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Journal

NA

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Publication Date

2025-11-05

Fall 2025

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Ethical AI: The Skills and Knowledge Equity Leaders Need

Introduction

The equity imperative surrounding artificial intelligence (AI) in education is both urgent and complex. While AI offers significant benefits, such as developing universally designed learning¹ with accessible, adaptive, and inclusive technologies for diverse students; providing personalized learning with detailed feedback; and supporting educators with administrative tasks like drafting and translating communications, it also poses substantial risks, which requires attention to ethics and responsible use.² AI systems can amplify and perpetuate inequities including bias and discrimination against marginalized groups, cognitive offloading and deterioration of critical thinking,³ data and labor exploitation, environmental racism, and acceleration of climate change.⁴

AI has rapidly emerged as a trending technology in education, with generative AI (GenAI) tools like OpenAI's ChatGPT widely available to educators and students. GenAI represents a type of AI that can create content, including text, images, videos, music, and code, with the potential for personalized learning and instructional support. In the 2024–2025 school year, 60% of teachers reported using AI tools for tasks such as creating lesson plans, worksheets, and assessments; modifying materials; providing one-on-one instruction, feedback, and grading; analyzing student data; and administrative work.

However, only 19% of teachers reported that their school had a formal AI policy.⁵ Usage and access vary with demographic differences, and although increased use does not necessarily correlate with greater gains in learning outcomes, there are important implications for research agendas, equitable policies, and practices.⁶

Considerations

21CSLA (21st Century California School Leadership Academy) professional learning supports leaders in increasing their digital literacy in order to include AI when facilitating effective professional learning by leveraging the skills, norms, and perspectives of critical digital literacy.⁷

This brief provides an overview of four considerations for equity-oriented educational leaders:

1. understanding AI's equity implications
2. developing critical AI literacy
3. offering professional learning on AI
4. implementing ethical AI practices

This brief is not meant to be a comprehensive how-to guide but rather offers essential considerations for leaders approaching AI integration with equity at the forefront.

Critical AI Adoption

A fundamental equity consideration for leaders is that the development of AI technology is being conducted primarily by the private, for-profit industry and that any experimentation with these systems within education ultimately benefits companies, often without the informed consent of students, educators, and families. It is important for leaders to be aware that most of the AI applications for education systems are being developed by private, for-profit companies in a process described as the “platformization of

education,”⁸ which entails “the interpenetration of the digital infrastructures, economic processes, and governmental frameworks of platforms in different economic sectors and spheres of life.”⁹ A response to this has been the emergence of accountability procedures as a strategy to reform procurement practices for outcomes-based contracting, which defines clear outcomes and target student populations, ties payment to student outcomes, and includes clear data-driven plans to improve.¹⁰ Yet, “this drive towards efficiency, when unexamined, risks obliterating other avenues for approaching and solving social problems, leading to increased decision power of tech companies in determining the shape of the future.”¹¹ In order to effectively and equitably engage with and/or implement AI, leaders must maintain a critical consciousness related to AI application development. This includes the implications of AI adoption incentives and ethical considerations about pipeline philanthropy, “the phenomenon in which corporations contribute ‘in-kind’ donations, either by donating or discounting their own core products... [establishing] a ‘pipeline’ of (future) consumers and clients,” as well as the protection of data rights.¹²

Student and Teacher Use of AI

Among students, by 2024 about half (51%) of young people ages 14–22 had used GenAI at some point in their lives;¹³ by 2025, 85% of teachers and high school students had used GenAI, 42% of students had used it as a companion, friend, to get mental health support, or as a way to escape from real life, and 19% to have a romantic relationship with.¹⁴ Given the degree to which AI is used by students, and the increasing availability of AI tools and their use in educational systems, it is important that school leaders develop critical AI literacy, offer professional learning about AI, and develop the capacity to implement ethical AI practices.

AI in Education Policy

We draw on the U.S. Department of Education’s framing of ethical concepts like fairness, accountability, and transparency when considering issues like privacy and data security requirements; civil rights, accessibility, and digital equity; and opportunities and risks associated with AI in education.¹⁵ For this brief, we consider the skills and knowledge equity leaders need related to AI within the realm of digital literacy discourses, policies, and practices that facilitate engagement with digital technologies. Digitally mediated learning (DML) encompasses “a device, the internet, digital tools and resources, and the skills, norms, and practices to ensure digital learning is empowering, engaging, and productive.”¹⁶ 21CSLA guidance in *Leveraging Digitally Mediated Learning to Advance Equity-Centered Professional Learning for Educators* curates “scholarship that seeks to leverage the scope and scale of early 2020 remote learning practice and the related growth in the use of artificial intelligence, to inform our use of digital tools and resources and to continue to improve our collective capacity.”¹⁷ Within this context, ethical AI implementation requires leaders to develop critical digital literacy skills that address both the opportunities and challenges of AI in P–12 school settings.

California has positioned itself as a leader in both GenAI innovation and regulation; the California Department of Education developed a resource kit for educators that supported them in approaching AI with an equity lens by centering human relationships, student safety, ethical use, and community voice.¹⁸ Recent legislation includes AB 2876, which requires consideration of AI literacy in curriculum frameworks,¹⁹ and SB 1288, which mandates the development of guidance for “local educational agencies and charter schools on the safe and effective use of artificial intelligence in ways that benefit, and do not negatively impact, pupils and educators” (see sidebar) and requires the identification

Recent legislation mandated the development of guidance on the safe and effective use of artificial intelligence including the following topics:

- ▶ Academic integrity and plagiarism
- ▶ Acceptable and unacceptable uses of artificial intelligence for pupils and educators
- ▶ Pupil and educator data privacy and data security
- ▶ Parent and guardian access to pupil information
- ▶ Procurement of software that ensures the safety and privacy of pupils and educators and their data
- ▶ Effective use of artificial intelligence to support, and avoid risk to, teaching and learning
- ▶ Effective practices to support, and avoid risk to, educators and pupils
- ▶ Strategies to ensure that artificial intelligence does not exacerbate existing inequities in the education system
- ▶ Professional development strategies for educators on the use of artificial intelligence

From Senate Bill 1288; see Public schools: artificial intelligence working group (2024).

of “other ways in which the state can support educators in developing and sharing effective practices that minimize risk and maximize benefits to pupils and educators, including, but not limited to, establishing communities of practice on the use of artificial intelligence in education.”²⁰

Understanding AI’s Equity Implications

Educational leaders must recognize that AI technologies are not neutral tools but rather systems that can both advance and hinder equity goals. The implementation of AI in schools operates within existing power structures and can challenge or reinforce educational inequities depending on how the applications are designed, deployed, and monitored.

As shown in Figure 1, the potential for AI to exacerbate inequities manifests through several critical divides.²¹

The **access divide** arises when not all learners and educators have equal access to the necessary hardware, software, and connectivity required for AI-enhanced learning. This digital divide disproportionately affects students from low-income families, rural communities, and historically marginalized groups, potentially increasing educational debts rather than reducing them.²²

The **representation divide** occurs when the data used to develop AI algorithms fails to represent the diversity of the student population, leading to biased understandings and discriminatory outcomes. For example, AI surveillance systems may disproportionately flag Black students, leading to increased exposure to school discipline and carceral contact. Similarly, these systems may flag uses of Black English, discussions of racial identity, immigration status, and topics related to LGBTQ+ communities as dangerous or inappropriate.²³

The **algorithm divide** represents AI bias in which the algorithms embedded in educational tools discriminate against certain individuals or groups based on historical data patterns. This can result in AI systems that perpetuate racial, gender, linguistic, disability, and socioeconomic biases in ways that are often invisible to users.

The **interpretation divide** occurs when educators and learners misinterpret AI outputs or rely on inherently flawed algorithmic recommendations to make important educational decisions. Without proper training in critical AI literacy, school leaders may inadvertently make decisions that harm students based on biased or incomplete AI-generated information.

The **citizenship divide** encompasses the accumulated effects of these other divides, impacting how students and educators interpret AI outputs, modify their behaviors, and ultimately, how AI influences life outcomes and opportunities.

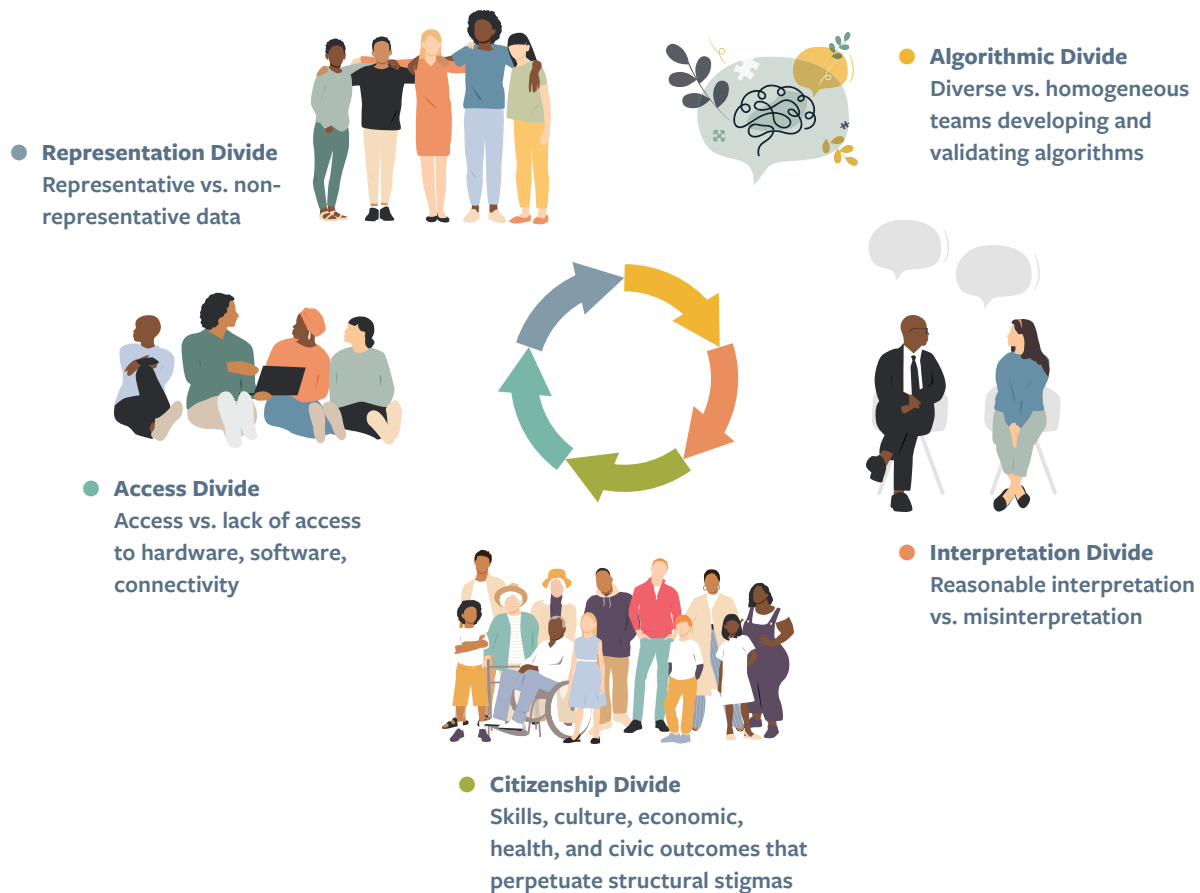
An aspect of this divide with significant equity implications resulting from the corporate influence in the development of AI applications in education is the **profit divide**, which occurs when AI for-profit entities experience greater social, political, and financial benefits than the consumer. When corporate influence in education through AI goes unchecked and without accountability measures, companies may continue to benefit, even when the use of the educational AI tools they develop is ineffective or fails to improve student outcomes when implemented in educational contexts.²⁴

With these considerations in mind, equity-focused leaders should guide the appropriate use of AI applications within curriculum, instruction, assessment, and intervention. This is an active area of research focused on evidence-based pedagogies and response strategies of GenAI-based tutoring,²⁵ which may also help to inform responsible terms of vendor contractual agreements.²⁶

The implementation of AI in schools operates within existing power structures and can challenge or reinforce educational inequities depending on how the applications are designed, deployed, and monitored.

Figure 1

The cyclical effects of using artificial intelligence in education



Adapted from Dieterle et al. (2024).

Critical AI literacy represents a fundamental shift from simply learning to use AI tools to developing the capacity to critically analyze, question, and responsibly implement AI technologies in educational settings.

Developing Critical AI Literacy

Critical AI literacy represents a fundamental shift from simply learning to use AI tools to developing the capacity to critically analyze, question, and responsibly implement AI technologies in educational settings. This literacy encompasses both technical understanding and critical literacy objectives and practices to question, critique, and transform the social, political, cultural, and ethical implications of AI.²⁷

Educational leaders must develop their own critical AI literacy before and while supporting others in this journey. This involves understanding how AI systems work, recognizing their limitations and biases, and developing strategies for ethical implementation. Leaders need to move beyond asking “What should we do with AI?” to focus on “How might we utilize AI to deepen learning and improve well-being while centering equity and student needs?”

Critical AI literacy among educators requires structured professional learning that goes beyond technical training to include critical examination of AI’s impact on different student populations. This includes understanding how AI systems are programmed, how they operate, and how their outputs can be interpreted and acted upon responsibly. To address these equity challenges, educational leaders should develop *critical race*

algorithmic literacy: the ability to interrogate how historical and contemporary forms of racism become algorithmically codified within technological hardware, software, and infrastructures. This approach prepares educators and students to develop socio-technical consciousness²⁸ and critically analyze AI systems and their impacts on marginalized communities.²⁹ Educators must also develop the capacity to evaluate AI tools for bias, accuracy, and alignment with educational goals. The development of critical AI literacy should be collaborative and ongoing, involving multiple educational partners including leaders, teachers, counselors, school staff, students, families, and community members. This collaborative approach ensures that diverse perspectives inform AI implementation decisions and that potentially negative impacts are identified and mitigated proactively.³⁰

Educational leaders are encouraged to refer to frameworks that make ethics a prominent feature of AI literacy. For example, the AI Competency Framework for Teachers lists “human rights, human agency, promotion of linguistic and cultural diversity, inclusion and environmental sustainability [and] data privacy, intellectual property rights and other legal frameworks [as well as] sociocultural and environmental concerns in the design and use of AI, and contributing to the co-creation of ethical rules for AI practices in education.”³¹ In the AI

Competency Framework for Students,³² students are positioned as “AI co-creators and responsible citizens,” and the framework also “emphasizes critical judgement of AI solutions.” Analyzing the “societal impact of AI” includes evaluating “how AI use impacts an individual’s decision-making and other behavior” and “the intended and unintended impacts of AI on society (e.g., deep fakes, job loss)—including government, education, entertainment, culture, careers, and national security—while considering how these impacts may differ among diverse communities” and designing “ways to minimize negative environmental impacts of AI and communicate those ways to others.”³³

Moreover, leaders must recognize that critical AI literacy is not a one-time learning experience but requires ongoing professional learning, reflection, and adaptation as AI technologies continue to evolve. This includes staying informed about new AI developments, understanding their potential educational applications, and critically evaluating their alignment with equity goals.

Professional Learning on AI

Ongoing professional learning for leaders and continuing support for educational communities is crucial for ethical AI implementation. This includes not only technical training but also education about AI’s limitations and ethical considerations.³⁴ Leaders, teachers, school staff, students, and families need support in developing the skills to critically evaluate AI outputs, recognize biases, and make informed decisions about when and how to use AI tools.³⁵ Professional learning that considers and includes cultural and linguistic diversity in AI is essential to ethical use of these tools. Furthermore, leaders must consider privacy, intellectual property, and environmental sustainability issues when using AI themselves and deciding how to support teachers and students using AI. Ultimately, the ethical use

of AI requires critical judgment; responsible citizenship and stewardship; and positioning leaders, teachers, and students as active co-creators rather than passive users.

An example of an effective structure to engage in professional learning and ongoing support for leaders is the community of practice (CoP) model. The 21CSLA Bay Area Regional Academy offered a CoP entitled “Responsible AI for TK–12 Education Leaders.” Using a CoP model to engage in facilitated and peer learning related to AI, this offering included content related to ethical concerns such as: deepfakes, data privacy, AI-related scams, AI chatbot inaccuracies, and AI surveillance in schools. The CoP also explored the development of responsible AI in education axioms: centering human relationships and values; practicing critical awareness and reflection; prioritizing teacher–student and peer interactions, experiential learning and real-world issues; and promoting liberatory practices. For example, recognizing the biases inherent in AI models (i.e. large language models’ linguistic and epistemic programming), leaders grappled with questions such as how students should be supported to examine the power dynamics of AI in schools (i.e., Who benefits? Whose voices are involved? Who is left out of the decision-making?); how to build collaborative trust through inclusive leadership and take courageous action for transformation; how to effectively address student concerns through open dialogue and collective learning; and how to prioritize safety, healing, and collective well-being.

To effectively implement ongoing support and professional learning for ethical AI implementation, it is necessary for school leaders to stay informed about and advocate for best practices, as well as to collaborate with their school communities to understand strengths, barriers, and needs

for ethical AI use. Going beyond technical training requires educational leaders to consider and identify the equity implications and divides as outlined above, not only in the selection of AI tools, but also in the mediums through which staff, students, and involved community members are provided information and trained on these tools. Another example of professional learning that includes these components was 21CSLA's recent research-practice webinar on AI,³⁶ which put researchers and practitioners in conversation as they discussed the application of AI technologies by school leaders. During the webinar, practitioners emphasized the importance of cultivating trust among all partners involved in adopting AI technologies, developing student-centered approaches, and drawing on culturally responsive pedagogy when considering AI implementation. By rooting this work in trust, educational leaders can create spaces where teachers and students are supported to identify biases embedded in AI tools and work collaboratively as they consider whose voices and perspectives are missing and should be elevated. They also suggested putting parameters around the use of AI tools due to their environmental impact.

Implementing Ethical AI Practices

The implementation of ethical AI practices in educational settings requires intentional planning, continuous monitoring, and a commitment to centering student needs and equity in all decisions. When utilizing AI, leaders should ensure that implementation aligns with their district's policies, vision, and mission, thereby enhancing the instructional core while centering humans and student learning and social emotional needs for well-being.³⁷ This human-centered approach means that AI should augment rather than replace human judgment and should always be implemented with appropriate oversight and intervention mechanisms.

Ethical AI implementation requires establishing policies and practices that include diverse educational partner voices in decision-making processes. This includes creating AI committees or task forces that include educators, students, families, community members, and equity advocates who can provide ongoing guidance and accountability for AI initiatives.³⁸ Leaders must also develop comprehensive policies and procedures that address key areas including data privacy, algorithmic transparency, bias monitoring, and student and family rights. These policies should align with existing educational privacy laws such as FERPA, COPPA, and CIPA, while addressing the unique challenges posed by AI technologies.

Continuous monitoring and evaluation are essential components of ethical AI practice. This includes establishing systems to track the effectiveness of AI tools on student populations, identifying and addressing harm, and making necessary adjustments to ensure equitable outcomes for student learning and well-being. Finally, ethical AI implementation requires ongoing dialogue and transparency with educational partners. This includes regular communication about how AI is being used, what safeguards are in place, how decisions are being made about responsible AI adoption and implementation, and how community concerns are heard and addressed.

Questions for Practitioners

Reflections

- ▶ **Professional Context** What are the general perceptions and practices related to AI in my leadership context? What system processes exist for equitable partnerships in decision making about AI?
- ▶ **Leadership Capacities** What more do I want to know about AI in education and how might I pursue that professional learning?
- ▶ **Equity in Schools** How might I encourage and support others in my context to identify and disrupt the divides with equity implications with regard to AI outlined above?

Overarching

- ▶ How is your school/district already using AI tools and what equity considerations have been addressed in implementation?

Relationships

- ▶ Whose voices should be included in AI decision-making processes and how can you ensure meaningful participation from historically marginalized communities?

Purposes

- ▶ What strategies can you implement to ensure transparency and accountability in AI decision-making processes?

Thinking Ahead

- ▶ What collaborative partnerships and governance structures need to be established to ensure diverse voices inform AI decisions?

Notes

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21CSLA Equity Statement

Leaders for equity transform education to improve access, opportunity, and inclusion for students and adults, especially those who are systemically marginalized and historically underserved, so that they can thrive.

About 21CSLA

21CSLA (21st Century California School Leadership Academy) is dedicated to the professional learning and support of California's educational leaders—teacher, site, and district—to create more equitable learning environments that improve success for underserved students. A key member of California's Statewide System of Support, 21CSLA is headquartered at UC Berkeley School of Education and works in partnership with UCLA School of Education and Information Studies, California Subject Matter Project, and seven 21CSLA regional academies throughout the state.

The 21CSLA initiative provides high-quality, equity-centered professional learning for educational leaders of schools and districts in California. Programs are provided at no cost to participants and include leadership coaching, communities of practice, and localized professional learning to improve outcomes for historically marginalized students.

Bridging Research and Practice

21CSLA seeks to bridge the gap between research and practice in education for educational leaders. We coordinate and facilitate Research–Practice Partnerships among California educational leaders and educational researchers by creating connections and providing research support. The briefs compile and present current research in a concise format, including reflection questions to help leaders adapt and adopt the information into their own practice. 21CSLA regularly produces Research–Practice Webinars in which scholars and practitioners engage in conversations about timely issues. We also curate a variety of resources for educational leaders to learn about current and important topics in education (e.g., webinar video recordings and highlights, briefs, podcasts). For more information, visit 21cslacenter.berkeley.edu/research.

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