LEARNING INFORMATICS LAB

# GenAI in the Classroom:
## A Science of Learning Perspective

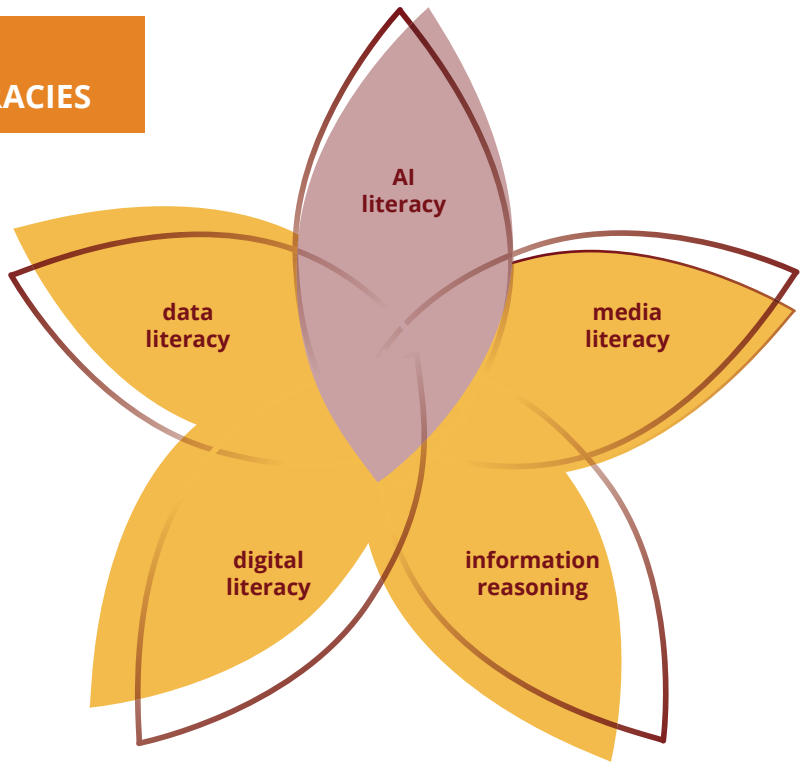
### WHAT IS AI?

- **Artificial Intelligence (AI)**
  "intelligent" behavior demonstrated by technology, usually in the form of a machine or computer system; examples include GPS guidance, autonomous cars, bank fraud detection.
  - **Generative Artificial Intelligence (GenAI)**
    a specific type of AI that involves the creation of new content that did not previously exist; examples include deep learning models that can generate text, videos, images, etc.
    - **Large Language Model (LLM)** – A large language model (LLM) is a sophisticated form of AI that is designed to process and generate new text. These models "learn" to produce new text after being trained on massive amounts of data (e.g., billions of articles, books, chats from the internet). LLMs, such as Chat-GPT can then do things like summarize texts, write articles, generate stories, or compose emails. Right now, they are the most popular forms of generative AI.

### AI LITERACY IS AN EMERGING COMPETENCY LIKE EXISTING LITERACIES

**Generative AI** presents the latest and perhaps biggest paradigm shift in terms of both practical uses of AI, as well as the types of literacies that will be important for students to navigate an AI-informed world.

**AI Literacy** is a constellation of skills that include a deep understanding of how AI systems function, evaluating their implications with a critical eye, and fostering collaborative relationships between individuals and AI.



LEARNING INFORMATICS LAB

# ED-AI LIT FRAMEWORK

**In response to the changing environment, we developed the ED-AI Lit Framework**:

**1) KNOWLEDGE:** Understanding how AI works and its applications is fundamental.

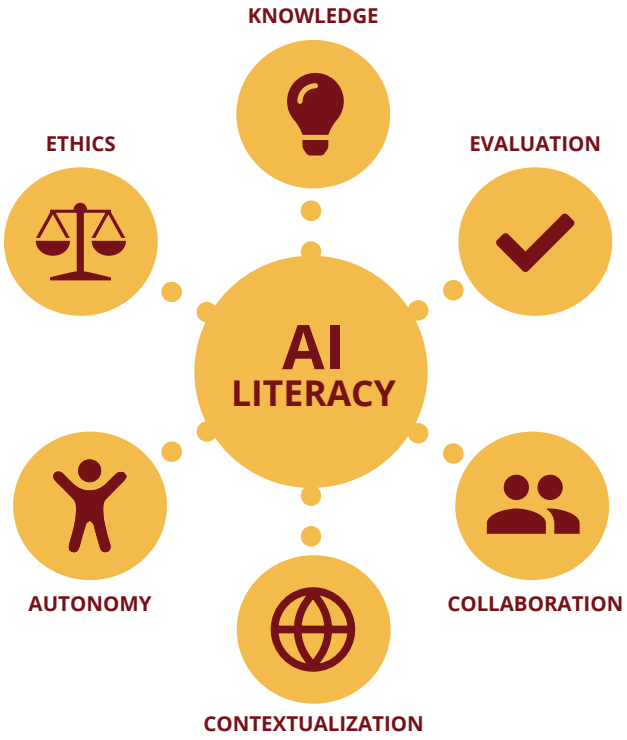
**2) EVALUATION:** Critically judging AI technologies and information sources enables students to discern credible information from biased or unreliable sources.

**3) COLLABORATION:** Effectively communicating and collaborating with AI systems and peers prepares students for collaborative work environments.

**4) CONTEXTUALIZATION:** Applying AI knowledge in real-world settings across disciplines helps students understand its practical applications.

**5) AUTONOMY:** Making informed decisions and taking responsible actions when interacting with AI empowers students to navigate AI-driven environments independently.

**6) ETHICS:** Recognizing and addressing ethical issues related to AI technologies is critical and ensures the responsible use and development of AI.




**In the two boxes below, we provide example questions you might ask about how each component in the framework relates to issues of trust (CASE 1) and autonomy (CASE 2).**

## CASE 1: SHOULD I TRUST WHAT GENERATIVE AI GENERATES?

How would students gauge trust in GenAI without knowing how the technology works?

Which GenAI tools should be trusted with particular tasks? In the flow of everyday life with GenAI, how can we even learn to pause and gauge trust?

How can we balance the potential ease and automaticity of GenAI tools with caution and skill in interpreting the quality of what they generate?

How does trusting GenAI differ across settings, like political ads, science meta reviews, artistic depictions?

Where do students find themselves weighing the trustworthiness of GenAI content in their everyday lives?

Whose work fuels AI without due credit? When do conversations about gauging trust eclipse other important ethical issues?

## CASE 2: AUTONOMY VS. DEPENDENCE ON GENERATIVE AI

Is autonomy important to students?

Can students make decisions without using AI?

Is AI facilitating or displacing social processes?

How/When does the students' self-determination come in within AI application cases?

Can students decide independently when they should and should not use AI?

Are developers and designers conscientious about how "addictive" their AI products are?

UNIVERSITY OF MINNESOTA

FIND OUT MORE
innovation.umn.edu/informatics
or use the QR code to read our white paper