and it would destroy their ability to write and think critically. But the narrative around this has already started to shift in an interesting way. Instead of fearing AI, many schools are teaching students to leverage its strengths to make their writing better.

For example, students could collaborate with AI tutors who not only assess their writing, but also provide personalized feedback and suggestions. Or they could review AI-generated text, analyzing its strengths and weaknesses, and refining the piece with these inputs. Generative AI doesn't replace critical thinking; it amplifies it. By using AI in the classroom, students develop essential skills to help prepare them for a future where AI will be ubiquitous. They need to learn how to leverage it wisely — and learning how to leverage it well requires critical thinking.

**Travis Wilcox:** To build on that, say we are trying to teach a student how to successfully present an argument. They input their paper into AI, and it analyzes their logic, pinpoints areas for improvement and suggests ways to construct more concise statements. This AI-powered feedback can help students learn how to craft persuasive arguments.

**Tyler Nicholls:** One thing that is coming to mind for me is the idea that students will “be given all the answers” is not necessarily new. Currently, kids can Google anything, right? Theoretically, the answers are already at their fingertips.

When calculators first came out, people worried kids wouldn't learn math anymore. Looking at it that way, AI is just an extension of technological advancements that have already been already normalized, providing another tool students can use to support their learning.

## Common concerns about AI in schools

**72%**

of educators are very or somewhat concerned that generative AI will increase plagiarism and cheating.

**60%**

of educators are concerned it will negatively affect students' independent thinking, writing, and research skills.

**55%**

of parents and community members are also worried about a decrease in student engagement with their schoolwork.

### And yet

**90%**

of educators also say generative AI will contribute to making education somewhat or more accessible.

Source: [Imagine Learning Teachers Lounge NextTech Survey Report 2023](https://www.imaginelearning.com) ([imaginelearning.com](https://www.imaginelearning.com)).

**Q. When the Covid-19 pandemic hit, people talked a lot about digital equity. How might AI have a positive impact on creating more equitable learning opportunities?**

**Tyler Nicholls:** Kids with ADHD or other special needs that make classroom learning difficult may need adaptations. So typically, as a teacher, you prepare your material for the day and try to adapt it to all the individual students, but it can feel overwhelming.

With AI, you can automatically adapt different assignments based on students' learning needs and preferences. It's a superpower that I wish I could have had access to when I was teaching.

**Dan Verwolf:** I believe that one reason why AI can have a positive impact on creating equitable learning opportunities is because many of the apps run online, making AI tools accessible to all. Students using older devices with internet access can leverage AI benefits just as readily as those with the latest hardware. This democratizes learning, ensuring the transformative power of AI isn't limited by hardware differences.

Of course, there are newer devices on the horizon that are going to be able to do a lot of AI locally, which will open up another set of exciting use cases. However, many of the AI tools educators are using in classrooms right now are widely available online.

On a separate note, not every student has a parent, tutor, or mentor readily available to help with schoolwork. I think AI can become a valuable learning companion for students who might otherwise lack immediate support. This means that even students who come from historically underserved communities can benefit from AI.



## Building AI skills for the future

AI is advancing so quickly that, soon, avoiding the use of it will no longer be an option. Business AI usage is predicted to see [an annual growth rate of 37.3%](#) through 2030, and AI is projected to create around [97 million new jobs](#) by 2025. Today's students will need to develop AI-related skillsets in order to compete in the future job market.

### Q. What are some specific skills that schools need to be focusing on or teaching when it comes to preparing students for the AI-driven world and workplace of the future?

**Tyler Nicholls:** I think the rise of AI will reshape the future job market, with entrepreneurship playing a more prominent role. Mastering creative techniques to utilize AI and deliver value will be a crucial skill set. The possibility of reduced hiring by large companies means people will need to be scrappy and learn to leverage technology effectively. The tools are accessible, but the ability to utilize them is key.

That's why I think it's so important for schools to integrate AI literacy into curricula, so they can help prepare students for their futures, whether navigating traditional careers or running their own businesses.

## Building students' skills for innovation

In partnership with Lenovo, Intel has launched its **Skills for Innovation lesson library** with a goal of empowering teachers and learners to reach their full potential through a **technology-supported, skills-based approach**.

To help ensure students are future ready, Intel Skills for Innovation addresses key emerging technologies such as **machine learning and AI, computation thinking, design thinking, modeling, and simulation** through its library of over **70 cross-curricular lessons**.

Customers who buy **500 or more Intel devices** get access to Skills for Innovation through Lenovo. [Learn more](#)

# Challenges and considerations for integrating AI in schools

Students are not the only ones who will have to gain new skills to make good use of AI. Educators are also going to need to understand generative AI if they want to effectively teach with it. Currently, [65% of teachers](#) mention a lack of familiarity as their primary obstacle to using generative AI. Professional development is going to play a key role in setting teachers up for success as they get to know this emerging technology.

## Q. What can schools do for successful integration and use of AI tools in the classroom?

**Travis Wilcox:** There are going to be a lot of applications and uses of AI technology that we have not even thought of yet. There will be an explosion of tools and capabilities. I think schools are going to need to look for things that really enhance the learning environment for students and truly help teachers become more effective.

It's going to be tricky because they will have to pass on flashy new tools that sound great, but in the end don't provide enough value. They will have to pilot and implement tools carefully, and they will need to quickly put professional development and processes in place to effectively roll these tools out.

**Dan Verwolf:** I think the professional development piece will be incredibly important. Instructors, technology coaches, and school staff need to be aware of what tools are out there, what capabilities exist and what their students might have access to. I think professional development and giving teachers the ability to explore and experiment will be critical.

Engaging students and nurturing positive relationships create the foundation for a successful learning environment. Whether you are in person or remote, having that connection between an instructor and a student is still vitally important, and this need becomes even more crucial in our hybrid world. A feedback loop with regular assessments and reassessments gauge comprehension and guide progress towards mastery. This is where AI becomes a valuable tool, bridging the gap between instructor and student. By providing personalized feedback and insights, AI can facilitate deeper engagement, ensuring individual needs are met and strengthening the crucial bond between learner and educator. Technology is most effective when it augments human connection.

## 10 AI skillsets for educators

In order to teach students AI-related skills, teachers need to build their own AI skillsets, including:

1. **Technical Proficiency**
2. **Collaboration**
3. **Adaptability**
4. **Digital Citizenship**
5. **Information Management**
6. **Information Synthesis**
7. **Critical Thinking**
8. **Creativity**
9. **Continuous Learning**
10. **Media Literacy**

Source: [10 AI Skillsets for the Digital Native Educator – THE Journal](#).



## Q. How can schools talk about AI with all the different stakeholders (parents, teachers, IT admins and community leaders)?

**Travis Wilcox:** I would recommend that schools organize workshops for parents and community leaders to help them understand the technology. Parents could also get involved by volunteering in classrooms where pilots are happening. I think they will have important insights considering this technology will be available to students at home as well.

For administrators, I think it is important they have a clear vision and strategy that they implement for the adoption of AI — and that they communicate this vision very clearly to students, teachers, parents, school board members and IT staff. They will also need to focus on the privacy and security concerns surrounding the technology to put everybody at ease that student and staff data is being protected and that the school is not pushing sensitive information out to a broader audience.

I would encourage teachers to actively seek out AI-related professional development opportunities. The better they understand the benefits of that technology, the more creative they can become in utilizing it in their own classrooms.

## Educators need training to drive AI adoption

**15%**

of educators surveyed feel prepared to oversee generative AI use.

**65%**

of teachers mention a lack of familiarity as their primary obstacle to using generative AI.

**33%**

of educators believe they have the necessary support to incorporate generative AI.

Source: [Imagine Learning Teachers Lounge NextTech Survey Report 2023 \(imaginelearning.com\)](https://www.imaginelearning.com/resources/nexttech-survey-report-2023).





## Q. How do you see Lenovo expanding in terms of AI tools and capabilities for the education space?

**Dan Verwolf:** Lenovo's approach to incorporating AI in education rests on three essential pillars.

The first is that any time we introduce AI into our education products, it will be for the purpose of transforming teaching and learning. AI isn't about replacing teachers; it's about empowering them. Our goal is to help support teachers as they facilitate learning and ignite student curiosity.

Our second pillar is maximizing efficiency. **Only 49% of the teacher's average working week** is spent on direct instruction with students. Lenovo wants to try to take as much of the administrative overhead off their plates as possible by creating automations with AI. This frees up valuable hours for teachers to focus on teaching and interacting with students.

The third pillar of our approach to AI in education is safety and responsible use. Data privacy, ethical AI, and responsible use are non-negotiable. We go beyond simply securing data; we ensure AI tools are diverse, unbiased and designed to support every student and educator. That means safeguarding against potential biases, fostering digital citizenship and empowering our AI partners to be champions of fairness and opportunity. Only through responsible development can we unlock the full potential of AI for positive change.

### Lenovo's three pillars for AI in education



**Transforms teaching  
and learning**



**Maximizes  
efficiency**



**Centered on safety  
and responsible use**

## Guides and toolkits for AI integration in the classroom

Thought leaders and researchers in the education space are working diligently to define guidelines, recommendations and professional development resources for integrating AI in the classroom. Here are a few we recommend checking out.

**[Teach AI + CoSN AI Guidance for Schools Toolkit](#)** — This free toolkit is designed to help education system leaders, school administrators and teachers worldwide develop guidance on the responsible use of AI as well as implement AI-driven instruction and assessments.

**[AI with the FI](#)** — North Carolina State University's Friday Institute offers events, webinars, research and professional development to empower educators to use AI-driven technology.

**[ISTE Artificial Intelligence in Education Toolkit](#)** — This collaboration between ISTE and GM offers free practical guides for engaging students in AI creation.

**[Maze AI](#)** — This online resource provides templates and information that help students and educators leverage ChatGPT to generate original content.



# Keys to successful and safe AI integration

Generative AI has only been in classrooms for a year, and it is already reshaping the education landscape. Understanding the inherent challenges, opportunities and risks, the Department of Education released a [special 67-page report](#) outlining recommendations for how edtech providers, school systems and other education leaders can work together to safely integrate AI into education.

## The seven key recommendations included:

1.

**Emphasize humans in the loop** — AI should not replace teachers but support and empower them.

2.

**Align AI models to a shared vision for education** — AI makers should build their technology based on a shared vision that benefits students and educators.

3.

**Design using modern learning principles** — Edtech makers should leverage field expertise on avoiding biases and embracing inclusivity.

4.

**Prioritize strengthening trust** — Education leaders should establish criteria for trustworthiness of emerging edtech.

5.

**Inform and involve educators** — Educators should be involved in the whole process of designing, developing, testing, improving, adopting and managing AI-enabled edtech.

6.

**Focus R&D on addressing context and enhancing trust and safety** — Researchers and their funders should prioritize investigations into how AI can address the long tail of learning variability to help students who may otherwise be left behind.

7.

**Develop education-specific guidelines and guardrails** — All stakeholders should come together to define a set of guidelines and guardrails for the safe use of AI in schools.

As AI continues to mature, one idea most people agree on is that AI will only be successful in the education space if its implementation is centered on helping teachers and students in meaningful ways. Steadfast AI tools will be those that disappear into the background and enable the creation of next-gen, personalized learning environments while also helping teachers reach new levels of proficiency in their craft.



## Lenovo and AI

User-facing, generative AI may be an emerging technology, but a variety of edtech software programs have already been using AI for several years. For edtech decision makers looking to deliver AI-driven safety and analytics solution for their schools, the Lenovo ecosystem is a one-stop shop. Discover how Lenovo and our partners support learning through AI powered solutions:

Lenovo  
**NetFilter**

Lenovo  
**Device  
Intelligence+**

 **SentinelOne**<sup>®</sup>

 **LANSCHOOL**

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