Emma Eccles Jones College of Education & Human Services
Center for the School of the Future
UtahStateUniversity

Guardrails for the Future: Navigating AI's Risks in K-12 Education with Confidence & Care

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#3 of 4 AI Policy Briefs

The purpose of the Center for the School of the Future is to promote empirically validated practices in public education systems and to encourage cooperative and research relationships between K-12 and higher education institutions.

Executive Summary

This policy brief explores several opportunities and potential benefits of AI in K–12 education while also outlining essential guardrails: data privacy and protection, responsible and fair AI governance in education, mitigating erosion of human-centered teaching and the teacher role, and balancing AI in education human connections and thinking.

Just as horse domestication revolutionized society by harnessing power through basic controls like halters, AI is transforming K–12 education with personalized learning, efficiency, and accessibility—which must be carefully controlled to maximize benefits not only to teaching, learning, teachers, and students, but also to prevent harm (CSF AI Policy Brief 1, 2025; CSF AI Policy Brief 2, 2025). Horse domestication (3500–3000 BCE) used nose rings, enabling mobility that evolved into bridles and bits. AI requires the evolution of ethical guidelines and privacy laws to avoid potential negative impacts on student learning in classrooms and schools (Jones, 2025). This policy brief builds on the Center for the School of the Future (CSF) AI briefs 1 and 2, which advocated for skeptical optimism—embracing AI's potential while proactively guarding against its limitations.

This brief addresses the current rapid AI adoption, which poses risks including privacy breaches, decrements to learning, academic dishonesty by both teachers and students, such as plagiarism, over-reliance on automated AI tools, and misrepresentation of AI-generated work, and even erosion of human skill in teaching (CSF AI Policy Brief 2, 2025). Select illustrative guardrails for this brief include human oversight, privacy protections, ongoing training (mastery skills), and stakeholder engagement. We encourage skeptical optimism—the deployment of AI's benefits with thoughtful, measured action that aids policymakers, school leaders, and teachers in advancing education's primary purpose of student academic learning while simultaneously providing appropriate safeguard rails for K-12 learners.

Select Opportunities & Potential Benefits

Benefit 1

AI-Based Curriculum and Instruction

AI integration in K-12 education, accompanied by supportive and protective policies, presents transformative opportunities to improve K-12 students' academic growth and achievement, comparable to those reportedly occurring in Alpha Schools in Texas (Forbes, 2025). This school combines AI-powered adaptive learning and in-person mentorship, enabling students to complete core academic subjects in just two hours each morning. Afternoons are dedicated to hands-on workshops focused on life skills and personal development, these methods distinguish Alpha from traditional academic models. The school has earned national recognition for high achievement on standardized assessments.

Benefit 2

Teaching-Related Administrative Tasks

Teachers benefit significantly from AI by offloading administrative tasks, such as

lesson planning, grading student work, and record-keeping, which can reduce weekly preparation time from 11 hours to 6 hours (Bryant, Heitz, Sanghvi, & Wagle, 2020). This time saving allows teachers to focus on effectively delivering instruction, mentoring students, and actively monitoring their learning progress. Opportunities for teachers include an AI instructional planning and development partner for creating learner-centered resources, such as adapting storybooks or generating quizzes, and providing real-time insights into student progress, enabling data grounded instruction and collaboration with AI as a "co-intelligence" partner.

Benefit 3

Innovative Instructional Skills

Furthermore, AI opens doors to innovative educational models, democratizing access to high-quality, result-oriented education, and preparing students for an AI-integrated workforce by emphasizing adaptability, ethics, and lifelong learning skills.

Select Guardrails for Responsible AI Use

Guardrail 1: Data Privacy and Protection

When 13-year-old Mia logged into her school's AI learning app, she didn't realize that her class roster—complete with birthdays and parent contact numbers—had been exposed. Within days, her family received scam calls pretending to be school officials. The school district swiftly launched an investigation and required the vendor to enhance its encryption protocols and notify all families, underscoring how data privacy isn't just a technical issue, but a matter of safeguarding parents' trust and student safety.

Safeguarding student data is foundational to responsible AI implementation in education. AI systems increasingly employ anonymization, encryption, and synthetic data processing techniques (differential privacy encryption systems) to protect sensitive educational information during model training and analysis. These innovations align with Utah's FERPA-compliant safeguards, transforming compliance into a driver of technological advancement rather than a constraint. Mia's story demonstrates that strong data-privacy protections are not optional, but rather the foundation of ethical, trusted AI use in schools.

Guardrail 2: Responsible and Fair AI Governance in Education

As AI tools become more deeply integrated into classrooms, districts, and state systems, it is key that schools execute effective protocols over them. Responsible AI governance ensures that innovation does not outpace ethics, student protection, or public trust. AI governance in policies and deployment protects educators by placing responsibility where it belongs—on vendors, district leaders, and state-level systems—not on individual classrooms and teachers. With intelligently designed guardrails in place, schools can use AI confidently, knowing it supports teaching and learning rather than increasing the potential liability.

Guardrail 3: Mitigating Erosion of Human-Centered Teaching and the Teacher's Role

AI integration should begin with a thoughtful approach that can center human relationships in teaching and learning. The goal is not merely to offload repetitive tasks to AI but to collaborate with AI by using its capabilities to help co-design and refine those tasks in ways that deepen student learning. When used

thoughtfully, AI can team with teachers to transform routine processes, such as grading, feedback, or lesson analysis, into meaningful data and learning artifacts that inform them as they prepare the next cycle of instruction. In this sense, AI becomes not just a teacher's assistant managing workload, but a design partner that helps a teacher craft more adaptive, responsive, and learning-centered classrooms.

To keep teachers at the center of education, schools can take practical, concrete actions. First, provide monthly professional development workshops where teachers can try AI classroom tools for use in learning lesson design strategies that maintain teacher-led instruction. Second, schedule regular team meetings where teachers collaboratively review each other's lessons, with AI as another collaborator, and discuss real cases of effective and ethical AI use, and again with AI engaging teachers as a collaborator. Third, establish clear policies and protocols that guide teachers in following established AI practices before allowing AI to perform tasks on their behalf. This approach ensures that teachers remain central to all instructional and assessment decisions while promoting responsible and transparent use of AI tools (Hernholm, 2025; Engageli, 2025).

Guardrail 4: Balancing AI in Education: Preserving Human Connections and Thinking

As AI use in schools increases, teachers and parents worry about weakened student-to-student and student-to-teacher interactions as well as the resulting decrements to social development and thinking skills. Additionally, student overreliance on AI for support may result in a reduction of meaningful student-to-teacher interactions, leading to impersonal learning experiences. AI systems are increasingly adept at behaving as a high-quality tutor and can gently remind students to pause and think and refine their questions versus relying too much, or seeking to quickly, to acquire the answers from AI. AI can also guide students to reflect or check their understanding before moving on, or even to seek out their teacher to engage them in a question. These prompts can also signal teachers when students need extra support, helping to strengthen real connections between teachers and students while building deeper, more thoughtful learning behaviors.

To better protect these relationships, education leaders should invest in comprehensive professional development for teachers and AI literacy training for students, helping both groups understand how AI makes decisions and is best used in teaching and learning. When teachers and students share this understanding, it builds trust, encourages responsible use, and keeps their relationship at the center of the learning process.

Building Guardrails with Skeptical Optimism

Adopting AI in schools requires neither blind enthusiasm nor outright resistance. It requires a stance of skeptical optimism—recognizing AI's potential to improve teaching and learning while insisting on the policies, safeguards, and accountability measures needed to prevent harm. This mindset encourages schools to explore what AI can do, but only after asking and answering the appropriate questions: Who controls the data? How is AI producing biased responses? Who is accountable when AI systems fail? By pairing cautious scrutiny with forward-looking innovation, school systems can install guardrails that allow educators to benefit from AI without compromising student safety. This approach does not slow progress; it makes responsible progress possible.

Establishing AI guardrails is central. The Center for the School of the Future has identified

five essential elements for designing AI guardrails in education. This list is not exhaustive. What follows is a brief overview of each element, along with links to the full source materials for readers who want more detailed guidance, examples, and policy models.

Element 1: Humans in the Loop

Validate AI outputs and treat them as guidance tools that support, not replace, human judgment (U.S. Department of Education, Office of Educational Technology, 2023, pp. 53–54).

Element 2: Privacy Protections

Build privacy into system design and require regular vendor audits to ensure data security and compliance (Sallay, 2024, pp. 6, 16-17).

Element 3: Integrity Policies

Implement tiered ethical guidelines and ongoing education to foster responsible AI use and strengthen student-teacher connections (EDUCAUSE AI Ethical Guidelines Working Group, 2025).

Element 4: Training and Application

Offer professional learning and early guidance for hands-on AI use. AI systems can prompt students to think critically and verify understanding, strengthening connections with teachers, and improving learning quality (Kelley & Wenzel, 2025).

Element 5: Stakeholder Engagement

Form cross-sector committees and conduct annual reviews to guide responsible, collaborative AI implementation (Education Commission of the States, 2025). A district committee including teachers, parents, and tech leaders could meet annually to review AI use, assess its impact on teaching and learning, and update local policies.

Conclusion

AI demands vigilance to balance opportunities and risks. Guardrail-like bridles should evolve parallel to AI, and at matched speeds to ensure that teaching and learning avails itself of AI's strengths, while simultaneously respecting its presenting challenges. With policy guardrails from alliances like EDSAFE, people remain central, turning AI into an ally for education in Utah's classrooms.

The four AI policy briefs in this series:

AI Policy Brief 1
Building Smarter Classrooms to Achieve Higher Student Learning: Empowering Utah Teachers with AI Support (June 2025)

AI Policy Brief 2
Personalized and Powerful: How AI Can Transform Student Learning in Utah Classrooms (August 2025)

AI Policy Brief 3
Guardrails for the Future: Navigating AI's Risks in K–12 Education with Confidence and Care (November 2025)

AI Policy Brief 4
New Wine, New Wine Bottles: Rethinking and Redesigning Utah's Education Systems for the AI Era (December 2025)

References

AIPRM. (2025). *AI laws around the world*. https://www.aiprm.com/ai-laws-around-the-world/

Brenan, M. (2025, September 16). *Record-low 35% in U.S. satisfied with K-12 education quality*. Gallup. https://news.gallup.com/poll/695174/record-low-satisfied-education-quality.aspx

Bryant, J., Heitz, C., Sanghvi, S., & Wagle, D. (2020, January 14). *How artificial intelligence will impact K-12 teachers*. McKinsey & Company. https://hechingerreport.org/ai-in-education-reframing-ed-tech-to-save-teachers-time-and-reduce-workloads/?%20utm_source=chatgpt.com

Buckman, B. (2025, September 22). *Average cost of a data breach*. Huntress. https://www.huntress.com/blog/average-cost-ofa-data-breach

Bushweller, K. (2025). *Is there a healthy middle ground on AI in schools? Try skeptical optimism*. Education Week. https://www.edweek.org/technology/is-there-a-healthy-middle-ground-on-ai-in-schools-try-skeptical-optimism/2025/09

Center for the School of the Future (2025). *Building smarter classrooms to achieve higher student learning: Empowering Utah teachers with AI support*. https://cehs.usu.edu/csf/files/policy-brief-ai1-6-24-25.pdf

Center for the School of the Future (2025). *Personalized and powerful: How AI can transform student learning in Utah classrooms*. https://cehs.usu.edu/csf/how-ai-can-transform-student-learning-utah-classrooms-pb2-8-2025.pdf

EDUCAUSE. (2025). *AI ethical guidelines*. https://library.educause.edu/resources/2025/6/ai-ethical-guidelines

EU Artificial Intelligence Act. (2025, August 2). Article 99: Penalties. https://artificialintelligenceact.eu/article/99/

Hernholm, S. (2025, June 19). *AI in education: Why teachers need tools, time and training*. Forbes. https://www.forbes.com/sites/sarahhernholm/2025/06/19/ai-in-education-why-teachers-need-tools-time-and-training/

Jones, A. II. (2025, September 3). *Artificial intelligence is here. Will it replace teachers?* ABC News. https://abcnews.go.com/Politics/artificial-intelligence-replace-teachers/story?id=125163059

Kalyuga, S. (2007). Expertise reversal effect and its implications for learner-tailored instruction. *Educational Psychology Review*, 19, 509-539. https://doi.org/1007/s10648-007-9054-3.

Kelley, C., & Holquist, S. (2025, July 31). *Most public schools lack AI policies for students*. Child Trends. https://www.childtrends.org/publications/public-schools-ai-policies-students

Kelley, M., & Wenzel, T. (2025). Advancing artificial intelligence literacy in teacher education through professional partnership inquiry. *Education Sciences*, 15(6), 659. https://doi.org/10.3390/educsci15060659

McCann, J. (2025, June 17). *How states are responding to the rise of AI in education*. Education Commission of the States. https://www.ecs.org/artificial-intelligence-ai-education-task-forces/

Miao, F., Holmes, W., Huang, R., & Zhang, H. (2021). AI and education: Guidance for policy-makers. UNESCO. https://www.unesco.org/en/articles/ai-and-education-guidance-policy-makers

References

MIT Raise Initiative. (2024). *Securing student data in the age of generative AI*. Responsible AI for Social Empowerment and Education. https://raise.mit.edu/wp-content/uploads/2025/08/MIT_AIED_2024-Anjali-Nambiar-Securing-Student-Data-in-the-Age-of-Generative-AI.pdf

Ravaglia, R. (2025, February 10). *Alpha School: Using AI To unleash students and transform teaching*. Forbes. https://www.forbes.com/sites/rayravaglia/2025/02/10/alpha-school-using-ai-to-unleash-students-and-transform-teaching/

Sallay, D. (2024). *Vetting generative AI tools for use in schools*. Future of Privacy Forum. https://fpf.org/wp-content/uploads/2024/10/Ed_AI_legal_compliance.pdf_FInal_OCT24.pdf

Seril, L. (2025, November 11). *20 statistics on AI in education to guide your learning*. Engageli. https://www.engageli.com/blog/ai-in-education-statistics

Spys, D., & Solovei, A. (2025, June 18). Phishing statistics in 2025: Reasons to lose sleep over. TechMagic. https://www.techmagic.co/blog/blog-phishing-attack-statistics

TeachAI. (2024). Foundational policy ideas for AI in education. https://www.teachai.org/policy

UNESCO. (2023). Recommendation on the ethics of artificial intelligence. https://www.unesco.org/en/articles/recommendation-ethics-artificial-intelligence

U.S. Department of Education, Office of Educational Technology. (2023). *AI and the future of teaching and learning: Insights and recommendations*. https://www.ed.gov/sites/ed/files/documents/ai-report/ai-report.pdf

Utah State Board of Education. (2024). Artificial intelligence framework for Utah P-12 education: Guidance on the use of AI in our schools. https://schools.utah.gov/informationtechnology/artificialintelligence/AI_Framework_V2.pdf

WestEd. (2024, April 26). 10 emerging considerations as SEAs shape AI guidelines and guardrails in K-12. https://www.wested.org/blog/state-education-agencies-shape-ai-guidelines-guardrails-k12/

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Parker Fawson
Director
Center for the School of the Future
Emma Eccles Jones Endowed Chair in Early Education

David E. Forbush
Associate Director
Center for the School of the Future

John Jeon
Learning Scientist
Center for the School of the Future

D. Ray Reutzel
Distinguished Research Fellow
Center for the School of the Future

Janice A. Dole
Distinguished Research Fellow
Center for the School of the Future

Saeed Moaveni
Distinguished Research Fellow
Center for the School of the Future

Reid Newey
Senior Fellow
Center for the School of the Future

Sam Jarman
Senior Fellow
Center for the School of the Future

Nissa Boman
Assistant
Center for the School of the Future

Kalie Chamberlain
Post-Doctoral Fellow
Center for the School of the Future

Jed Grunig
Graduate Assistant
Center for the School of the Future