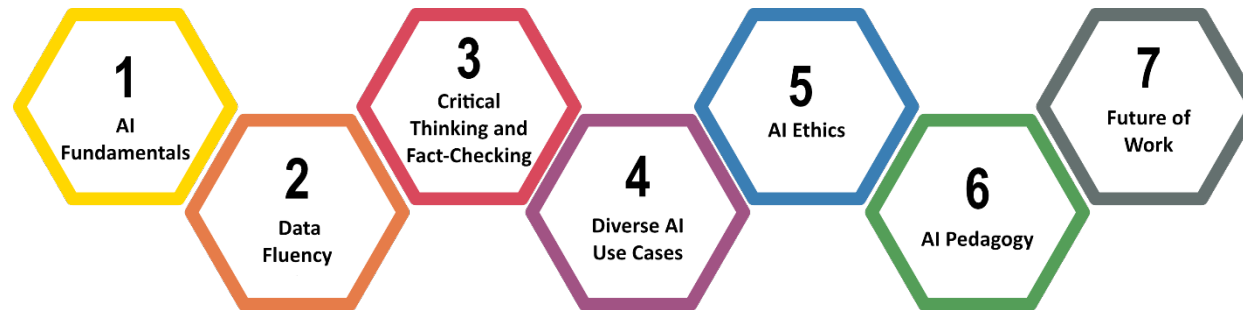


## AI Literacy Competency Framework for Educators & L&D Professionals\*



There are 7 key topic areas with their associated competencies.

Under each of the key area, there are three levels of competency:

- **Level 1 – Introductory**
  - At this level, learners develop a basic understanding of the topic. The focus is on awareness, recognition and description, equipping learners with the essential knowledge needed to engage with more advanced content.
- **Level 2 – Intermediate**
  - Building upon the foundational knowledge, learners at this level dive deeper into the intricacies of the topic. They engage in analysis, evaluation, and synthesis of information. The focus shifts from recognition to conceptualization and application, enabling learners to critically engage with the topic and its nuances.
- **Level 3 – Advanced**
  - At the advanced level, learners not only understand the topic deeply but also contribute to it. They engage in content creation and curation, thought leadership, and strategic activities within the topic. The focus is on active engagement, consultation, and contribution to the community.

\* Special thanks to [Inge de Waard](#) (InnoEnergy), [Don McIntosh](#) (Trimeritus eLearning), and [Corinne Bosse](#) (Athabasca University) for their insightful feedback and thoughtful contributions.

	Level 1 - Introductory	Level 2 - Intermediate	Level 3 - Advanced
<b>AI Fundamentals</b>	<ul style="list-style-type: none"> <li>Define commonly used terminology such as “training data”, “algorithm”, “generative AI”, “hallucinations”, etc. and explain the significance of these terms in the context of AI development and application</li> <li>Describe distinctions between AI subfields such as machine learning, deep learning, computer vision, and robotics</li> <li>Identify major milestones, key techniques, and contributors in the development of AI</li> </ul>	<ul style="list-style-type: none"> <li>Review and critique foundational AI research papers, policies, or projects and summarize the findings</li> <li>Evaluate the strengths, weaknesses, and best-use cases for various AI algorithms</li> <li>Explain the fundamental idea behind how machines “learn”, different types of learning (e.g. supervised, unsupervised, reinforcement), and their learning processes</li> </ul>	<ul style="list-style-type: none"> <li>Contribute to the discipline of AI by engaging in original research or innovation projects that advance the field of AI</li> <li>Predict potential challenges in implementing AI in real-world scenarios, and propose new solutions</li> <li>Teach AI concepts to others, mentor emerging talents in the field, and contribute to the development of educational materials and courses in AI</li> </ul>
<b>Data Fluency</b>	<ul style="list-style-type: none"> <li>Recognize different types of data (quantitative vs. qualitative, structured vs. unstructured), basic data collection methods and sources</li> <li>Read and interpret simple data visualizations such as bar charts, line graphs, and pie charts</li> <li>List potential sources of bias or misrepresentation in datasets</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the completeness, consistency, timeliness, accuracy, and relevance of data</li> <li>Cleanse and normalize data to suit specific analytical needs</li> <li>Utilize basic tools and software (like Excel or Python libraries) to perform data analysis</li> </ul>	<ul style="list-style-type: none"> <li>Design and create effective visualizations tailored to the data type and intended message, using tools like Tableau, Power BI, or Python libraries</li> <li>Integrate data analysis into decision-making processes and guide others in understanding and leveraging data for organizational goals</li> <li>Engage in discussions, debates, or decisions, using data as a foundation to influence outcomes</li> </ul>

			and drive informed decision-making
<b>Critical Thinking and Fact-Checking</b>	<ul style="list-style-type: none"> <li>Describe the context in which AI information is presented, assessing the reliability and credibility of the sources</li> <li>Recognize and articulate common logical fallacies, misinformation, unfounded claims, over-generalizations, and bias in AI-related discussions and reports</li> <li>Identify historical instances where factual information about AI was either leveraged accurately or distorted, particularly focusing on examples in various media and their societal impacts</li> </ul>	<ul style="list-style-type: none"> <li>Compare and contrast content outputs and interpretations from various AI tools</li> <li>Investigate the sources of AI claims, tracking them back to original studies, datasets, or foundational literature, and analyze the methodologies used in both fact-checking AI-generated outcomes and verifying historical narratives across various media</li> <li>Utilize specialized tools and databases to fact-check AI claims</li> </ul>	<ul style="list-style-type: none"> <li>Formulate informed, balanced, and nuanced critiques of AI narratives, research, and claims</li> <li>Engage in discussions, forums, or publications related to AI, contributing informed opinions, clarifications, or rebuttals</li> <li>Contribute fact-checking methodologies specifically tailored for AI content. This includes creating advanced tools or frameworks to critically assess the veracity of AI-generated information, pioneering techniques to detect AI-manipulated data or deepfakes</li> </ul>
<b>Diverse AI Use Cases</b>	<ul style="list-style-type: none"> <li>List and briefly describe examples of AI applications in diverse sectors, including healthcare, education, business, finance, government, and transportation</li> <li>Identify and describe both benefits and challenges posed by AI implementation in different sectors</li> </ul>	<ul style="list-style-type: none"> <li>Analyze and explain the specific AI technologies or methodologies driving various use cases, such as the application of neural networks in image recognition or the use of reinforcement learning in game playing</li> <li>Assess potential pitfalls and challenges in implementation of AI in specific scenarios, considering factors such as technical</li> </ul>	<ul style="list-style-type: none"> <li>Assess and forecast the long-term sustainability and viability of AI solutions in real-world scenarios, evaluating their adaptability, scalability, and ongoing maintenance requirements in diverse sectors</li> <li>Critique and advise on the design and development of AI applications</li> </ul>

	<ul style="list-style-type: none"> <li>Recognize the role of AI in addressing sector-specific problems</li> </ul>	<p>limitations, data quality, and context-specific adaptation requirements</p> <ul style="list-style-type: none"> <li>Analyze the broader impacts of AI applications on diverse stakeholders, integrating perspectives on ethical, social, and economic implications</li> </ul>	<ul style="list-style-type: none"> <li>Contribute insights to the AI field, publishing articles or sharing best practices that enrich the collective understanding of AI applications</li> </ul>
<b>AI Ethics</b>	<ul style="list-style-type: none"> <li>Identify and categorize various types of risks, both perceived and real, associated with AI applications. This includes understanding biases in algorithms, privacy concerns, the spread of misinformation, and the potential for job displacements</li> <li>Define and explain fundamental ethical principles related to AI, such as fairness, transparency, accountability, and privacy</li> <li>Recognize and describe common ethical dilemmas that arise in AI, such as decision-making in autonomous vehicles or AI in surveillance</li> </ul>	<ul style="list-style-type: none"> <li>Assess the level and nature of risks associated with specific AI implementations. This involves evaluating both immediate and long-term implications</li> <li>Curate and disseminate diverse use cases on AI ethics, effectively highlighting both positive examples of ethically-aligned AI practices and cautionary tales of AI gone awry</li> <li>Examine the global adoption of AI technologies through the lens of the digital divide. Explore disparities in access, usage, and impact of AI across different regions and demographics</li> </ul>	<ul style="list-style-type: none"> <li>Contribute to the development and refinement of policies and guidelines that govern AI use within your organization or the broader community. Ensure these policies promote AI practices that align with established ethical standards, including fairness, privacy, and accountability</li> <li>Mentor, guide, and influence peers, colleagues, and decision makers in ethical AI practices. Work towards establishing and reinforcing a culture of ethical AI use within your organization</li> <li>Initiate and lead projects focused on advancing ethical AI.</li> </ul>
<b>AI Pedagogy</b>	<ul style="list-style-type: none"> <li>Compile a list of various AI tools and platforms used in educational settings, including both general-purpose AI</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate various AI for education tools using evidence-based evaluation matrices, considering factors such as learning outcomes,</li> </ul>	<ul style="list-style-type: none"> <li>Propose novel use cases or scenarios where AI can enhance learning experiences</li> </ul>

	<p>technologies and those specifically designed for educational purposes</p> <ul style="list-style-type: none"> <li>• Identify and articulate the benefits and potential limitations of using AI in educational settings</li> <li>• Describe the key pedagogical theories and principles that are enhanced or challenged by AI integration, including your personal network, schools, the private sector, and government agencies</li> </ul>	<p>learner engagement, accessibility, and adaptability</p> <ul style="list-style-type: none"> <li>• Conduct test and pilot studies of various AI tools and platforms in educational contexts</li> <li>• Develop strategies for the integration of AI tools into curriculum and instructional design, ensuring alignment with learning outcomes and business objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Create evaluation metrics to assess the appropriateness and effectiveness of AI tools based on specific learning needs and context, adhere to industry standards, and incorporate stakeholders' inputs, including educators, administrators, and learners, from your organization</li> <li>• Formulate a set of guiding questions that encourage educators to think critically and strategically about integrating and applying AI in their instructional strategies and learning initiatives</li> </ul>
<p><b>Future of Work</b></p>	<ul style="list-style-type: none"> <li>• Identify and describe industries and specific job roles that are most susceptible to AI-driven change, both in terms of automation and augmentation</li> <li>• Recognize and articulate both the benefits and challenges AI brings to the workplace, such as efficiency improvements or potential job displacements</li> <li>• Identify the shifting skill requirements and learning needs resulting from AI integration in various industries</li> </ul>	<ul style="list-style-type: none"> <li>• Reflect on and discuss past significant technological shifts, such as the Industrial Revolution, and draw parallels to the current AI-driven transformation in the workplace</li> <li>• Evaluate the broader social and economic implications of AI on work. Consider factors such as income inequality, job security, change in the balance of power between employers and employees, and disparities between developed and developing nations in AI adoption</li> </ul>	<ul style="list-style-type: none"> <li>• Propose reskilling and upskilling interventions that are specifically tailored to prepare the workforce for an AI-augmented work environment</li> <li>• Engage in or lead discussions and strategic planning sessions on creating an equitable AI-driven work ecosystem, ensuring that the benefits are widespread and challenges are mitigated</li> <li>• Develop and implement strategies to enable organizations, communities, or regions to adapt to the changing nature of work,</li> </ul>



		<p>and its impacts</p> <ul style="list-style-type: none"><li>Analyze how AI is reshaping workforce dynamics, including changes in workforce structure, the emergence of new job categories, and the evolving nature of work itself</li></ul>	<p>considering factors like new job categories, proposing organizational restructuring, and advising on necessary policy changes</p>
--	--	--	--