

# The Blueprint for Action: Comprehensive AI Literacy for All



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# EXECUTIVE SUMMARY

The future of education demands more than catching up with trends—it requires leadership. As artificial intelligence (AI) transforms how we learn, work, communicate, and govern, education systems must act with urgency and clarity to prepare all learners in an increasingly AI-influenced world. Developed for education policymakers, school, state, and system leaders, higher education institutions, industry partners, and community-based organizations, and responding to the [2025 Executive Order](#), this Blueprint presents concrete recommendations to equip every learner with the knowledge, critical thinking, and civic agency needed to flourish in a rapidly evolving world.

More than 50 leaders from education, technology, philanthropy, and research gathered in Washington, D.C., in June 2025 to co-create a shared vision for advancing AI literacy nationwide. *Co-Creating a Comprehensive Blueprint: AI Literacy for an Action-Oriented Future* was hosted by the [EDSAFE AI Alliance](#), [aiEDU](#), [Data Science 4 Everyone](#), the [Global Science of Learning Education Network](#), and the [Mary Lou Fulton College for Teaching and Learning Innovation at Arizona State University](#). Together, participants examined the learning, social, ethical, economic, and civic imperatives of AI literacy, contributing to a blueprint for national action.

A consensus on its core principles defines the landscape of AI literacy, yet a diverse and growing range of frameworks for its implementation exists. Generally, definitions of AI literacy converge on a set of key competencies: the ability to understand the fundamental concepts of AI, utilize AI tools effectively, critically evaluate AI systems and their societal consequences, and engage with them ethically and responsibly. These foundational pillars emphasize not just the "how-to" of using AI but also the critical thinking skills necessary to question, interpret, and shape its role in society.

This conceptual agreement gives way to a myriad of frameworks designed to impart these competencies to various audiences. For instance, the [AILit Framework](#), a joint initiative by the European Commission and the Organisation for Economic Co-operation and Development (OECD), provides a comprehensive structure for primary and secondary education, focusing on engaging with, creating with, managing, and designing AI. Other notable frameworks, such as those developed by the United Nations Educational, Scientific, and Cultural Organization ([UNESCO](#)), [Digital Promise](#), and various universities, offer different lenses and strategies tailored to their specific contexts, from higher education to professional development. This proliferation of frameworks, each with its unique emphasis and approach, highlights the global effort to cultivate a society that is not only technologically proficient but also critically aware and ethically grounded in its engagement with AI.

We are currently navigating a seismic shift in education and early career opportunities, fundamentally altering the landscape for the emerging workforce. Traditional, linear career paths are dissolving, replaced by a demand for adaptable individuals with a hybrid of technical and durable skills, priorities that educators have long championed, even while constrained by conditions that emphasize standardized testing and rote memorization. The emphasis is shifting towards lifelong learning, with micro-credentials, boot camps, and online learning platforms, as well as just-in-time training tailored to specific industry needs. Internships and apprenticeships are also seen as gateways to employment. Employers recognize this change, [increasingly recruiting and hiring](#) talent with special AI skills.

**"We believe that AI literacy is critical throughout all domains and is as important in an English class as it is in a Computer Science class. That level of foundational literacy is what our students, our educators, our communities, and our parents are demanding now." —Erin Mote, EDSAFE AI Alliance**



# EXECUTIVE SUMMARY

**“Lifelong learning will also bolster agency, ensuring that we are not passive consumers of AI—or passive learners, employees, employers, and citizens.”**

*Murphy and Logan, Human Skills in the Age of AI: Why Essential Competencies Matter More Than Ever, LearnerStudio and High Resolves, July 2025.*

This Blueprint reflects a collective call to treat AI literacy—the knowledge and skill set that enables people to understand, evaluate, and use AI systems and tools—as a foundation for the future and as essential for our workforce, democratic participation, ethical agency, human flourishing, and economic competitiveness. It emerges amid a wave of global investment in AI infrastructure, unleashing an international competition to develop the best AI models and cultivate the next generation of students and workers. China, Singapore, South Korea, and the U.K. have launched sweeping national initiatives that embed AI literacy into education and educator preparation with clear national strategies for empowering students and educators. To stay competitive globally, the United States must match this ambition with strategic investments in educator training, public infrastructure, and the responsible use of trusted AI to advance national strength and the well-being of future generations.

While the global push for AI literacy in education is still in its nascent stages, it is characterized by pivotal collaborations between the public and private sectors, as exemplified by the UK's testbed initiatives that bring together government, schools, and technology firms to explore and evaluate the use of AI in the classroom. These pioneering efforts underscore a worldwide trend toward fostering partnerships that unite governmental policy, educational practice, and industry innovation to prepare students for an increasingly AI-driven future.

Across the globe, nations are recognizing the imperative to equip their citizens with the skills to understand, interact with, and critically evaluate AI. Initiatives in countries like Singapore, with its "Smart Nation" strategy, and the United States, through presidential challenges and task forces, reflect a growing commitment to integrating AI into educational frameworks. These programs, much like those in the UK, often rely on a collaborative ecosystem where government funding and strategic direction enable schools to partner with technology companies and academic researchers.

The UK's edtech impact testbed pilot serves as a prime example of this collaborative model. By providing a structured environment for schools to experiment with AI tools from various firms, the government is facilitating a direct line of communication and feedback between educators and developers. This synergy aims to ensure that AI solutions are not only technologically sound but also pedagogically effective and aligned with the real-world needs of teachers and students. The insights gleaned from such testbeds are invaluable, informing national policy and guiding the scalable and ethical implementation of AI in education.

These early yet crucial partnerships between government bodies, private technology companies, and educational institutions are laying the groundwork for a future where AI literacy is a fundamental component of learning, ensuring that the next generation is prepared for the complexities and opportunities of the 21st century.

# EXECUTIVE SUMMARY

China is mandating AI instruction in all primary and secondary schools by the fall of 2025. Singapore will train every teacher in AI by 2026. South Korea is introducing AI-powered textbooks and a national AI curriculum, while the U.K. is investing in high-quality educational resources to drive AI development.

The Blueprint is organized around three core domains:

- **Learning Experience Considerations for AI Literacy** call for hands-on, developmentally aligned learning that integrates AI across disciplines, centers on student identity and experiences, and is grounded in the Science of Learning and Development (SoLD).
- **Social and Ethical Considerations for AI Literacy** emphasizes the importance of integrating ethics and student voices into the teaching and governance of AI. We emphasize the importance of building trust through transparency, community engagement, and responsible design.
- Finally, the **Economic and Civic Considerations for AI Literacy** explores how AI is reshaping labor markets, information systems, media, and civic engagement. We outline strategies to prepare current and future students for economic resilience and democratic participation in an AI-assisted society.

The Blueprint provides guidance and practical considerations for the implementation of AI literacy within the education sector, along with recommendations in each area, to help policymakers move toward a future where every student is equipped to understand, shape, and succeed in an AI-powered world. It is built on the core idea that earning public trust is essential to making AI literacy a foundational part of learning, ethical understanding, and preparation for meaningful participation in economic and civic life.

To build strong, nationwide AI literacy, a transparent and collaborative strategy is essential—one that defines the roles of federal and system leaders and increases their capacity to lead this work. The federal government should focus on establishing a national vision, providing strategic guidance, and allocating critical funding to states and institutions to support their efforts. This support enables local governments, school systems, and educators to focus on the direct implementation of these initiatives. Their job is to translate national goals into classroom action, build tailored curricula, design flexible learning environments, and address the unique needs of their students. Most importantly, they must ensure that AI education reflects local priorities and values. Our policy recommendations aim to support this alignment, ensuring that federal support drives real innovation at the local level.

**This moment of uncertainty and rapid change requires more than just frameworks—it requires investment, infrastructure, and action.** Just as the United States led the world by building highways and railways, landing on the moon, and pioneering the internet, we must now build the educational foundation required to lead in the age of AI.

# STATE OF AI IN EDUCATION

AI is actively transforming the way students learn, teachers educate, and society functions. Generative tools are affecting how and what students learn, how educators are trained and create learning materials, and reshaping our workforce. While education is among the fastest-growing sectors for AI adoption, it remains one of the least guided by policy or regulation.

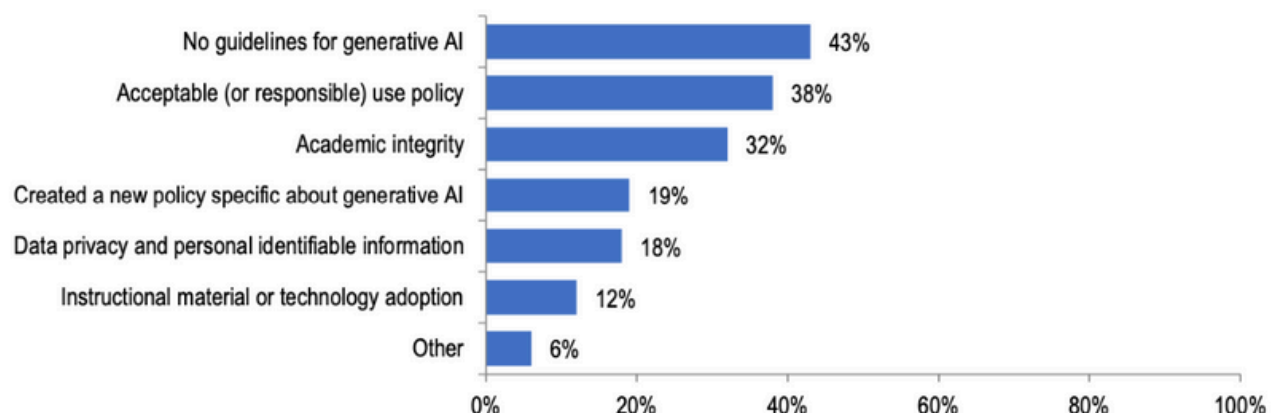
**67% of educators and 70% of students reported that they use generative AI for personal and/or school reasons in the 2023-2024 school year.**

Teachers are now using a range of tools for creating teaching materials, grading tests, brainstorming and generating ideas, writing communications, lesson planning, translations, and data analysis. Students across all educational levels are engaging with AI tools for both personal and academic purposes. Higher education students are utilizing AI for school-related purposes, such as researching information, checking grammar and writing, summarizing tests, and explaining complex concepts, while also exploring creative applications like creating content (images, videos, or music). Similarly, K-12 students use AI for school-related tasks but are increasingly drawn to its personal applications, such as creating content or interacting with chatbot companions.

Despite widespread use, policy guidance has not kept pace. Only 30 states and 40% of schools or districts have released AI-related education guidance, with Title I schools and rural districts being the least likely to have any guidance on AI. 57% of schools and districts have not provided any training on how to use or monitor AI use in schools. These disparities between usage, guidance, and training demonstrate an urgent risk of deepening disparities and misapplication of technology in schools.

This Blueprint is not a call to abandon ongoing efforts to expand access to computer science, computational thinking, data science, and digital literacy education for all students. Instead, it recognizes the urgent need to integrate emerging technologies—especially AI—into these efforts and all learning domains. It's essential to recognize that a fundamental principle of AI literacy is that it extends beyond STEM domains and will impact all subjects and disciplines. This holistic focus on AI literacy as a foundational literacy ensures that students not only develop foundational skills in computer science and data fluency but also build the critical digital literacy competencies essential for navigating and shaping an AI-driven world.

## Guidelines for Generative AI Use



Survey responses from 645 school district education technology leaders,  
2025 State of EdTech District Leadership, CoSN, May 2025

# STATE OF AI IN EDUCATION

The United States' approach to AI literacy has evolved through a complementary, multi-phase progression at the federal policy level. The Trump administration initiated efforts by focusing on building an AI-ready workforce to ensure economic competitiveness, primarily through its "[American AI Initiative](#)." Building upon this foundation, the Biden administration expanded the national focus to include societal safety and ethics, establishing governance frameworks such as the "[Blueprint for an AI Bill of Rights](#)" and a [2023 Executive Order](#) to ensure the responsible and equitable integration of technology into society.

In April, the Trump Administration continued these efforts and issued the Executive Order "[Advancing Artificial Intelligence Education for American Youth](#)," marking a significant federal commitment to establishing AI literacy as foundational in K-12 education. The core logic was that a technically proficient workforce is the necessary first step to harnessing AI's power.

The order establishes an inter-agency White House Task Force on AI Education to implement the order's goals, including launching the Presidential Artificial Intelligence Challenge, forging public-private partnerships, creating AI literacy resources for students, expanding AI educator training and preparation programs, and prioritizing the development of apprenticeships in AI-related fields.

To succeed, this initiative must be supported by sufficient knowledge, capacity, expertise, and funding to enable states and districts to implement it effectively. Federal policy should clarify that existing K-12 formula and competitive grant funds can and should be used to support AI literacy. Key funding streams include:

- **Title I, Part A (Improving Basic Programs Operated by Local Educational Agencies):** These foundational funds, aimed at supporting disadvantaged students, can be used to provide AI-powered educational tools, targeted AI literacy instruction, and equitable access to the technology necessary to bridge the digital divide in the age of AI.
- **Title II, Part A (Supporting Effective Instruction):** A significant portion of these funds should be directed toward robust professional development for educators. This includes training teachers, principals, and other school leaders on how to effectively integrate AI literacy into their curriculum and instruction, ensuring they are prepared to guide students ethically and effectively.
- **Title IV, Part A (Student Support and Academic Enrichment Grants):** This block grant is ideally suited for AI literacy initiatives. Its focus on providing a "well-rounded education," improving school conditions, and increasing the use of technology for "digital literacy" directly aligns with the goals of creating AI-literate students. States and districts should be encouraged to prioritize AI literacy within their Title IV-A spending plans.
- **Individuals with Disabilities Education Act (IDEA):** IDEA funds can be used to explore and implement AI-powered assistive technologies, as well as to ensure that AI literacy curricula are accessible and beneficial for students with disabilities.
- **National Science Foundation (NSF) Grants:** The NSF should continue and expand its competitive grant programs that support the research and development of innovative AI literacy curricula, assessment tools, and educational models.

# STATE OF AI IN EDUCATION

To prepare the current and future workforce, federal programs focused on job training and adult education should incorporate AI literacy as a core component:

- **Workforce Innovation and Opportunity Act (WIOA):** State and local workforce development boards should be directed to include AI literacy and skills training in their strategic plans. WIOA funds can be used for a wide range of upskilling and reskilling programs that prepare job seekers for an economy driven by AI.
- **Strengthening Career and Technical Education for the 21st Century Act (Perkins V):** AI literacy should be explicitly integrated into Career and Technical Education (CTE) programs of study. Perkins V funds can be used to update CTE curricula, purchase AI-related equipment, and provide professional development for CTE educators.
- **Department of Labor Grants:** Competitive grants from the Department of Labor, such as the Strengthening Community Colleges Training Grants, should prioritize programs that build partnerships between employers, community colleges, and other training providers to develop a workforce with in-demand AI skills.

Funding for agencies such as the Department of Education's Institute of Education Sciences (IES) and the National Science Foundation is necessary to support the operational costs of a coordinated inter-agency task force. This includes funding for robust, independent evaluations of the effectiveness of various AI literacy initiatives, as well as for longitudinal studies on the long-term effects of AI on society and the workforce. By strategically leveraging existing federal funding streams, the government can empower its citizens, foster innovation, and secure a prosperous and equitable future for all without the need for massive new spending initiatives. In alignment with the Trump Administration's "gold standard" of science, AI literacy efforts should focus on developing a workforce capable of leveraging artificial intelligence to secure American technological leadership and deliver tangible economic and national security advantages.

The current landscape of AI in U.S. education is fragmented, leaving educators and students to navigate powerful tools without consistent guidance, training, or support. Educators and students engage with AI tools daily, often without the foundational understanding, instructional guidance, or institutional support necessary to use them effectively, responsibly, and safely. AI literacy is a foundational and essential skill for civic participation, workforce readiness, and informed engagement with technology. Meeting this moment requires a holistic and coordinated response that equips all educators and students with the understanding and capacity to use AI effectively, ethically, and with confidence.



## Case Study 1: University of North Florida

The University of North Florida is dismantling academic siloes by embedding AI literacy across its academic programs and pillars (Academic, Research, Operational, and Workforce and Community Excellence) through a university-wide approach that cultivates student agency and curiosity. They are also embedding activities that enable students to create AI tools tailored to their community's needs. For example, students developed a tool for police officers to automatically fill out mandatory forms in various languages, a tool to help students find scholarships, and another to assist students in mapping out their desired career paths.



# LEARNING EXPERIENCE CONSIDERATIONS FOR AI LITERACY

Our education system must move beyond traditional teaching and learning methods to design meaningful and evidence-based learning experiences that foster deep understanding and agency. AI literacy should be hands-on, metacognitive, and cross-curricular, rather than siloed and dependent on elective courses or limited career pathways. These learning experiences should be aligned with established research from the Learning Sciences. For example, multiple efforts such as the [GSoLEN](#) and the SoLD alliance have been consolidating key findings from the Science of Learning and Development (SoLD). The Science of Learning and Development (SoLD) is fundamentally aligned with the concept of human flourishing because it provides an evidence-based roadmap for cultivating the very conditions and capacities that flourishing requires. Human flourishing, a focus of the Trump Administration, is understood as a state of complete well-being, encompassing purpose, positive relationships, personal growth, and health. SoLD, in turn, explains how these outcomes can be nurtured. This evidence-based framework for building supportive, personalized learning environments that consider the whole person can unlock the talent and innovation needed for a strong and prosperous society.

The [Science of Learning and Development \(SoLD\)](#) is a body of research from neuroscience, psychology, and related fields showing that all students can grow and thrive, with brain development nurtured by relationships, environments, and experiences. More broadly, the [Learning Sciences](#) is an interdisciplinary field that investigates learning in real-world settings and how learning may be facilitated with and without technology.

AI literacy is not only about technology or computer science fluency—it is about designing learning experiences that help students navigate the age of AI. This includes understanding how AI functions, questioning its role, deciding when and how to use it, and exploring its possibilities in both their education and personal lives. With thoughtful design and investment, AI can be a tool for more profound, personalized, and meaningful learning.

The rapid integration of AI into every facet of society necessitates a fundamental shift in education. It is no longer enough to teach students what AI is or how to use a specific tool; they must also understand the broader implications of AI. To prepare a generation of critical thinkers, responsible digital citizens, and adaptive learners, we must move beyond basic digital skills and toward deep, authentic AI literacy. Simply layering AI instruction onto existing models risks creating passive users who can follow commands but cannot critically evaluate, ethically reason, or creatively innovate with these powerful tools. The Science of Learning and Development teaches us that durable, transferable knowledge is not passively received; it is actively constructed.

Without an evidence-based approach, we risk:

- **Cognitive Offloading:** Students who merely delegate assignments to AI tools might inadvertently bypass critical thinking and problem-solving, hindering the development of essential cognitive skills.
- **Ethical Omissions:** An exclusively technical focus overlooks the development of empathy and ethical reasoning necessary to address issues such as algorithmic bias and misinformation.
- **Developmental Mismatch:** Presenting abstract AI-related concepts without age-appropriate scaffolding can lead to confusion or disengagement.

# LEARNING EXPERIENCE CONSIDERATIONS FOR AI LITERACY

Integrating AI literacy with the Science of Learning and Development ensures that we are teaching in a way that aligns with how the human brain learns, develops, and makes meaning. AI literacy within education should be grounded in the following principles:

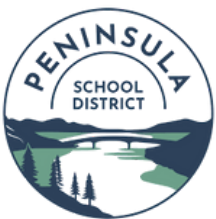
1. **Prioritize Human Cognition over Tool Functionality:** The goal is not to train students on the features of a specific app but to develop their capacity for critical inquiry, metacognition, and creative problem-solving in a world where AI is prevalent.
2. **Embed Learning in Relationships and Community:** Research emphasizes that learning is shaped by relationships, environments, and experiences. AI tools should be used to augment, not replace, the vital interactions between teachers and students, as well as among peers.
3. **Embrace Developmentally Appropriate Instruction:** The way a 1st-grader learns about AI (e.g., as a "helper" in a game) is fundamentally different from how a 12th-grader should (e.g., by investigating the societal consequences of recommendation algorithms).

## Recommendations for Policymakers

- **Invest in Teacher Preparation and Professional Learning:** Equip incoming educators with foundational skills in effective, responsible AI integration, while helping experienced teachers enrich their instructional methods through ongoing professional learning. Pre-service programs should incorporate the Science of Learning and Development (SoLD), digital literacy, and student-centered pedagogies. Leverage [Title II, Part A](#) grants to fund comprehensive educator training and support credentials in AI and related fields. Strategically leveraging established federal funding streams, such as the [Teacher Quality Partnership \(TQP\)](#) and [Supporting Effective Educator Development \(SEED\)](#) grant programs, provides a critical and efficient pathway to develop and scale high-quality AI literacy training for educators nationwide.
- **Expand Department of Education and NSF AI Literacy Investments:** Update discretionary grant programs, including [EducateAI](#), to prioritize proposals that incorporate AI into hands-on, problem-based learning. Provide clear guidance and targeted funding to help states introduce age-appropriate AI content across all core subjects, covering basic AI concepts, computational thinking, data skills, and ethics.
- **Mobilize the Departments of Labor, Commerce, and Education:** Incentivize and support the creation of regional "AI Learning Hubs" that connect K-12 schools, community colleges, universities, industry partners, and community-based organizations. These hubs should facilitate mentorships, internships, and apprenticeship programs in AI-related fields, as mandated by the recent Executive Order.

### Case Study 2: Peninsula School District, WA

In 2022, the Peninsula School District established an AI Action Research Team comprising educators from various departments to explore and shape the use of AI in supporting authentic learning. The team developed a formal process for vetting AI tools. It launched an [open-access website](#) that serves as a hub for district leaders and educators, featuring the district's AI Guidance, classroom use cases, a catalog of approved tools, and emerging research on AI and education.



# LEARNING EXPERIENCE CONSIDERATIONS FOR AI LITERACY

## Recommendations for School and System Leaders

- **Integrate the Science of Learning and Development and Related Research in Service of Human Flourishing:** AI can be thoughtfully utilized to enhance pedagogy aligned with how each student learns and thrives. This includes instructional approaches that incorporate learner variability and opportunities for collaborative or community-based learning.
- **Embrace AI Across the Curriculum:** Integrate AI meaningfully across all subjects rather than isolating it, such as examining bias in AI-generated texts in English, analyzing surveillance ethics in History, creating media in Art, or exploring mental health in Health, reinforcing AI's broad relevance. Embedding AI across subjects and courses reinforces its relevance across all aspects of our lives.
- **Cultivate AI Literacy Across the K-12 Learning Continuum:**
  - **Elementary (K-5): Focus on Awareness and Tangible Concepts.** Introduce AI through familiar, tangible experiences that spark curiosity and enhance creativity. Help students understand the differences between humans and AI, identify AI tools or systems in their lives (e.g., YouTube recommendations, voice assistants), and begin simple "unplugged" activities that develop skills like pattern recognition, collaboration, hands-on exploration, and communication.
  - **Middle School (6-8): Foster Inquiry and Critical Questioning.** Shift from awareness to deeper inquiry. Engage students in project-based learning that promotes questioning AI outputs, explains how algorithms influence their digital experiences, investigates the effects of biases, and debates real-world dilemmas. Emphasize collaboration, research, and presentation skills to support the development of critical thinking, communication, and perspective-taking skills.
  - **High School (9-12): Emphasize Societal Effects and Ethical Design.** Equip students with skills that allow them to critically analyze the role of AI in institutions, like journalism, justice, and the economy. Students can collaborate on projects that require them to design, evaluate, or advocate for ethical AI applications. Emphasize leadership, systems thinking, and solution-oriented design to cultivate civic engagement, digital citizenship, and preparedness for an AI-infused future.
- **Prioritize Educator Preparation and Professional Learning:** Professional learning cannot be a one-off tech training session—it must be an ongoing, collaborative process where educators and administrators learn the core principles of both AI and the science of learning and are given the time and resources to co-design developmentally appropriate curricula for their students. Lastly, education leaders play a crucial role in creating conditions that facilitate AI exploration and effective implementation.

The design of learning experiences will determine whether AI becomes a catalyst for reimagining education—making it more personalized, engaging, and learner-centered—or reinforcing outdated models in new forms. Many of these recommendations align with priorities outlined in the President's Executive Order, including early exposure to AI, expanded educator preparation, and the student-centered integration of AI across subject areas. Further, they emphasize AI literacy as a foundational element of education, including and extending beyond computer science, and grounded in research-based approaches to teaching and learning.

# SOCIAL AND ETHICAL CONSIDERATIONS FOR AI LITERACY

As students increasingly engage with AI tools—often without fully understanding their functions or consequences—it's critical to embed ethics, agency, and inclusion into AI literacy. Since AI systems shape students' beliefs, relationships, mental health, and opportunities, AI literacy must extend beyond digital proficiency to encompass privacy, security, consent, identity, and social-emotional awareness in a digitally connected world.

AI has the potential to enhance education, but it also poses significant risks. If misused, it can repeat past mistakes, reduce face-to-face learning, and deepen divides among students. That's why AI literacy must go beyond teaching students how to use these tools—it must also help learners determine when and if they should be used at all.

Trust is essential. In a world of easily manipulated information, students must learn to critically evaluate AI-generated content. Educators, families, and communities play a vital role in guiding students, requiring a systematic investment in stakeholder communication, training, and engagement to foster collective trust in AI systems. Effective AI literacy extends beyond understanding how AI tools work to questioning why they function as they do and exploring their usefulness and implications across various contexts. Preparing students for an AI-influenced world requires embedding strong ethical principles into education, cultivating critical awareness, and fostering civic responsibility to actively shape AI's role in society.

AI literacy frameworks must address core societal issues—including bias, privacy, misinformation, and accessibility—by integrating these critical topics into digital literacy and core subject curricula. This educational approach should align with evidence-based strategies, such as the Science of Learning and Development (SoLD), [Universal Design for Learning \(UDL\)](#), and related research from the Learning Sciences to create accessible and supportive experiences for all learners. Crucially, this ethical pedagogy must be reflected in the technology itself, demanding that AI tools used in classrooms prioritize transparency, accountability, and inclusive representation in their development, evaluation, and application. To truly affect the societal consequences of artificial intelligence, AI literacy must be intrinsically tied to action through project-based learning that challenges students to apply their knowledge toward solving tangible, real-world problems.

Given that the societal implications of artificial intelligence affect every citizen, a comprehensive understanding of AI cannot be confined to classrooms or corporate boardrooms. Therefore, AI literacy initiatives must actively extend into the public square, equipping all community members with a foundational knowledge of how these powerful technologies work and shape their lives. This broad-based education focused on lifelong learning is the essential groundwork for enabling meaningful civic participation, ensuring the public has a genuine voice in the ongoing development and governance of AI.

True AI literacy extends beyond technical proficiency; it is the capacity to critically analyze, ethically evaluate, and actively shape the role of AI in our lives and society. As these systems influence education, work, and civic life, we must build public confidence through responsible design and meaningful engagement. Empowering educators, students, and communities with ethical understanding and agency ensures AI serves as a tool for learning, leadership, and national strength, not just innovation.



# SOCIAL AND ETHICAL CONSIDERATIONS FOR AI LITERACY

## Recommendations for Policymakers

- **Fund R&D Through the Department of Education's Institute of Education Sciences (IES) and NSF:** Support the development of adaptive AI literacy curricula and tools aligned with Universal Design for Learning (UDL) and other relevant research-based principles, for example, to adapt to learner variation, including rural students and students with disabilities. Ensure that AI policies and tools protect civil rights, encourage transparency, promote collaboration, and are regularly reviewed for usability and effectiveness. Develop and strengthen national capacity to evaluate the efficacy and scalability of programs that use public funding to deliver AI Literacy instruction.
- **Prioritize Responsible AI Across All Federal Agencies Funding AI Education:** Federally funded AI literacy programs should include a strong focus on ethics, fairness, and real-world effects. Students should be taught to think critically, reflect on their learning, evaluate the implications of AI, and explain their reasoning clearly. Evaluation methodologies should be strengthened so that these goals can be measured with validity and reliability.



### Case Study 3: Colorado Education Initiative

The Colorado Education Initiative offers a compelling model for building trust, transparency, and shared responsibility in AI integration. Through a collaborative process with over 100 diverse stakeholders, including educators, students, industry leaders, policymakers, and higher education instructors, and the Colorado Department of Education, they developed Colorado's Roadmap for AI in K-12 Education. The roadmap provides guidance for district administrators and educators on integrating AI literacy across subject areas, aligning with state standards while centering student voice and ethical AI use. To complement the roadmap, they also launched ElevateAI, an initiative that empowers district leaders and teachers to experiment with AI tools through a system-wide approach, leading to reports of reduced stress and increased job satisfaction among educators.

# SOCIAL AND ETHICAL CONSIDERATIONS FOR AI LITERACY

## Recommendations for School and System Leaders

- **Analyze AI Outputs Critically:** Engage students in auditing AI outputs. Students might examine AI-generated news for bias, assess demographic inaccuracies in facial recognition systems, or critique recommendation algorithms for their potential to create filter bubbles.
- **Foster Systems Thinking:** Guide students to map the ecosystem of AI technologies—exploring data sources, creators, deploying organizations, and affected communities—to deepen their understanding of AI's interconnected effects.
- **Educator Foundational Ethics:** Teach core ethical frameworks through AI-focused case studies, such as evaluating self-driving car dilemmas or balancing personalized AI convenience with privacy rights.
- **Prioritize Scenario-Based Learning:** Utilize role-playing, applied research projects, and debates to place students in the shoes of different stakeholders, allowing them to analyze an ethical challenge from multiple perspectives.
- **Engage AI Safeguards:** Guide students to explore AI safeguards by analyzing legislation, advocating to officials, or drafting an "AI Bill of Rights" for their school or community, cultivating informed civic participation.
- **Elevate Youth Voice in AI Governance:** Empower student voices by engaging youth directly in shaping AI-use policies, reviewing AI tools, and addressing concerns, fostering student agency and leadership.
- **Translate Complexity for Public Audiences:** Equip students to communicate AI concepts and their ethical implications to non-experts through projects such as informational videos, newspaper articles, or community town halls.
- **Engage Families and Communities:** Offer multilingual, inclusive resources that explain AI and its classroom integration, reflecting the diverse lived experiences of students. Provide avenues for families and communities to provide feedback and actively participate in shaping the responsible use of AI in schools.



### Case Study 4: Empowering AI Literacy for Families

Common Sense Media and Day of AI released an [AI Literacy Toolkit for Families](#), featuring free, family-friendly, and translated materials for families and educators. The toolkit includes conversation topics, activities, and videos for families, as well as an implementation guide and communication templates for educators. These resources are meant to support families and educators in exploring AI together.

# ECONOMIC AND CIVIC CONSIDERATIONS FOR AI LITERACY

AI is rapidly transforming our economic and democratic systems, from how we work to how information is shared. As these tools become increasingly integral to hiring, productivity, communication, and governance, students must be equipped to use them to understand and influence their development and consequences. This requires AI literacy to be integrated across the curriculum, linking technical skills and understanding with civic engagement and economic participation. Without deliberate education, AI technologies may only exacerbate existing economic and civic inequities.

A shared purpose is needed to advance AI literacy, rather than creating more frameworks. The risk of “framework fatigue” remains high if efforts are uncoordinated or disconnected from the real-world experiences of our students and future workers. Instead, we need federal and state leadership to support collaboration, sustainable funding, and alignment between workforce demands and civic learning. AI fluency is both an economic survival skill and a civic responsibility.

The economic transformations driven by AI are reshaping industries, redefining jobs, and creating new sources of value and wealth. To navigate this new landscape, AI literacy must encompass a deep understanding of these economic forces. Equipping individuals with economic AI literacy is crucial not only for personal career resilience but also for fostering broad-based prosperity, innovation, and a competitive and equitable future economy. The following recommendations envision utilizing AI literacy to empower individuals and communities to thrive in the era of AI.



## **Case Study 5: California Community Colleges Chancellor's Office**

The California Community Colleges Chancellor's Office (CCCCO), which provides direction and leadership for California's 116 community colleges, has made the “Future of Learning” and Generative AI a strategic priority for its Vision 2030 Framework. To operationalize this effort, the CCCCCO launched a multi-pronged effort: establishing an AI Council and developing the HUMANS Framework to guide responsible AI use; designing professional development plans to build AI literacy among faculty and staff; engaging communities through eight regional consortia, and funding K–12 districts to embed AI literacy into existing CTE Pathways. To scale this work systemwide, the office appointed 13 AI Fellows and 110 AI Changemakers to lead efforts across assessment, teaching and learning, student support, technical integration, research, workforce development, and professional learning.

# ECONOMIC AND CIVIC CONSIDERATIONS FOR AI LITERACY

## Recommendations for Policymakers

- **Expand Funding Opportunities:** Direct [Title IV, Part A](#) grants toward AI Across the Curriculum initiatives, including career exploration, digital citizenship, media literacy, and STEM programming.
- **Target Funding to Underserved Communities:** A meaningful share of federal funding for AI education should be directed to students in both rural and urban areas who lack access to strong educational resources, as well as to institutions that serve high-need communities. This approach will help close the AI skills gap and ensure the future workforce is equipped to meet national priorities.
- **Promote a Holistic View of AI Skills:** Federal messaging and program design should emphasize that the AI workforce requires a wide range of skills, not just coding and data science. This includes highlighting the importance of skills such as critical thinking, creativity, ethical reasoning, communication, and collaboration, which are essential for developing and managing AI systems responsibly.
- **Support After-School and Informal AI Learning:** The Department of Education and the NSF should provide grants to non-profit organizations, libraries, and museums to create engaging after-school and summer programs that expose young people to AI in a hands-on, inquiry-driven environment.
- **Expand AI-Focused Apprenticeships and Internships Rapidly:** The Department of Labor, in collaboration with the Department of Commerce, should provide significant incentives for companies to create registered apprenticeships and paid internships for high school and community college students in AI-related roles. This should include a focus on non-traditional tech pathways and roles that require a blend of technical and "human" skills.
- **Establish a National Network of "AI Workforce Hubs":** The federal government should support the development of regional "AI workforce hubs" that unite K–12 schools, higher education institutions, workforce boards, industry partners, and community-based organizations to strengthen coordination and support. These hubs would collaborate to design curricula, offer work-based learning opportunities, and align education with the changing demands of the industry. Emphasis should be placed on building state and community-driven models and expanding support for regional hubs that encourage public-private partnerships among school districts, employers, industry leaders, and colleges. These partnerships can co-create AI learning experiences that reflect local economic priorities and values.
- **Leverage Workforce Pell:** New "[Workforce Pell](#)" programs, created by the [July 2025 budget reconciliation bill](#), can be strategically used to fund short-term AI literacy training for workers. By designing certificate programs in high-demand AI skills that align with the new 8-to-15-week eligibility window, educational institutions can leverage this new federal aid to create a more AI-proficient workforce.



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## Recommendations for School and System Leaders

- **Align Workforce Pathways:** Embed AI literacy into career and technical education (CTE), dual enrollment, work-based learning, and apprenticeships, connecting students to local labor markets and exposing them to challenges in industry-specific AI applications.
- **Strengthen Civic Infrastructure:** Integrate AI competencies into civics, economics, government, and history courses, helping students understand AI's effects on institutions, elections, policy, civil rights, and media, and preparing them to be informed, engaged citizens ready for a transforming workforce.
- **Prioritize Lifelong Learning:** Embed continuous upskilling and reskilling across education and professional development, equipping learners to adopt emerging technologies and assess evolving market-demanded skills.
- **Build Human-in-the-Loop Skills:** Train students and educators to effectively collaborate with AI by supervising autonomous systems, refining AI outputs, and navigating AI-driven tasks.
- **Democratize Access to AI Tools:** Promote low-code and no-code AI platforms that enable individuals without advanced technical skills to create, test, and launch AI-driven applications and ideas.

These efforts should be rooted in transparency and tailored to the economic needs and civic values of each community. By focusing strategically on AI literacy through practical skills, economic opportunity, entrepreneurship, and readiness for future jobs, we can equip individuals not only to succeed in an AI-driven economy but also to help shape it. This approach builds resilience, fuels innovation, and ensures that technological progress leads to long-term prosperity for more Americans.



### Case Study 6: The Urban Assembly

The Urban Assembly is a nonprofit organization that partners with New York City schools to design and scale solutions that advance students' economic and social mobility. One of their most innovative tools is Counselor GPT, an AI tool that equips school guidance counselors with on-demand, real-time labor market and return-on-investment information for various postsecondary pathways. This information is then relayed to the counselor's students, improving their access to actionable guidance and information to inform their postsecondary decisions, like whether to enter the workforce, continue their education, or pursue an apprenticeship.

# CONCLUSION

This Blueprint delivers a focused path to make AI literacy a foundational part of every student's education, linking classroom innovation with job readiness, moral judgment, and civic duty. It includes actionable lessons, guiding principles, case examples, and policy recommendations at every level of government to turn vision into tangible results. Effective AI literacy models must be designed to empower Americans with the critical skills to direct and collaborate with artificial intelligence, ensuring it serves as a tool that augments human capability rather than a force that supplants the nation's workforce.

By anchoring AI literacy in critical thinking, ethical decision-making, real-world application, and responsible citizenship, we do more than prepare learners for an AI-driven economy—we equip them to lead it. When individuals understand how AI works, they can shape its use to serve our nation's values, rather than undermining them.

**But vision alone is not enough. Progress demands a national strategy, durable public-private partnerships, and steady investment. Across the country, leaders in states, school districts, and institutions are already building practical tools that reflect local initiative and resolve. If we fail to act with urgency, others will move ahead, leaving America behind in education, innovation, and workforce readiness.**

**The time to act is now. With firm leadership, responsible AI policies, and a commitment to building conditions where Americans can thrive, we can ensure every student is prepared to succeed and lead in a future shaped by AI.**

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Please note that views expressed in this Blueprint are not endorsements made by organizations.

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