The AI-Infused Learner:
Foundations for Future-Ready Learning

Utah's *Portrait of an AI-Infused Educator* identifies the knowledge, skills, and dispositions necessary for appropriate artificial intelligence (AI) use by an learner in Utah classrooms. AI is a consistently growing and changing technology, but any educator utilizing these knowledge, skills, and dispositions will be able to appropriately navigate AI in education and how to best support their learners with AI. By appropriately keeping a human in the AI system we can close the AI divide and build appropriate responses to future AI technologies.

Knowledge

AI Literacy

Understands what AI is, how it works, and how AI has been historically integrated into our society to guide future applications and the impact of AI.

Key Concepts At-a-Glance:

1. Defining what AI is/is not
2. History of AI
   a. GEN AI vs. Classical AI
3. Types of AI: Predictive, Reactive, Generative
4. How AI Works
   a. Training Data
   b. Algorithms
   c. Machine Learning
   d. Neural Networks
   e. Large Language Models (LLM)
5. How Gen AI tools produce content
6. Interactions with AI (Prompting and more)
7. How AI interacts with different content areas in education
8. Types of AI Gen AI Tools (Chatbots, Multimodal, Image/Video Creation)
9. Differences across platforms (NotebookLM vs. SchoolAI, etc.)
10. Societal Impact
11. Environmental Impact

Data Use

Understands and accepts their LEA's Acceptable Use Policy (AUP). Understands where inputs are going, how they are stored, and how the model uses and learns from them. Students will be able to determine what is appropriate to utilize in various AI environments and to ensure personal privacy.

Key Concepts At-a-Glance:

1. How AI Tools Use Data
2. Data Storage
3. Overarching Data Protections
4. Data Privacy Storage: Personal Privacy Information
5. AI for data summarization and analysis of the output information

Integration

Activating prior knowledge, learners will apply AI skills and tools in multiple systems.

Key Concepts At-a-Glance:

1. AI Best Practices (or what is currently present)
2. High Leverage AI Practices
3. Assessment Considerations
4. Differentiation
5. Interdisciplinary
6. Post secondary Skills

Safety Principles

The AI-infused learner uses technology safely and responsibly, protecting privacy, making smart choices, and always keeping people at the center of the process.

Key Concepts At-a-Glance:

1. Law for Students
2. Acceptable Use Policy (AUP)
3. AI Bias/Algorithms
4. AI Hallucinations/Fake Content
5. Data Privacy (FERPA, HIPPA CIPA, COPPA, DPA)

Dispositions

Human Centered Use

Believes that when using AI, it should focus on people's ideas and celebrate human creativity, problem-solving, and what makes an individual unique. AI is used in a fair and responsible way that helps empower all humans.

Key Concepts At-a-Glance:

1. Identify Appropriate AI Use
2. Healthy Skepticism
3. Appropriate Citing and Usage
4. Appropriate Human Involvement

Curiosity and Creativity

Seek out new ideas, ask thoughtful questions, and explore multiple possibilities in order to design original and meaningful solutions. Throughout the creative process, learners will apply flexible thinking, imagination, and a willingness to revise and take risks.

Key Concepts At-a-Glance:

1. Curiosity, responsibility, creativity, and empathy.
    a. Core dispositions
2. AI as a tool to support diverse needs
    a. Ready to explore using AI as differentiation
2. AI in the Creative Process
    a. Integrate AI into idea generation, design, and problem solving

Critical Thinking

Thoughtfully evaluate when and how to use AI tools, apply questioning strategies rather than accepting information blindly, clearly communicate their decision-making process regarding AI use in their work, and adapt their approaches as technologies and capabilities continue to evolve.

Key Concepts At-a-Glance:

1. Critical thinking (question instead of accepting blindly)
2. Adaptability
3. Communicating how and when AI was used in the process

Skills

Prompting & Communication

Uses clear, purposeful, and strategic prompts to communicate effectively with AI tools, ensuring accurate, relevant, and meaningful outcomes to support learning, problem-solving, and creative tasks.

Key Concepts At-a-Glance:

1. Appropriate AI Tool Usage
2. Prompt Engineering
4. Using AI for Communication
5. AI Privacy Controls
6. Private vs. Public AI Spaces

Machine and Human Collaboration

Learners will be able to exercise critical thinking to identify an appropriate AI tool for a task and collaborate to create in ethical and appropriate ways with AI.

Key Concepts At-a-Glance:

1. Identify
    a. Evaluates task and employs use of appropriate tool
    b. Considers appropriate use of identified tool
2. Collaborating
    a. AI as a Clarifier (asking questions for greater understanding)
    b. AI as a Tutor (Example - Collaborate in the writing process)
    c. AI as an Agent (Agentic AI, and the evolution of that)
    d. AI as Feedback Mechanism (though partner, brainstorm, etc.)
3. 3. Creating
    a. Creating Chatbots
4. Ethical Use
    a. Critical thinking, problem solving, collaboration, adaptability, technical proficiency

Adaptive Application

Students will be able to critically evaluate, select, and apply AI tools for their learning needs, using these technologies responsibly to enhance their problem-solving abilities while recognizing when to rely on their own skills and judgment.

Key Concepts At-a-Glance:

1. Digital Discernment
2. Tool Selection (quality of tool; broad skill of evaluating and choosing appropriate AI tools)
3. Giving AI a role (determining how AI fits into a workflow or task)
4. Applications for Future (understanding potential future applications)
5. AI for a specific purpose (narrowing to particular tasks or objectives)
6. Using AI as a tool to learn life applicable skills, arts, and creative outlets (focused application area)
7. AI for Special Program Context (Special Ed, MLL, CTE, etc)
8. AI in language translation (specialized application)
9. Supporting Assistive Technology (most specific application area)