



Glossary of AI Terms for Education

A plain-language reference for educators, families, and school leaders

Foundational AI Concepts

Artificial Intelligence (AI)

Technology that enables computers to perform tasks that typically require human intelligence, such as recognizing patterns, making decisions, or understanding language.

Algorithm

A set of step-by-step instructions a computer follows to solve a problem or complete a task. AI algorithms learn and improve from data over time.

Automation

Using technology to perform tasks with minimal human intervention. In education, this might include auto-grading quizzes or scheduling reminders.

Bias (in AI)

When an AI system produces unfair or skewed results because of problems in its training data or design. AI can reflect and amplify existing societal biases.

Chatbot

A software program that simulates conversation with users through text or voice. Educational chatbots can answer student questions or provide tutoring support.

Computer Vision

AI that can interpret and analyze images or video. Used in education for tools like handwriting recognition or visual accessibility features.

Core Technology Terms

Data

Information collected and used by AI systems to learn and make decisions. In education, this includes student work, grades, behavior patterns, and usage logs.

Data Privacy

The protection of personal information from unauthorized access. Student data privacy is governed by laws like FERPA and state regulations.

Deep Learning

A type of machine learning that uses layered neural networks to find complex patterns. Powers advanced AI like image recognition and language generation.

FERPA

The Family Educational Rights and Privacy Act — a federal law protecting the privacy of student education records and limiting how schools share student data.

Generative AI

AI that creates new content such as text, images, code, or audio based on patterns learned from training data. Examples include ChatGPT and DALL-E.

Hallucination

When an AI system generates information that sounds confident and plausible but is factually incorrect. A key reason AI outputs must always be verified.

How AI Learns and Works

Large Language Model (LLM)

An AI system trained on vast amounts of text data that can understand and generate human-like language. GPT, Claude, and Gemini are examples of LLMs.

Machine Learning (ML)

A branch of AI where systems improve their performance on tasks by learning from data rather than following explicit programming instructions.

Model

The mathematical structure an AI system uses to make predictions or generate outputs. Models are created through training and can be general or specialized.

Natural Language Processing (NLP)

AI technology that helps computers understand, interpret, and generate human language — enabling tools like spell-checkers, translators, and chatbots.

Neural Network

An AI system loosely inspired by the human brain, made up of layers of connected nodes that process information. The foundation of most modern AI.

Training Data

The large collection of examples an AI system learns from. The quality and diversity of training data directly affects how well and fairly the AI performs.

AI in Practice

Adaptive Learning

Technology that adjusts content difficulty, pacing, or style based on individual student performance. Uses AI to personalize the learning path in real time.

AI Literacy

The knowledge and skills needed to understand, use, and think critically about artificial intelligence — increasingly considered a core competency for students and educators.

Prompt

The text instruction or question you give to a generative AI system. The quality of the prompt significantly affects the quality of the AI's response.

Prompt Engineering

The practice of crafting effective prompts to get better results from AI tools. Includes techniques like providing context, examples, and specific instructions.

Personalization

Using AI to tailor educational content, feedback, or pacing to individual student needs. Goes beyond one-size-fits-all instruction to support diverse learners.

Predictive Analytics

Using AI to analyze student data and forecast outcomes like graduation risk, learning gaps, or intervention needs — helping educators act proactively.

Ethics, Safety, and Responsibility

Algorithmic Bias

Systematic errors in AI outputs that unfairly advantage or disadvantage certain groups. Can result from biased training data, flawed design, or incomplete representation.

AI Ethics

The principles and guidelines governing the responsible development and use of AI, including fairness, transparency, accountability, and respect for human rights.

Explainability

The degree to which humans can understand how an AI system reached a particular decision or output. More explainable AI is easier to trust and audit.

Human-in-the-Loop

An approach where humans remain involved in AI decision-making — reviewing, approving, or overriding AI recommendations. Essential in high-stakes education contexts.

Responsible AI

Designing and using AI systems in ways that are ethical, equitable, transparent, and accountable. Prioritizes human well-being and minimizes potential harm.

Transparency

The practice of being open about how AI tools work, what data they use, and how decisions are made. Enables informed consent and community trust.

Emerging and Contextual Terms

AI Agent

An AI system that can independently plan and execute multi-step tasks on behalf of a user, going beyond simple question-and-answer interactions.

Multimodal AI

AI systems that can process and generate multiple types of content — text, images, audio, and video — within a single interaction.

Open Source AI

AI models and tools whose code is publicly available for anyone to use, modify, and improve. Promotes transparency and community-driven development.

Retrieval-Augmented Generation (RAG)

A technique where AI retrieves relevant information from a specific knowledge base before generating a response, improving accuracy for specialized topics.

AI Guardrails

Built-in safety measures that limit what an AI system can do or say. Designed to prevent harmful, inappropriate, or off-topic outputs.

Synthetic Data

Artificially generated data used to train AI models when real data is unavailable, sensitive, or insufficient. Can help address privacy concerns in education.

“You don't need to be a technologist to make good decisions about AI in education — but you do need a shared vocabulary to have the conversation.”

— AI in Education Studio



Thank You

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