

AI Literacy Framework for Educators & Learning Professionals

As artificial intelligence (AI) rapidly reshapes the technology landscape across industries, understanding its nuances and potential applications becomes a pressing issue for us in education. Developing strong AI literacy empowers us to:

- **Make informed decisions:** We need to make informed decisions about AI's potentials, limitations, and challenges so we can use the tools appropriately
- **Ask the right questions:** We must be able to ask critical questions about AI tools so we can identify good practices, relevant use cases, and prepare our learners for the changing future of work
- **Navigate the selection, implementation, and application process:** To engage in the AI tool evaluation process, we need to know how to test the systems, have a solid grasp of the technology's capabilities, data practices, potential biases and related ethical problems

To ensure that we can interact, create, adapt, and implement learning initiatives and provide learner support that leverages the capabilities of AI, consider this AI literacy framework that includes eight key areas (Figure 1).



Figure 1: AI literacy across eight areas.

1. **AI Fundamentals**

AI Fundamentals lays the groundwork for understanding artificial intelligence. It explores the core concepts behind AI, its historical evolution, and how it's shaping our world today. This includes examining different AI techniques and their real-world applications.

2. **Data Fluency**

The effectiveness of an AI model is directly tied to the quality of the data it trains on. This area focuses on developing the skills to scrutinize and work effectively with data used in AI systems. It involves understanding data sources, differentiating different types of data, examining data for bias, and applying data governance frameworks.

3. **Critical Thinking and Fact-Checking**

AI is known to return false results with high confidence, generate misinformation, and can be prone to “hallucination” (fabricating information). Large Language Models (LLMs), for example, may return made-up case studies or inaccurate references. Hence, developing strong analytical and fact-checking acumen is important to discern such discrepancies. We cannot accept outcomes generated by AI blindly and must independently verify information obtained through AI systems.

4. **Diverse Use Cases**

To understand AI's broader impacts, we need to look beyond our own domain area to examine other applications across sectors. Examples include AI's role in facilitating autonomous driving, chatbot-driven customer interactions in retail, predictive modeling in finance for gauging risks, and harnessing machine learning in healthcare for diagnosis, prognosis and tailored treatment strategies. Such exploration sheds light on AI's possibilities and its constraints at a societal level.

5. **AI Ethics**

Conversations about AI must invariably include its ethical dimensions - addressing issues like privacy, user consents, data ownership, biases inherent in AI processes, digital integrity, and AI's broader ramifications in society. This includes debates on the ethical implications of using AI for workplace monitoring and potential breaches of learner privacy. Additionally, it's vital to instill in our organizations the significance of using AI responsibly, including the creation and refining of existing data ethics policies and the development and use of AI guidelines.

6. **AI Pedagogy**

We need to address the role of AI in education: to engage our community in inclusive conversations about the capabilities and limitations of AI, to know what pedagogical principles AI tools should be based on, and to be able to evaluate these tools critically and systematically. Furthermore, AI pedagogy needs to include practical examples and hands-on experience to learn how people can co-create and collaborate with AI.

7. **Assessment**

This area covers the integration of AI technologies in developing, implementing, and analyzing assessments to evaluate learning outcomes. It includes understanding how AI can streamline traditional methods through automated scoring, timely (including instant) and personalized feedback while underscoring the limitations as well as the importance of human oversight. Additionally, it focuses on developing strategies to ensure fairness and mitigate bias in AI-powered assessment.

8. **Future of Work**

As AI continues to advance, it will significantly impact the job market and the nature of work. It's essential for us to be cognizant of the competencies and skills as AI becomes more prevalent in our society, and the emergence of roles being created or displaced. An example is understanding how AI can automate routine tasks in different industries, but also recognizing that new jobs like AI Ethicist or AI Data Analyst are being created.