AI Vocabulary for Vo-Tech Educators

A shared vocabulary for our AI professional development series. These are the terms you'll meet across the four sessions — organized from foundational concepts through responsible use in the classroom and shop. Definitions are written for educators, not engineers, and align with the U.S. DOL AI Literacy Framework and the MA DESE K-12 AI Guidance.

01 · FOUNDATIONS

Foundations

What AI is and how it learns

Algorithm	A step-by-step set of instructions a computer follows to solve a problem or complete a task.
Artificial Intelligence (AI)	Computer systems that perform tasks normally associated with human intelligence — recognizing speech, making decisions, or generating text and images.
Deep Learning	A type of machine learning that uses layered “neural networks” to find complex patterns. It powers most of today’s image, voice, and language tools.
Machine Learning (ML)	A branch of AI in which systems learn patterns from examples (data) rather than from rules a programmer writes by hand. More relevant data generally means better performance.
Model	The trained “engine” inside an AI tool — the saved result of learning from data that the tool uses to make predictions or generate output.
Neural Network	A computing structure loosely inspired by the brain, made of interconnected nodes that adjust as the system learns from data.
Training Data	The examples (text, images, numbers) used to teach a model. Its quality, range, and limitations shape everything the model can and cannot do.

02 · GENERATIVE AI

Generative AI

The technology behind ChatGPT, Claude, and Gemini

Context Window	How much text an AI can “keep in mind” at once — the conversation and documents it can reference in a single session. Exceed it, and earlier details get dropped.
Foundation Model	A large, general-purpose model trained on broad data that can be adapted to many tasks. LLMs are one kind of foundation model.
Generative AI (GenAI)	AI that creates new content — text, images, audio, code, or video — rather than only sorting or labeling existing information.

Hallucination	When an AI states something false, fabricated, or misleading, yet sounds confident. Always verify AI output before relying on it.
Large Language Model (LLM)	A generative AI trained on enormous amounts of text to understand and produce human-like language. ChatGPT, Claude, and Gemini are built on LLMs.
Multimodal AI	AI that works across more than one format at once — reading an image and answering questions about it or turning text into an image.
Prompt	The instruction or question you give an AI tool. Clear, specific prompts produce noticeably better results.
Token	The small chunks of text (roughly word-pieces) that an LLM reads and generates. Length and cost are often measured in tokens.

03 · WORKING WITH AI TOOLS

Working with AI Tools

Putting AI to practical use

Agent / Agentic AI	AI that takes a goal and carries out several steps on its own — searching, drafting, and using tools — with less step-by-step direction.
AI Assistant / Copilot	An AI tool built into software (a document editor, browser, or LMS) that helps draft, summarize, or analyze alongside your normal work.
API	A connection that lets one piece of software use another's capabilities — how many apps plug AI features into their own tools.
Chatbot / Conversational AI	An AI you interact with through back-and-forth text or voice, like a messaging conversation.
Custom GPT / Gem	A reusable, customized version of an assistant set up for one job — e.g., a "lab-safety quiz writer" or "reading-level rewriter." Gemini calls these "Gems."
Fine-Tuning	Further train a general model on specialized examples so it performs better on a narrow task or subject area.
Prompt Engineering	The skill of writing and refining prompts — adding context, examples, a role, and a desired format — to get more accurate, useful results.
RAG (Retrieval-Augmented Generation)	A method where the AI looks up information from a trusted source (like your own documents) before answering, reducing guesswork and hallucination.

04 · RESPONSIBLE & ETHICAL AI

Responsible & Ethical AI

Using AI safely and fairly

AI Literacy	The knowledge and skills to understand, use, evaluate, and question AI responsibly — the central goal of this series.
Algorithmic Bias	Unfair or skewed results that occur when AI reflects gaps or prejudices in its training data, potentially disadvantaging certain groups.
Data Privacy	Protecting personal and student information; never entering identifiable student data into public AI tools.
Deepfake	Synthetic, AI-generated images, audio, or video that convincingly imitate real people or events.
Digital Equity	Ensuring all students have fair access to AI tools, devices, and the skills to use them — so AI narrows rather than widens gaps.
Explainability	The degree to which an AI's reasoning or output can be understood and accounted for by people.
Human-in-the-Loop	Keeping a person responsible for reviewing, approving, and correcting AI output rather than letting the system act unchecked — essential in education.
Intellectual Property / Copyright	Legal ownership of the created work. AI raises new questions about who owns AI-generated content and what data models were trained on.
Transparency	Being open about when and how AI is used, including disclosing AI's role in creating work or informing a decision.

05 · AI IN TEACHING & ASSESSMENT

AI in Teaching & Assessment

Where it meets the classroom and shop

Academic Integrity	Honest, fair, and accountable use of tools and sources — including responsible AI use rather than passing AI work off as one's own.
AI Disclosure / Citation	Clearly stating when and how AI was used in producing work, modeling academic integrity for students.
Authentic / AI-Resistant Assessment	Tasks grounded in real performance, process, or hands-on demonstration that can't be completed by simply prompting an AI — a natural fit for Vo-Tech shops and labs.
Differentiated Instruction	Tailoring content and support to individual learners — a task AI can accelerate by adjusting reading level or generating alternative examples.
Formative Assessment	Low-stakes checks for understanding during learning. AI can help generate quick questions, hints, and feedback.

06 · ADVANCED TERMINOLOGY

Advanced Terminology

For IT administrators deploying and supporting AI

Data Governance	Policies that control how data is collected, stored, accessed, and used — central to deploying AI responsibly across a district and protecting student records.
GPU (Graphics Processing Unit)	Specialized hardware that runs many calculations in parallel — the workhorse for training and running AI. Local AI performance depends heavily on GPU power and memory.
Inference	Running a trained model to produce an output. “Inference cost” is the compute used every time the AI is queried, separate from the one-time cost of training.
Latency	The delay between sending a request to an AI and receiving its response. Lower latency feels more responsive; it varies with model size, hardware, and network.
On-Premise vs. Cloud AI	On-premise (local) AI runs on your own servers, keeping data in-house; cloud / SaaS AI (ChatGPT, Gemini, Copilot) is faster to deploy but sends data off your network.
Open Source	Software whose code is public to view, modify, and share. Many AI models (e.g., Llama, Mistral) ship as open-source or “open-weight,” allowing a district to run them on its own hardware rather than on a vendor’s cloud.
Parameters	The internal values a model learns during training. Model size is often quoted by parameter count (e.g., “8B” = 8 billion), which affects both capability and the hardware needed to run it.
Quantization	Compressing a model so it uses less memory and runs on smaller, cheaper hardware, with a modest accuracy trade-off — what makes capable models run on local GPUs.
Shadow AI	Unsanctioned use of AI tools by staff or students outside IT’s visibility or policy creates data privacy and security risks.
Single Sign-On (SSO)	Centralized login that lets users reach multiple approved tools with one secure account — useful for granting and revoking access to AI services district-wide.
Vibe Coding	Building software by describing what you want to an AI in plain language and iterating on its output, rather than hand-writing every line. Great for quick tools and prototypes — the output still needs review.