

Evaluating EdTech Platforms Through The New Lens of AI



Artificial Intelligence (AI) is a machine-based system that, when given prompts or objectives by a human, can make predictions, recommendations, or decisions intended to influence real-world or virtual environments. AI uses machine- and human-based inputs to perceive environments, abstract those perceptions into models, and use model inference to formulate opinions and actions (15 U.S.C. 9401(3)).

AI integration appears in many educational resources, often to support teachers and students in tasks like question generation, feedback generation, automated scoring, and more. Implementing AI-integrated platforms and tools requires careful vetting and piloting. District administrators should inquire about privacy/safety, accuracy/reliability, and commitment to broadened thinking.

Topic	Background Information	Example Questions to Ask
Privacy & Safety	<p>Privacy concerns relate to potential sharing of personally identifiable information as a result of information disclosure to external agents or institutions (Xue et al. 2011, as paraphrased in Viberg, 2023).</p> <p>US federal law, like FERPA, may be revised in upcoming years to better align with ways in which AI operates (Klein, 2023).</p>	<p>What data is being collected from users of this tool?</p> <p>How are users' interactions with the platform (e.g., prompts to a ChatBot) stored and harnessed?</p> <ul style="list-style-type: none"> • Are users' inputs being added to model data and resurfaced to other users? • Would users who input copyrighted materials violate copyright infringement?
Accuracy & Reliability	<p>Hallucinations are instances in which an AI tool delivers inaccurate, unreliable, or even nonsensical responses.</p> <p>An intrinsic hallucination occurs when an AI tool provides a statement that contradicts its source content (Ji et al., 2022).</p> <p>An extrinsic hallucination occurs when an AI tool provides a statement that seems to have no basis in its source content (Ji et al., 2022).</p>	<p>Can educators and students trust this tool as a learning resource?</p> <ul style="list-style-type: none"> • Are the generated questions, responses, or scores accurate and reliable? • Is the AI-produced content aligned with the district's curricular standards and educational philosophy? <p>Has the tool built in guardrails to improve the AI's response quality?</p> <p>Does the tool explain to users how it reached its results?</p>
Broadened Thinking	<p>AI systems learn from inputted data sources, many of which are historical data sets, which results in the AI encoding historical biases (Roselli et al., 2019).</p> <p>Algorithms used by AI are not explainable in the same way that non-AI algorithms are (Roselli et al., 2019).</p>	<p>What training data or models were used to develop the tool?</p> <p>Does the tool provide features educators can harness to differentiate or personalize learning for students with specific learning needs?</p> <p>Have instances of bias been reported thus far? How impactful were they?</p> <p>Has the tool taken steps to prevent their AI from reinforcing narrowed thinking?</p>

Sources

American Enterprise Institute. (2023, November 14). Charting the course for generative AI in Education. *AEI.org*.

▶ Charting the Course for Generative AI in Education

Biden, J. (2023, October 30). Executive order on the safe, secure, and trustworthy development and use of artificial intelligence. *White House*.

<https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/>

Ji, Z.; Lee, N.; Frieske, R.; Yu, T.; Su, D.; Xu, Y.; Ishii, E.; Bang, Y.; Dai, W., Madotto, A.; & Fung, P. (2022, February). Survey of hallucination in natural language generation. *ACM Computing Surveys*, 55(12), 1-38.

Klein, A. (2023, November 14). Schools 'can't sit out' AI, top U.S. Education Department official argues. *Education Week*.

https://www.edweek.org/technology/schools-cant-sit-out-ai-top-u-s-education-department-official-argues/2023/11?utm_source=nl&utm_medium=eml&utm_campaign=eu&M=8221498&UUID=37812dc5188cbe8b80f53793afaf66d9&T=10920836

Roselli, D.; Matthews, J.; & Talagala, N. (2019, May). Managing bias in AI. *Companion Proceedings of the 2019 World Wide Web Conference*. 539-554.

Viberg, O. (2023, November 14). Designing culturally aware learning analytics: A value sensitive perspective [lecture]. *NYU ECT Brownbag*, New York University.

Xu, H.; Dinev, T.; Smith, J.; & Hart, P. (2011). Information privacy concerns: Linking individual perceptions with institutional privacy assurances. *Journal of the Association for Information Systems*, 12(12), 798-824.