



Al Literacies in Focus: From Frameworks to Action | Comparative Insights on Al Literacy for Postsecondary Strategy

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Executive Summary

This report reviews leading AI literacy frameworks through the lens of WCET's Policy and Practice Framework. Analyzing 50+ resources and highlighting three key frameworks, it offers actionable insights across the dimensions of AI governance, operations, and pedagogy. Rather than recommending a single model, it advocates for remixing openly licensed frameworks to align with institutional mission, culture, and capacity. With practical guidance for sensemaking, adaptation, and sustainability, the report encourages leaders to treat AI literacies development not as a checklist, but as a shared, evolving commitment.

Al Literacies Action Path

Sensemaking

Develop a shared vocabulary for Al literacies.

Assessment

Explore frameworks in light of local culture, strategy, and stakeholder needs.

Adaptation

Remix and align selected components to your mission and values.

Sustainability

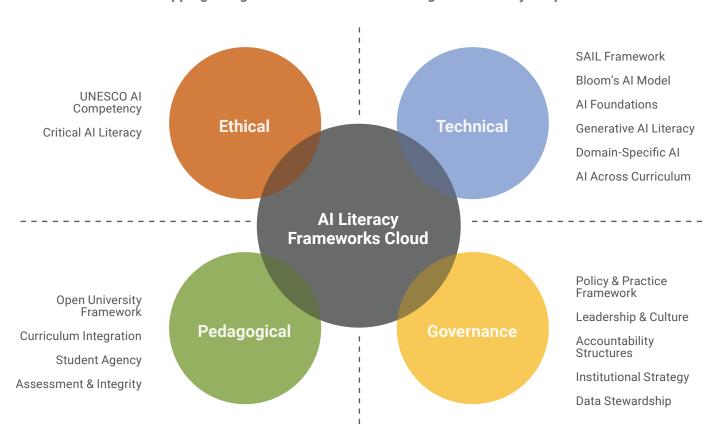
Build structures for stewardship, iteration, and capacity over time.

Introduction

In 2024, the World Economic Forum declared that AI literacy is now a core competency for the future of work, an essential foundation for civic participation, workforce development, and educational advancement (Milberg, 2025). Yet for higher education leaders, this proclamation raises more questions than it answers. What exactly constitutes "AI literacy?" Who defines it? And how should institutions prepare their communities, students, faculty, staff, and leadership, to navigate the complexities of an AI-enabled world?

Since the release of ChatGPT in late 2022, the field has seen an explosion of AI literacy frameworks. Dozens of guides now circulate with varying definitions, design assumptions, and focal areas, some emphasizing ethical reasoning, others technical fluency, others still focused on academic practices or organizational policy.

Overlapping categories create "Framework Fog" in Al literacy adoption



While this abundance of models reflects the education field's collective focus on wayfinding, it has also generated what members of the WCET Steering Committee's AI Working Group have aptly termed a framework fog: a proliferation of disconnected tools that leave institutions struggling to select, adapt, or operationalize any one of them in a way that fits their context.

Opened Culture, a global collaboratory working at the intersection of academic innovation and open education, has worked to cut through this fog through a longitudinal study commissioned by UNESCO IITE and Shanghai Open University. Informed by their research findings from educators (including faculty, staff, and leaders) across the globe, they define AI literacies as the plural, socio-culturally embedded skillsets and mindsets that individuals need to understand, communicate with, critique, and co-create with AI technologies (Gunder, 2024; Gunder et al., 2024). Rather than framing AI readiness as a fixed checklist or technical skillset, this lens centers AI use within broader dimensions of agency, ethics, creativity, and access. Just like AI technologies, AI literacies are evolving and interdependent; they are best understood as a constellation of practices that shift alongside community goals, cultural values, and technological change rather than a binary of literacy versus illiteracy (Gunder, 2024; Gunder et al., 2024).

This conceptual framing is more than just a semantic decision; a pluralistic view of AI literacies demands a shift from reactive compliance to proactive, values-aligned strategy. It invites institutions to stop searching for a single "best" framework and instead begin building cultures of AI use that reflect their mission, maturity, and community needs. Doing so, however, requires a practical structure for implementation, one that translates complexity into clarity and theory into action.

That is where <u>WCET's AI Policy and Practice Framework (WCET, 2023)</u>, with its three core domains of **Governance**, **Operations**, and **Pedagogy**, proves especially useful. These domains provide a stable structure to organize institutional efforts, guide stakeholder-specific decision-making, and support sustained, iterative development. Whether institutions are just beginning their AI journey or refining mature strategies, this framework offers vision and clarity for coordinating efforts across units and roles.

This report builds on that alignment. Through a review of post-2023 AI literacy frameworks targeted at higher education, we analyze areas of convergence and divergence, assess their readiness for institutional adaptation, and map their relevance to the WCET domains.

Our guiding questions include:

- ▶ Which frameworks translate most directly into institutional policies, practices, or curricular design?
- ▶ How do frameworks embed ethics, student voice, and inclusive design?
- ▶ What mechanisms enable frameworks to evolve and sustain relevance over time?

To address these questions, we analyzed over 50 resources on AI literacy development and selected nine frameworks that most directly support campus-wide action across governance, operations, and pedagogy. We then reviewed each framework for scope, role inclusivity, design flexibility, update cadence, and ethical depth.

The goal of this report is not to crown a winner among frameworks. Rather, it is to offer a practical process for adapting, implementing, and continually improving a resource to measure the impact of Al literacies development at any institution or organization:

- 1. **Sensemaking:** Develop a shared vocabulary for AI literacies (grounded in the Dimensions of AI Literacies taxonomy and the WCET AI Policy and Practice Framework).
- 2. **Assessment:** Explore existing frameworks in light of local culture, strategy, and stakeholder needs.
- 3. **Adaptation:** Remix and align selected components to create a curated approach to AI literacies development connected to institutional mission and values.
- 4. **Sustainability:** Build change management structures for stewardship, iteration, and capacity-building across time.

By following this process, institutions can shift from scattered experimentation to coherent, strategic action, equipping their communities not only to use AI, but to shape its future with clarity, creativity, and care.

Comparative Insights

Across 51 resources on Al literacies reviewed for this project, 29 were formally presented as frameworks. From these, nine were selected for deeper analysis based on alignment with the selection criteria: post-2023 publication, a focus on higher education, and written in English. Among the nine, three were selected for focused inclusion in this report due to their clear applicability across institutional domains and

Relative Emphasis of WCET Domains Across Reviewed Al-Literacy Frameworks



These results describe the field's emphasis in current frameworks, not institutional performance.

their ability to inform a holistic AI literacies development strategy. These three emerged as most clearly aligned with the WCET domains of governance, operations, and pedagogy, reflecting strong and comprehensive alignment to institutional needs through a systems-level approach:

- ▶ UNESCO AI Competency Framework for Teachers (Miao & Cukurova, 2024),
- Scaffolded AI Literacy (SAIL) Framework (MacCallum et al., 2024), and,
- ▶ Open University's Critical AI Literacy framework (Hauck et al., 2025)

Additionally, each of these is openly licensed, enhancing their adaptability for institutional remix.

Across all of the frameworks explored, pedagogy was the strongest and most consistently developed domain, with frameworks frequently supporting faculty practice, curriculum integration, and student learning. Governance, while less prevalent, was frequently addressed through ethical considerations and institutional policy guidelines. Operations, of the three, tended to be the least developed dimension, a likely reflection of the early stage of maturity for deep and holistic adoption of AI across institutions of higher education.

The following sections examine how each WCET domain is represented across the selected frameworks, offering insights and recommendations for institutional adaptation.

Governance

Governance refers to how institutions define their vision and values for AI use, establish guiding policies, make decisions about risk, and communicate shared responsibility across roles. In this report, governance encompasses three key themes:

- 1. Policy and ethics,
- 2. Leadership and organizational culture, and,
- 3. Institutional accountability.

Policy and Ethics

Policy and ethics serve as foundational elements of most AI literacy frameworks, offering guardrails for responsible adoption. The <u>UNESCO AI Competency Framework</u> provides structured guidance for educators (including staff, faculty, and administrators) to align with institutional policies while also critically considering the broader ethical implications of AI. It supports educator awareness of key topics such as bias, transparency, and data privacy, and fosters the development of ethical reasoning among students as part of their professional responsibility. The <u>Scaffolded AI Literacy (SAIL) Framework</u> builds on this guidance, offering a developmentally scaffolded model that helps both educators and learners navigate the complexity of AI ethics. Through stages that emphasize bias identification, critical questioning, cultural understanding, and risk mitigation, it promotes proactive, informed engagement with the social and ethical dimensions of AI, supporting a shift from reactive compliance to thoughtful integration.

Leadership and Organizational Culture

Governance also depends on institutional clarity and executive support. The **SAIL framework** reinforces the importance of whole-institution engagement by embedding AI literacy into school-and campus-wide digital strategies. It encourages alignment between educational goals and organizational practices, supporting a culture of shared leadership where AI decision-making is informed by a broad range of voices and expertise. The Open University's Critical AI Literacy Framework also places significant emphasis on inclusive and participatory leadership. It explicitly calls for the integration of critical inquiry and practices supporting accessibility and inclusion into institutional planning and educational practice. In doing so, it positions educators and students not only as adopters of AI but as co-creators of its institutional norms and uses.

Institutional Accountability

Lastly, governance involves transparent processes for measuring progress, iterating on strategy while involving all voices, especially students. Institutional accountability remains an emergent area across most AI literacy frameworks, but some offer meaningful guidance. The Open University framework is especially strong here, focusing on systemic equity and calling attention to the institutional responsibilities embedded in AI use. It prompts leaders to ask who benefits from specific AI implementations and to assess how decisions align with broader commitments to justice, access, and student empowerment. The UNESCO framework also contributes to accountability structures through its alignment with international competency models and teacher development systems. While less focused on institutional self-assessment, it does provide a foundation for ensuring that educators are supported with policy clarity, training, and professional standards that can inform long-term governance structures.

Five Tips for Evaluating Governance in Al Literacies Frameworks

- 1. **Clarify values.** Seek frameworks that articulate core institutional principles—not just compliance.
- 2. **Explore ethical depth.** Look for models that prompt reflection on social impact, data justice, and cultural implications.
- 3. **Map leadership roles.** Strong frameworks define roles, responsibilities, and governance mechanisms.
- 4. Involve students. Prioritize frameworks that treat learners as active ethical agents.
- 5. **Ensure accountability.** Look for structures that support iteration, transparency, and long-term stewardship.

Operations

Operations refers to building and maintaining the technological, procedural, and organizational capabilities that enable effective AI adoption. This dimension centers on the infrastructure and workflows needed to implement AI responsibly and sustainably. For institutions navigating the complexity of AI integration, operational fluency is often the linchpin between aspiration and execution. In the following sections, we examine operations across three primary themes: **technology infrastructure, data stewardship and security,** and **capacity building and support**.

Technology Infrastructure

Many Al literacy frameworks assume, but do not explicitly define, the baseline technical conditions necessary for Al adoption. The **SAIL framework** addresses this gap by embedding Al literacy within broader digital strategies. It emphasizes the importance of aligning infrastructure decisions with pedagogical goals, urging institutions to consider the accessibility, interoperability, and sustainability of the tools they deploy. This operational grounding supports institutions in ensuring that Al use is not just technically possible but meaningfully integrated into campus systems. The **Open University framework** reinforces this through its emphasis on context-aware implementation. Rather than focusing on specific platforms or tools, it encourages institutions to evaluate how Al aligns with educational missions and digital equity goals. This flexible, principle-driven approach empowers institutions to make strategic infrastructure decisions without overcommitting to a single vendor or toolset.

Operational Themes in AI Literacies Frameworks

Infrastructure

Accessibility, Interoperability, Sustainability

Data Stewardship

Privacy, Bias, Consent

Capacity Building

Training, Support, Networks

Data Stewardship and Security

Operational excellence also requires thoughtful data governance. Institutions must navigate evolving regulatory environments while managing risks related to data privacy, bias, and surveillance. While AI-specific guidance is still emerging, frameworks such as the UNESCO framework begin to set foundational expectations for educators to understand data collection, consent, and algorithmic bias in classroom tools. This theme also points to a broader opportunity: institutions do not need to invent new policies from scratch. Many already have robust data management practices in place; the task is to contextualize those existing protocols for the age of AI. For example, institutions that currently train faculty on evaluating educational technologies for accessibility and student engagement are already exercising critical AI literacies. What's needed is a reframing that helps all campus stakeholders see how these practices apply to AI and where gaps remain.

Five Tips for Evaluating Operations in Al Literacies Frameworks

- 1. **Inventory existing efforts.** Identify current initiatives that support Al-related competencies, even if they're not labeled as "Al."
- 2. **Contextualize data policies.** Use AI as an opportunity to revisit and clarify why existing policies on privacy, security, and consent matter.
- 3. **Align infrastructure with pedagogy.** Prioritize tools and systems that serve learning goals, not just technical capabilities.
- 4. **Embed support across roles.** Ensure professional development reaches staff, faculty, administrators, and students alike.
- 5. **Create feedback loops.** Build channels to gather input and iterate on operational strategies over time.

Capacity Building and Support

Perhaps the most actionable area within operations is capacity building. The **SAIL framework** provides scaffolded developmental benchmarks for students and educators, making it easier for institutions to align training programs and professional development with emerging needs. Similarly, the **Open University framework** offers a participatory model that encourages institutions to design support structures that reflect the lived experiences and diverse literacies of their communities. Here, professional development is not just a technical intervention; it is a cultural one. Institutions must build structures that support reflection, experimentation, and iterative improvement. Equally important is the role of communications: setting clear, campus-wide expectations for ethical AI use and engagement, and ensuring those expectations are echoed across departments, roles, and communities of practice. Effective operational frameworks don't just train individuals; they build networks of support.

Pedagogy

Pedagogy encompasses how institutions and educators design learning environments, assess student progress, and support learners through the evolving demands of AI-enabled education. Among the WCET domains, pedagogy is the most developed dimension across current AI literacy frameworks, unsurprising, given that the classroom is often the first place where AI's impacts are felt. But it is also the dimension most saturated with fear-based narratives. Public discourse often reduces pedagogical challenges to questions of cheating, overlooking the far more generative question: How might we create meaningful, future-facing learning experiences that center human agency and creativity in an AI-rich world?

Below, we explore three pedagogical themes critical to Al literacies development: **curriculum and instructional design, assessment and integrity, and student support** and **engagement**.

Curriculum & Instructional Design

Al literacy begins with what and how we teach. The **SAIL framework** offers scaffolded learning outcomes that can be directly mapped to curricular design, providing concrete competencies that evolve in complexity across stages of learning. These progressions help educators make deliberate choices about when and how to introduce Al tools, from foundational awareness to creative, critical, and ethical applications. Its design allows for easy integration into digital fluency initiatives, general education, or discipline-specific courses. The **Open University framework** takes this further by emphasizing the co-construction of knowledge. It advocates for inquiry-based approaches and collaborative meaning-making, positioning Al not as a replacement for learning but as a partner in deepening it. Importantly, this framework centers historically excluded learners and foregrounds a sociotechnical critique, encouraging curriculum design that addresses structural inequities, such as algorithmic bias, unequal access to data infrastructure, and the underrepresentation of marginalized communities in Al training sets, rather than focusing solely on individual skill gaps.

Assessment & Integrity

Many AI literacy frameworks attempt to reframe academic integrity as an opportunity for redesign rather than restriction. The **UNESCO framework** supports this by encouraging educators to model transparent, ethical AI use and to teach students how to responsibly engage with AI tools. Instead of treating AI as a threat to honesty, it promotes the development of metacognitive skills (how

learners understand, justify, and reflect on their process). The **SAIL framework** complements this with its emphasis on critical evaluation and source attribution. By treating integrity as a literacy, it helps institutions reimagine assessment as a space for dialogue and self-awareness rather than surveillance. This shift enables educators to design assignments that value process over product, and that foreground originality as contextual, not formulaic.

Student Support & Engagement

The pedagogical promise of AI is not just about content delivery; it's about connection. The **Open University framework** is particularly strong in recognizing students as co-designers of their own learning pathways. It encourages institutions to center care, inclusion, and accessibility, ensuring that students not only learn about AI but also feel supported in developing their own voice and ethical stance toward it. AI literacy, when viewed through this relational lens, allows educators to focus on what humans do best: build relationships, foster empathy, and share lived experiences. When institutions use AI to free up time and resources for deeper engagement, they create the conditions for more meaningful learning. And when students are trusted as capable participants in these ecosystems, they become empowered not just to use AI tools, but to shape the purposes for which they're used.

Five Tips for Evaluating Pedagogy in Al Literacies Frameworks

- 1. **Embed Al literacies into course outcomes**. Use frameworks to scaffold learning objectives across disciplines and levels.
- 2. **Reimagine assessment**. Move beyond detection tools to design tasks that reflect process, originality, and ethical reasoning.
- 3. **Center human relationships**. Use AI to enable more time for mentorship, feedback, and care.
- 4. **Honor student agency**. Treat learners as co-creators and invite their lived experiences into course design.
- 5. Focus on the "why." Encourage reflection on when and why to use AI, not just how.

Adapting Frameworks to Organizational Needs

The abundance of AI literacy frameworks can overwhelm more than it empowers. Rather than seeking one model to rule them all, institutions can embrace remix as a strategy for alignment and agency. Especially when working with openly licensed frameworks like those featured in this report, adaptation is not only permitted, it's encouraged.

Remixing is not about starting from scratch. It's about customizing what exists to reflect your institutional values, readiness, and community voice. Doing this well requires a shift from top-down decisions to cross-functional collaboration. Al strategy should engage faculty, IT, instructional designers, students, and administrators alike, each contributing to a shared understanding of how Al literacy can serve teaching, learning, and operations.

Too often, remixes are delayed out of fear; fear that it's too complex, too slow, or too risky. But deferring this Sensemaking
Remix Cycle

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work can result in adopting frameworks misaligned with culture or capacity. Early remix efforts, especially by AI councils or task forces, can provide clarity and cohesion across units while modeling inclusive, participatory leadership.

Ultimately, remix isn't just an implementation step. It's a values-driven practice that transforms frameworks from external mandates into living institutional tools.

Sustaining Momentum

Long-term success with building AI literacies depends not just on selecting the right framework but on cultivating the institutional conditions for sustained and adaptive engagement. Many efforts begin with energy, but lose traction when responsibility is siloed or early work lacks mechanisms for growth.

Sustaining momentum begins with acknowledging existing assets: the people, practices, and policies already in place that can support AI literacies development if meaningfully connected. Bringing those efforts into conversation across units, roles, and areas of expertise builds the bridges necessary for institutional alignment. From there, institutions can begin to create pathways that support all stakeholders through accessible learning opportunities, clear expectations, and responsive infrastructure. These efforts grow stronger when they are communicated well, reinforced through professional development, and supported with leadership commitment and resourcing.

Ultimately, AI literacies development is not a fixed outcome. It is an ongoing cultural practice. The institutions most likely to succeed will be those that view this work as ecosystem-building: collaborative, creative, and deeply connected to the needs and aspirations of their communities. By approaching AI literacies not as a checklist, but as a shared responsibility and opportunity, institutions can move from fragmented experimentation to sustainable, strategic transformation.

This report set out to examine which AI literacy frameworks support institutional adaptation across governance, operations, and pedagogy; how they operate ethically and impactfully; and what elements make them sustainable over time. Rather than identifying a singular solution, the goal was to illuminate frameworks that take a holistic approach and offer clear potential for remix and alignment with institutional or organizational values. In doing so, we hope to encourage institutions to move beyond passive adoption and toward the active co-construction of AI literacies shaped by context, driven by mission, and sustained through a shared commitment to building a culture of literacies development.

Al Usage Statement

As generative AI technologies continue to develop rapidly, the authors affirm the importance of transparency and openness in scholarly practice through the inclusion of usage statements. These declarations foster trust, support responsible research practices, and contribute to a broader culture of knowledge-sharing, especially as institutions and scholars continue to grapple with the evolving role of AI in academic work.

In this project, generative AI tools were selectively used to support aspects of the research process. AI-powered search platforms, including Elicit and Semantic Scholar, assisted in identifying and reviewing initial sources for the literature review. Additionally, ChatGPT Plus was used as a comparative reference alongside human-coded summaries prepared by the author. Finally, Grammarly AI was used to assist with copy-editing suggestions.

No generative AI tools were used in drafting the manuscript or in producing visual elements such as graphics, tables, or captions.

Works Cited

Gunder, A. (2024). Constellating AI literacies: Illuminating the sociocultural and pluralistic dimensions of AI in education. Opened Culture. https://openedculture.org/2024/08/constellating-ai-literacies-illuminating-the-sociocultural-and-pluralistic-dimensions-of-ai-in-education/

Gunder, A., Herron, J., Weber, N., Chelf, C., & Birdwell, S. (2024). Dimensions of Al literacies. Opened Culture. https://openedculture.com/projects/dimensions-of-ai-literacies/

Hauck, M., Moore, E., & Wright, C. (2025). A framework for the learning and teaching of critical Al literacy skills. The Open University. https://www.open.ac.uk/blogs/learning-design/wp-content/uploads/2025/01/OU-Critical-Al-Literacy-framework-2025-external-sharing.pdf

MacCallum, K., Parsons, D., & Mohaghegh, M. (2024). The scaffolded AI literacy (SAIL) framework for education: Preparing learners at all levels to engage constructively with artificial intelligence. He Rourou, 1(1), 23. https://doi.org/10.54474/herourou.v1i1.10835

Miao, F., & Cukurova, M., (2024). Al competency framework for teachers. United Nations Educational, Scientific and Cultural Organization. https://doi.org/10.54675/ZJTE2084

Milberg, T. (2025, May 22). Why AI literacy is now a core competency in education. World Economic Forum. https://www.weforum.org/stories/2025/05/why-ai-literacy-is-now-a-core-competency-in-education/

WCET. (2023). AI Education Policy & Practice Ecosystem Framework. WICHE Cooperative for Educational Technologies. https://wcet.wiche.edu/resources/ai-education-policy-practice-ecosystem-framework/

Additional Resources

Conceptual Frameworks

The foundational models that shaped the approach and analysis presented in this report:

Dimensions of AI Literacies Taxonomy

Authors: A. Gunder, J. Herron, N. Weber, C. Chelf, S. Birdwell

Organization: Opened Culture

A taxonomy mapping 8 dimensions of literacies that encompass the skills needed to comprehend, utilize, and critically evaluate AI within complex environments.

Al Education Policy & Practice Ecosystem Framework

Organization: WCET

A framework for institutions to develop policies related to AI in higher education across three interconnected dimensions of Governance, Operations, and Pedagogy.

Al Literacy Frameworks

The resources below represent the nine frameworks that were selected for deeper analysis in this review, based on their focus on higher education, post-2023 publication, and availability in English. These frameworks were assessed for their relevance across institutional contexts and their alignment with the WCET governance, operations, and pedagogy domains.

A Competency Framework for Al Literacy: Variations by Different Learner Groups and an Implied Learning Pathway

Authors: H. Chee, S. Ahn, J. Lee

Defines 8 core competencies and 18 sub-competencies spanning technical, ethical, problem-solving, communication, affective, and career-related domains; intended to guide AI literacy development across education levels and professions.

LEAD AI Literacy Framework

Authors: B. Christie

Organization: Alchemy

Defines four pillars—Learn, Engage, Acknowledge, Develop—to guide educators in understanding AI, creating effective prompts, modeling transparency, and adapting to evolving tools.

Generative Artificial Intelligence (GAI) Literacy Framework

Authors: G.L. Haskell

Organization: Yale University

A four-domain framework to guide the ethical and effective consumption, creation, evaluation, and analysis of GAI outputs, with accompanying competencies and instructional examples.

A Framework for the Learning and Teaching of Critical AI Literacy Skills

Authors: M. Hauck, E. Moore, C. Wright

Organization: Open University

Defines Critical AI Literacy as context-specific, social practice-oriented competencies emphasizing ethical, inclusive, and reflective AI engagement; includes EDIA principles and examples for teaching and learning.

A Framework for Al Literacy

Authors: M. Hibbert, E. Altman, T. Shippen, M. Wright

Organization: Barnard College

A four-level scaffold guiding higher education faculty, staff, and students to understand, apply, analyze/evaluate, and create AI, with emphasis on generative AI literacy.

The Scaffolded Al Literacy (SAIL) Framework

Authors: K. MacCallum, D. Parsons, M. Mohaghegh

Organization: University of Canterbury, academyEx, Auckland University of Technology Provides a four-level scaffold (from awareness to creating AI) across six categories and three domains; aims to support equitable, age-agnostic AI literacy development.

Al Competency Framework for Teachers

Authors: F. Miao, M. Cukurova

Organization: UNESCO

Defines 15 competencies across five dimensions (Human-centered mindset, Ethics of AI, AI foundations and applications, AI pedagogy, AI for professional learning), organized in three progression levels (Acquire, Deepen, Create); designed to guide national policy and teacher training.

<u>Artificial Intelligence Literacy Framework</u>

Authors: University Library

Organization: The University of Adelaide

Defines competencies for students to responsibly recognize, use, evaluate, and reflect on AI tools; explicitly focuses on effective and ethical engagement in academic contexts.

Conceptual Framework for Artificial Intelligence (AI) Literacy

Authors: X. Zhou, L. Schofield

Organization: Queen Mary University of London

Defines AI literacy across four dimensions—Know and Understand AI, Use and Apply AI, Evaluate and Create AI, and AI Ethics—with suggested learning objectives, activities, and tools; aims to help educators integrate AI into curricula progressively.

Complementary Scholarship and Resources

Additional research articles, white papers, and emerging frameworks that offer complementary perspectives on AI literacies development and its application in educational contexts.

<u>Decision Tree for Practitioners: Al Integration in Education</u>

Authors: American Association for the Advancement of Science (AAAS)

Organization: AAAS

Offers a practical decision-making tool for educational practitioners to assess and guide the ethical and effective integration of AI technologies into their teaching and administrative practices.

Generative Al Literacy: Twelve Defining Competencies

Authors: R. Annapureddy, A. Fornaroli, D. Gatica-Perez

Defines 12 competencies required to understand, use, evaluate, and adapt generative AI tools responsibly, spanning foundational knowledge, technical skills (e.g., prompt engineering, finetuning), ethics, legal aspects, and continuous learning.

Ten-Dimension Al Readiness Framework

Organization: Digital Education Council

Identifies ten dimensions for evaluating AI readiness in educational organizations, spanning areas such as pedagogy, infrastructure, ethics, innovation, and policy alignment, with a self-assessment tool for institutions.

Higher Education Generative AI Readiness Assessment

Organization: EDUCAUSE

A self-assessment offering institutions a sense of their preparedness for AI initiatives, along with recommendations for increasing their institutional capabilities with AI.

<u>Developing a Holistic Al Literacy Assessment Matrix – Bridging Generic, Domain-Specific, and</u> <u>Ethical Competencies</u>

Authors: N. Knoth, M. Decker, M. Laupichler, M. Pinski, N. Buchholtz, K. Bata, B. Schultz Defines AI literacy as the intersection of three horizontal dimensions (Generic AI Literacy, Domain-Specific AI Literacy, AI Ethics Literacy) and three vertical dimensions (Cognition, Behavior, Attitude); proposes assessment items and a model for designing instruments and learning pathways.

Al Literacy in Higher Education

Authors: Oregon State University Ecampus

Organization: Oregon State University

Presents a staged model of AI literacy aligned with Bloom's Taxonomy to help educators scaffold student learning and awareness of generative AI tools across multiple cognitive levels.

Understanding AI Literacy

Authors: Teaching Commons

Organization: Stanford University

Defines AI literacy through four domains—Functional, Ethical, Pedagogical, and Rhetorical—describing how educators can critically and effectively engage with AI tools and concepts in teaching and learning.

Developing a Model for Al Across the Curriculum: Transforming the Higher Education Landscape via Innovation in Al Literacy

Organization: University of Florida

Defines five categories of AI literacy adapted from Ng et al.'s model, paired with Student Learning Outcomes (SLOs) to scaffold AI literacy development across undergraduate curricula, including a process for reviewing and labeling courses.

Artificial Intelligence and the Future of Teaching and Learning

Authors: Office of Educational Technology **Organization:** U.S. Department of Education

Provides policy recommendations, examples, and design principles for integrating AI into U.S. educational systems, emphasizing safe, effective, and human-centered uses.

Why Al Literacy Is Now a Core Competency in Education

Organization: World Economic Forum

Advocates for AI literacy as essential for civic and workforce readiness, highlighting the need for inclusive, cross-sector approaches to upskilling and education reform.

