



Understanding Artificial Intelligence in Public Education

AI RESOURCE GUIDE

November 2025

Artificial intelligence (AI) isn't new to education; the use of machine learning in schools dates back to as early as 1960 with the Plato personalized learning system. But the release of ChatGPT by OpenAI in 2022 launched a new era of education technology in schools. Now, as companies race to embed large language models (LLM) into school and classroom products, schools, districts, and state boards are scrambling to keep up.

This rush to adopt AI, while driven by enthusiasm for its potential, has outpaced public understanding of its implications. The rapid growth of AI technology in schools and communities raises questions and concerns about its impacts on cognitive development, health and safety, privacy and the environment. As a result, there is increasing urgency across the country to build strong protective guardrails for school communities and prepare them on how to use AI ethically and effectively in schools.

This resource guide is intended to help school systems navigate the transformative nature of artificial intelligence by equipping network partners to advocate impactfully in this rapidly changing terrain. It is a real-time compendium of resources and will be updated as new information is identified.

What is AI? Key Terms

- **What is a Large Language Model (LLM)?** A large language model (LLM) is a type of AI model that is trained on large amounts of text data to enable them to predict the next most likely word in response to a query, such as answering questions, summarizing text, and translating languages. They are probabilistic tools – meaning that the responses are *predictions* of what the next word might be based on



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patterns in available data, rather than based on an understanding of the question being posed. LLMs are a subset of generative AI focused primarily on language-related tasks.

- **What is Generative AI (GenAI)?** GenAI differs from LLMs in that their training data also includes visual data collected from social media, webpages, and videos, and they can present responses via text, images, audio, and videos. GenAI also is a probabilistic tool – its responses are derived by statistically analyzing data and predicting responses based on identification of common repeating patterns.

Learn More!

- [AI: What AI Can and Cannot Do](#). FactSheet #9. Fairplay
- Marcus, G. (2025, August 12). [LLMs are not like you and me—and never will be.](#) *Marcus on AI*.
- Klein, A. (10 May 2023), [AI Literacy, Explained](#). *EducationWeek*.

Policy & Practice Guidance for School Communities

The Partnership’s mission is to protect, strengthen, and advance high-quality public schools that serve all children well and equitably, prepare them for the future, and strengthen the society in which we live. We know that student educational success hinges on having equitable access to high-quality, inclusive public schools. When students feel safe and engaged in meaningful learning, and when schools offer learning experiences that are culturally relevant and spark curiosity and critical thinking, students thrive. At the most basic level, digital technologies in schools need to both enhance learning and protect safety, privacy, and human connections.

The following frameworks offer guidance and tools for how AI might be used in schools to support meaningful learning and prepare students for the future in ways that are safe, ethical, equitable, and minimize harms to communities and the environment.



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- **aiEDU**, [AI Readiness Framework: What students, educators, and leaders need to know to build AI Readiness](#). This report provides guidance to help teachers, school leaders, and school districts to build AI Readiness.
- **American Federation of Teachers (AFT)**, [Commonsense Guardrails for Using Advanced Technology in Schools](#). This report provides a framework to support educators to maximize the educational potential of instructional technologies while mitigating their potential harm.
- **EdSafe AI Alliance**, [Blueprint for Action: Comprehensive AI Literacy for All](#). This document outlines three core domains for AI literacy policy action and offers actionable recommendations for educators, policymakers, and system leaders, grounded in real world case studies.
- **National Education Association (NEA)**, [Report of the NEA Task Force on Artificial Intelligence in Education](#). This report provides five guiding principles for the use of AI in education.
- **The Rithm Project**, [5 Principles for Pro-Social AI](#). This blogpost offers five principles for how to design and choose technology that strengthens human connection.

What Is Your State Doing? AI State Policy Trackers

As of October 2025, 33 states have developed some form of official guidance or policy on the use of AI in K12 schools.

- [Which States Require Schools to Have AI Policies? A State Tracker](#). *Education Week*.
- [States with AI Guidance for Schools](#). *AI for Education*.



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What We're Learning About the Possibilities and Risks of AI in Schools

The growth of AI has stimulated widespread interest in how it might advance teaching and learning and expand educational opportunities in schools. A growing number of school districts are experimenting with AI-based tutoring and chatbots that serve as instructional buddies to answer student questions. Efforts like the [Collective Shift](#) alliance and [My CRE Buddy](#) are building [AI coaching](#) and curriculum development tools to support educators in designing lesson plans that offer more differentiated and personalized learning experiences for students. [CRAFT](#) and [aiEDU](#) provide instructional resources on AI literacy to build critical awareness among students about the strengths and limitations of AI and how to use it responsibly.

Yet these promising developments are unfolding within a powerful commercial landscape that shapes how AI enters classrooms. AI and digital learning platforms, like other commercial products and services, have historically been shaped by corporate interests that can be at odds with the purpose and learning philosophies of educational institutions. As AI's use proliferates, public awareness is growing about what this [misalignment in purpose](#) can mean for students, educators, and families. Risks include the distribution of misinformation within school communities, entrenchment of historical biases, and narrowing of teaching approaches in ways that diminish students' learning experiences and undermine their cognitive development as well as their ability to form healthy bonds with others. Below are six issues relating to AI use in schools.

1. Data Access, Use & Privacy

The scale of investment and marketing by AI technology firms in public schools has raised questions about data access, usage, and privacy. Specifically, there is concern about sensitive data being transmitted and used for surveillance or other commercial uses without student or parental knowledge and consent.



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Learn More!

- Buck, S., (5 Oct 2023). [AI is a serious threat to student privacy](#). Thomas B. Fordham Institute.
- Boninger, F., Molnar, A. & Barbour, M. K., (24 Sep 2020). [Issues to Consider Before Adopting a Digital Learning Platform or Learning Program](#). National Education Policy Center.

2. AI-Generated Bias & Misrepresentation

The data used in training large language learning models [often contain misrepresentation and biases](#) because they draw on both publicly available text from online sources that can include social media and other forums as well as on [data with historical biases](#). This can cause students, educators, and administrators to rely on information that is factually incorrect as well as discriminatory or misleading. Studies indicate that many individuals cannot differentiate between deep fake images and real images, believe that AI cannot be biased, and do not recognize any privacy issues associated with AI applications and data collection. Moreover, research has also surfaced concern about religious and racial bias in the responses of AI-powered tools, including in academic early warning programs and exam proctoring.

Learn More!

- Klein, A. (20 Jun 2024), [AI and Equity, Explained: A Guide for K-12 Schools](#). *Education Week*.
- Tech Impact Lab (2025). [Schools using AI large language models to meet special needs of students: What could possibly go wrong?](#) Georgetown University.
- Lin, L. (15 May 2024). [A quarter of U.S. teachers say AI tools do more harm than good in K-12 education](#). Pew Research.
- Myers, S. L. & Thompson, S. A., (4 Nov 2025). [Right-Wing Chatbots Turbocharge America's Political and Cultural Wars](#). *New York Times*.



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3. Cognitive Over-Reliance & Decline

Extended use of AI has been linked to increases in cheating and cognitive offloading (relying on AI instead of engaging in productive thinking). A [study of nearly 1,000](#) Turkish high schoolers by researchers at the University of Pennsylvania found students who had previously used AI on practice tests did worse than their peers when they did not have AI access on the final exam. Similarly, a preliminary study from MIT (linked below) found “ChatGPT users had the lowest brain engagement” and “consistently underperformed at neural, linguistic, and behavioral levels.” However, other researchers have found that when educators pair AI learning tools with critical thinking and cognitive engagement activities, they can enhance student learning outcomes. Ultimately, there is a need for more research on the impact of AI on learning.

Learn More!

- Partelow, L., (19 Sep 2024). [Using Learning Science to Analyze the Risks and Benefits of AI in K-12 Education](#). Center for American Progress.
- Chow, A., (23 Jun 2025). [ChatGPT May Be Eroding Critical Thinking Skills, according to a New MIT Study](#). *Time Magazine*; Kosmyna, N. & colleagues, [Your Brain on ChatGPT: Accumulation of Cognitive Debt when Using an AI Assistant for Essay Writing Task](#), MIT Media Lab.
- Gerlich, M., (10 Sept 2025). [AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking](#). *Societies* 2025 15(9), 252.

4. Social Isolation & Harm

There is growing concern about the potential of AI chatbots to draw students into unhealthy dependency that not only isolates them and interrupts their learning in schools, but also increases their risk of engaging in harmful behaviors. A [recent study by Common Sense Media](#) found that 72 percent of teens have used AI for relational purposes. [Data from MIT](#) suggest that the extended use of AI chatbots is associated with higher loneliness, dependence, problematic use, and lower socialization.



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Learn More!

- Robb, M.B., & Mann, S. (16 July 2025). [Talk, Trust and Trade-offs: How and Why Teens Use AI Companions](#). *Common Sense Media*.
- Laird, E., Dwyer, M., Quay-de La Valle, H. (8 Oct 2025). [Hand-in-Hand: Schools Embrace of AI Connected to Increased Risks to Students](#). Center for Democracy & Technology.
- [Social AI Companions](#), *Common Sense Media*.
- ["Darling Please Come Back Soon" Sexual Exploitation, Manipulation, and Violence on Character AI's Kids Accounts](#), *ParentsTogether*.
- [Social & Human Connections: Benefits, Risks, & Social Impact](#). Noesis Collaborative & USC Neeley Center.
- Malfacini, K. (2025, Apr 16). [The Impacts of Companion AI on Human Relationships: Risks, Benefits, and Design Considerations](#). *AI & Society*.

5. Inequitable Access & Opportunity

Low-income, historically marginalized, and rural students are more likely than their peers to face barriers to technology access; data from a [2018 American Community Survey](#) show that 16.9 million children lacked access to high-speed internet and connected devices at home. While internet connectivity improved during the pandemic, there remains a significant digital divide in where, how, and what technology is administered—and, therefore, who has access to AI-powered tools. This compounds existing [disparities in how technologies are used](#), where students in wealthier schools are taught to use technology for creativity, research/analysis, and experimentation, and students in lower-income schools are asked to use technology for narrower purposes such as repetitive drills.

Learn More!

- Comai, S., (24, Jun 2025). [AI Pilot Programs in K-12 Settings](#). Education Commission of the States.
- [Recommendation on the Ethics of Artificial Intelligence](#). UNESCO 2021, 2024.
- [Guidance for Generative AI in Education and Research](#). UNESCO, 2023.



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6. Environmental Degradation

The rising popularity of AI tools has [significant environmental implications](#). Every query on ChatGPT or other such AI tools requires electricity, water, and the physical infrastructure of data centers in large warehouses to process the request and complete the task. While additional job opportunities can initially benefit communities, over the long term, data centers impose multiple burdens on local communities. Their water and electricity consumption strains local resources. They generate noise from cooling systems and potential air pollution from backup generators. In some cases, they compete for public dollars that might otherwise fund schools.

Learn More!

- National Education Association (20 Jun 2025). [Advice: Environmental Impact of AI Tools & Tips](#).
- Berney, T. & Leung, J., (17 Feb 2025). [AI Impacts: The harms of modern tech on the environment](#). *Palo Alto High School Verde Magazine*.
- Nguyen, T. & Green, B. (17 Jul 2025). [What Happens When Data Centers Come to Town?](#) University of Michigan Gerald R. Ford School of Public Policy and the Michigan Environmental Justice Coalition.
- Schertow, J.A. (10 Sep 2025). [Indigenous Futures in Artificial Intelligence: From Language Sovereignty to Ecological Stewardship](#). *IC Magazine*.
- Valenzuela, J. (22 Aug 2025). [Teaching the Environmental Impact of AI Through Project Based Learning](#). *Edutopia*.

Key Steps for School Communities

Because AI technology is advancing so rapidly, policymakers and school communities must learn to adapt quickly. AI is what researchers call an '[arrival technology](#)' that, like social media and cell phones, showed up in classrooms before schools carefully researched and planned for it. As a result, there are significant gaps in our understanding of its impact.



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Strategies to address this challenge include: involving school communities in AI decision-making to ensure a broad range of perspectives inform what and how schools use these technologies, building awareness of the ethics and limitations of AI use among everyone in the school community, and emphasizing continual learning and experimentation. As AI use spreads, we need also to broaden how we think about its effects, not just on student learning but on youth engagement and families more broadly.

- 1. Prioritize resources and supports to support school districts, and especially those serving students in high-poverty communities, to prepare for AI.** This requires state level resources for educator learning and to address barriers to adoption. For example, a 2025 [AI Pilot Program](#) in Connecticut introduces students in grades seven-12 to state-approved AI-powered tools. Through hands-on learning experiences, the program aims to raise awareness of how to engage with AI responsibly and develop digital literacy skills such as prompt engineering and critical analysis of AI-generated content. Educators also receive professional development on effective AI integration into the classroom. Similarly, the Indiana Department of Education launched an [AI-Powered Platform Pilot Grant](#) in Indiana to cover subscription fees and professional development to facilitate high-dosage tutoring for students while reducing teacher workload with an AI platform.
- 2. Involve a broad range of stakeholders in AI decision-making to ensure AI usage is informed by and accountable to the needs of school communities.** Creating opportunities for learning and deliberation by students, educators, families and community members can help to ensure that AI policies benefit from a deeper understanding of the strengths, limitations, and challenges of these tools. The [Utah State Board of Education](#) and [Anaheim, CA school district](#) are examples of strong stakeholder engagement in AI decision-making.
- 3. Design and evaluate AI tools, curricula, and professional development with equity, ethical use, and evidence-based learning pedagogical principles in mind.** Implementers of AI should consider how it will support critical thinking, cognitive development, social-emotional learning, mental health, and the safety of both students and adults in schools. A [2024 publication from MIT](#) offers a roadmap



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and examples for how schools can adapt AI-tools into the teaching/learning process to meet student needs.

4. **Direct AI-usage in schools to enhance instructional opportunities rather than undermine autonomy and self-direction in the learning process.** Involving educators, students, and families in co-designing applications and applying AI-like computational tasks can build critical awareness of the ethical issues to inform the use of AI in schools and the community more broadly. School districts like the [Sunnyside Unified School District](#) in Tucson, Arizona and [Gwinnett County Public Schools](#) demonstrate how schools can approach AI technology as an opportunity for critical learning by students and educators, and organizations like [CRAFT](#) and [aiEDU](#) offer extensive instructional resources to support educators in doing so.
5. **Inform all stakeholders in the school community about the data implications of AI usage, including on data biases, potential data privacy violations, and data accountability processes.** Educators, students, and families should be proactively apprised about the specific uses of AI-tools, which data will be collected through these tools and how these data will be used, and the steps that will be taken to protect privacy, intellectual property, and educator professional autonomy. Schools should be required to obtain confirmatory consent about specific uses, rather than the generalized consent.

Learn More!

- Brookings Institute, [Education and AI: Achieving Equity and Respecting the Rights of Students](#).
- Center for American Progress, [Enhancing the Use of Technology in K-12 Schools](#).
- EDSAFE Alliance & Civx Now, [States of the Union: Rebuilding American Civics for a Digital Republic](#).
- Harvard Data Science Review Podcast: [Learning With AI: What It Means for Students, Teachers, and Parents](#).
- Langreo, L. (20 Oct 2025), [‘It’s Not Magic’: How these schools are teaching AI literacy](#). *Education Week*.



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- Mintz, J. Holmes, W., Liu L. & Perez-Ortiz, M. (28 Nov 2023), [Artificial Intelligence and K-12 Education: Possibilities, Pedagogies, and Risks](#). *Computers in the Schools, Interdisciplinary Journal of Practice, Theory, and Applied Research*.

Who is Working on AI in Education?

While the number of organizations working on AI is growing rapidly, here is a beginning list of organizations in the AI space.

★ Parent, Youth & Community Advocacy

- [Encode Justice](#)
- [iCivics](#)
- [National Parents Union](#)
- [The Rithm Project](#)

★ AI Policy and Resourcing

- [aiEDU](#)
- [Center for American Progress](#)
- [EDSAFE AI Alliance](#)
- [HumanityAI](#)
- [National Council of State Legislatures](#)

★ Research on AI Trends and Impacts

- [Brookings Institute AI Equity Lab](#)
- [Center for Democracy and Technology-Equity in Civic Technology](#)
- [Center on Reinventing Public Education \(CPRE\)](#)
- [National Education Policy Center](#)

★ Educator AI Literacy & Practice

- [AI for Education](#)
- [MIT RAISE Initiative \(Responsible AI for Social Empowerment & Education\)](#)
- [MY CRE Buddy](#)
- [Next Generation Learning Challenges](#)
- [Stanford University CRAFT – Classroom-Ready Resources About AI for Teaching](#)
- [Teach AI Coalition](#)



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★ **Media Tracking AI in Education**

- [Common Sense Media](#)
- [Education Week](#)

★ **Ed Tech Development**

- [Pledge to America's Youth Initiative](#)



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