



BRINGING AI TO SCHOOL: TIPS FOR SCHOOL LEADERS

Artificial Intelligence is having a major impact on education. Whether you are excited or concerned about AI, as a school leader you have a responsibility to ensure AI is approached thoughtfully and appropriately in your school community and informs your vision for teaching and learning. This guide will help you quickly gain the background you need as a learning leader in an AI infused world.



What is AI?

To begin, it is important to have a basic understanding of what AI is (and what it isn't). Artificial Intelligence, or AI, is a branch of computer science aimed at creating machines that mimic human intelligence. It's used to perform tasks that usually require human thought, like understanding language, recognizing patterns, or making decisions. Types of AI range from systems doing specific tasks, like recommending movies or autocorrecting typing errors to more advanced forms that can generate new content or predict future outcomes. AI is also behind self-driving cars and digital assistants, like Siri or Alexa. Essentially, AI allows machines to learn, adapt, and perform tasks like humans, often more quickly and accurately. It's a rapidly evolving technology that's already a part of our everyday lives.



Reactive

Tools that respond to specific inputs or situations without learning from past experiences (e.g. Alexa, Roomba, chess-playing computer).



Predictive

Tools that analyze historical data and experiences to predict future events or behaviors (e.g. Netflix, credit-scoring systems).



Generative

Tools that generate new content or outputs, often creating something novel from learned patterns (e.g. ChatGPT, Stable Diffusion).

Generative AI, which encompasses ChatGPT and the other new content-creation tools, is the type that is getting the most attention recently. As such, this guide will focus primarily on generative AI, though all types of AI have implications for education and are worth understanding in greater detail.

How Generative AI works

Generative AI starts with a very large dataset (which might include text files, web pages, images, and more). The data is used to train a computer algorithm known as a Large Language Model (or LLM). LLMs, which can identify and predict patterns in language, are the underlying plumbing of generative AI.



Once an LLM is trained, applications like ChatGPT or DALL-E-2, can be built upon them, thereby creating powerful tools that can generate customized content based on a user's specifications. While these tools are impressive, they have their limitations and their output is dependent on the quality and diversity of the data they were trained on as well as the skills and knowledge of the human prompting the input.



What AI is not

AI is not magic. Magic is mysterious and cannot be understood or controlled. AI is neither of these things. The more we seek to understand the concepts behind AI, the better we will be able to control it and use it for constructive purposes in education. AI can greatly enhance efficiency and accuracy in many areas, from administrative tasks to personalizing learning. It's also important to remember that AI is not human intelligence; it does not possess emotions, consciousness, or inherent ethical judgment.



Guiding Questions for Learning Leaders

While a lot of exploration is still needed around AI in education, three overarching questions should be front and center for every school leader when it comes to determining the use of AI:

- How can schools use AI to support student learning?
- How can schools prepare students with the skills to thrive in an AI infused world?
- How can AI support educators, both with teaching and by freeing up time to allow them to focus on students?

School leaders should start this transition by engaging their educators first. Once educators are familiar with the technology, they can lead AI explorations appropriately with students. Remember that many generative AI tools are trained on datasets that are not tailored toward children.



Strategies for Success

Schools that have been successful in bringing AI into their schools in purposeful ways have some common strategies. The following five strategies are critical for a successful AI culture in your school.



1. Encourage Exploration — Before discussing the benefits and challenges of AI, it's critical that educators have a chance to experience the capabilities and limitations of AI tools. As a school leader, you can encourage exploration of AI among your educator teams. This empowers busy educators to gain first-hand experience using the technology and to think about how it could be integrated into their work, rather than relying on hearsay or surface-level understandings.

It's important to foster a culture where teachers feel safe to experiment, make mistakes, and learn from them. This can be achieved by emphasizing that exploring AI is a learning process, and it's OK not to have all the answers immediately. Encourage educators to explore multiple AI apps, not just a single tool (see list of apps below). Tip: Schools that have been successful often provide dedicated time — perhaps repurposing a faculty meeting — for staff to have undistracted time to explore AI tools.

Resource: [*Using AI Chatbots to Enhance Planning and Instruction*](#) from ASCD provides an overview of how teachers can use AI chatbots like ChatGPT to design learning experiences and accelerate their workflow.

Examples of Generative AI Tools to Explore

Note: We neither endorse nor validate these apps; they are provided as examples for teachers to explore.



Chatbots (e.g. ChatGPT, HeyPi, & Bard):

These tools generate human-like text based on the input they receive, capable of providing useful information or even engaging in a conversation.



Media Creation (e.g. MusicLM, Stable Diffusion, Firefly):

These tools generate images, audio, or video from descriptive prompts. Music and art can be generated to match existing artistic styles.



Learning Content (e.g. Course Creator, Lesson Plan AI, Khanmigo):

These are tools designed specifically to support learning needs. These can include creating lesson plans, whole courses, or serving as a coach for students or teachers.



Virtual Human Representations

(e.g. Syntheia, PlayHT): These systems generate spoken language from written text, effectively creating new audio content or from text to video. Video can be generated to provide human-appearing mentors to share and summarize content.



2. Provide Training — As with any new tool or strategy, educators need training in order to feel comfortable using it. Offering workshops or professional development courses on AI (along with follow-up activities and discussions or opportunities to collaborate with colleagues) can help teachers understand its capabilities and limitations. There are many online resources and courses that are beginner-friendly and specifically designed for educators available.

Resource: [*The ISTE Artificial Intelligence Explorations course*](#) has been used by thousands of educators to learn how to prepare their students to become AI designers. It is designed for secondary school teachers of any experience level.



3. Spotlight Success — Spotlight interesting examples of AI that are already being used in your schools. Encourage educators to share what they're trying and if it's working or not. Encourage teachers to work together in their exploration of AI. Collaboration allows them to learn from each other's experiences and builds a supportive community for this new journey.

Resource: [*AI in the Classroom JumpStart Guide*](#) for educators from ISTE is focused on ethical and instructional considerations, guidance on how to connect AI concepts to the curriculum, and more!



4. Host Conversations — Host conversations with educators about how schools can prepare students with the skills to thrive in an AI-infused world. Here are some conversation starters you might consider using and the ISTE Standards they align with:



Foster Ethical AI Use and Digital Citizenship:

Educate students about the ethical implications of AI, including biases, privacy concerns, and algorithmic fairness. Teach digital citizenship skills, emphasizing responsible and ethical use of AI technologies. Encourage critical thinking and awareness of the societal impact of AI systems. ISTE Student Standard 1.2 Digital Citizenship; 1.3 Knowledge Constructor



Promote Computational Thinking:

Emphasize computational thinking skills, such as problem-solving, algorithmic thinking, and logical reasoning. Integrate coding and programming activities to develop students' understanding of AI algorithms and models. Provide opportunities for students to analyze and interpret data using AI tools and technologies. ISTE Student Standard 1.5 Computational Thinking



Collaboration and Interdisciplinary Learning:

Promote collaborative projects that encourage interdisciplinary learning and problem-solving. Encourage cross-disciplinary partnerships among teachers to integrate AI concepts in different subject areas. Foster teamwork and communication skills through group activities related to AI projects. ISTE Student Standard 1:1 Empowered Learner; 1.7 Global Collaborator



Integrate AI in the Curriculum:

Introduce AI concepts and applications across various subjects and grade levels. Incorporate AI-related projects, assignments, and hands-on activities in the curriculum. Ensure alignment with subject-area standards and learning objectives. ISTE Educator Standard 2.5 Designer; 2.6 Facilitator

Resource: The Hands-On AI Projects for the Classroom guides: ISTE partnered with GM to offer innovative curricular resources on AI for teachers at all grade levels and subjects. Each guide provides background information and four student-driven projects that align with subject-area standards, teaching students about AI, its functioning, and its societal impact.

Through these projects, students engage with AI technologies, participate in "unplugged" activities, and create diverse products like chatbots, presentations, and video games to showcase their learning. The guides are available in English, Spanish, and Arabic. You can find them all at iste.org/ai.



5. Set The Right Conditions — When it comes to using AI or any other technologies in your school, it is important to establish conditions for effective use. Clearly outline the school's policies on data privacy and ethical considerations when using AI, including those related to plagiarism and proper use of secondary sources. Teachers should know what's expected of them and the boundaries within which they should operate. These conditions might include using the technology to support learning and helping be a contributing member of your school and local community.

Resource: For ideas on how to create effective technology guidelines for your schools, check out: **Setting Conditions for Success: Creating Effective Responsible Use Policies for Schools**

Frequently Asked Questions

As school leaders begin to discuss AI in schools, many questions may arise. Here are some of the common questions and some suggested answers:

Q: Should we ban AI?

A: Blanket bans on technology tools are rarely a good idea. AI has become an integral part of our everyday lives and is becoming more prevalent in the workplace. By denying students access to these tools, we may inadvertently be limiting their future options. Students need to be digitally literate, not only to thrive in the workplace but to navigate the modern world confidently and safely. Also, remember that not all students have equal access to technology at home. By banning technology in school, we might widen the digital divide. In addition, the notion that we can “ban AI” reveals a fundamental misconception of what AI is. It isn’t a single website but an underlying technology that is already built into millions of websites (and likely soon to be built into every website to some degree).

Q: Are there specific AI tools and apps we should avoid?

A: Just like websites, there are some AI apps that will have more value than others. There may be specific websites that you choose to make unavailable in your schools based on the content or age appropriateness of the site. You might consider how inclusive and accessible a tool is, whether it is cost effective, how well it complies with your schools privacy and security policies, and whether its output has a clear, positive impact on your learning environment when determining which AI apps bring the most value to your teachers and students, and which do not. In addition, some AI apps are only available for use for students older than 13 years of age (this includes ChatGPT). Reading the terms of service on a particular AI app will help determine if there is an age restriction on a particular app. Others may not be developmentally appropriate for your students even if they do not have age restrictions.

Q: How do we stop cheating?

A: You should always start by raising awareness among students about the importance of academic integrity and the consequences of cheating. While AI creates new challenges for schools, ultimately it encourages us to think anew about how we assess learning. Essentially, you really only have two options: attempt to maintain current assessment approaches in a highly controlled, technology-free environment, or adapt your assessment methods. For example, consider designing assessments that focus on critical thinking, problem-solving, and creativity, which are difficult to cheat on using AI or other digital tools. Encourage open-ended questions, collaborative project-based assignments, and in-class activities that require active participation. These will not only make it more difficult for students to cheat, but will give your students experience in learning approaches that are more aligned to how they will learn and work throughout their lives.

Q: Should teachers use AI to write lesson plans?

A: One way to think of generative AI is as an assistant that helps you generate a first draft. Sometimes the first draft is spot on. Often, it needs a little – or a lot – of tweaking. But you should never use your first draft as your final draft! Lesson plans generated for teachers solely by AI are not tuned to the specific students in your school or the specific communities they come from. Those lesson plans are not going to account for how the plan does or does not connect to school wide instructional strategies and priorities. And the plan will lack the personality of the teachers themselves. Finally, sometimes generative AI lesson plans can get facts and sources just plain wrong. So while it can be a good first draft partner, don’t count on AI lesson plans without a human in the loop.

Q: How will AI change learning?

A: As AI is able to take on more tasks that we once thought required a human brain, it will make what is uniquely human more valuable. AI can do certain things better than humans already (recall, calculation, information generation etc.) and this will increase dramatically in the near future. So we have to ask ourselves what makes us uniquely human and how do we reorganize the school environment to highlight these traits, skills, and abilities while reducing the emphasis on knowledge acquisition and recall, which will have minimal value for professional opportunities in the future. Some areas to double down on may include critical thinking and problem-solving, creativity and innovation, emotional intelligence, content curation, collaboration, leadership, adaptability and flexibility, and ethics and moral judgment.



**I still need help -
where can I go?**

To access the resources mentioned in this guide, go to:
iste.org/ai