

The Song Need Not Remain the Same

AI Literacies in the Lives of Youth

Christopher Proctor and Ryan M. Rish

With greater and greater frequency, we find ourselves in conversations, meetings, and even invitations for writing where the term artificial intelligence (AI) literacy or AI literacies (often used interchangeably) is named as if it had a commonly shared and stable definition. In the contexts of education policy, teacher education, and research on learning, we are experiencing an urgency driven by funders and popular media to solve the “AI Problem” for (not with) youth. This urgency is predicated on the assumption that AI is transforming everything and poses a potential existential threat. AI literacy is seen as a form of power and control; providing AI literacy (to those assumed not to have it) will allow people to regain control over their lives, protect themselves from AI, earn a living, and participate fully in society.

The current wave of urgency around AI education in the United States results from the confluence of US science policy and popular excitement following the widespread availability of generative AI tools. Two of the National Science Foundation’s Ten Big Ideas (n.d.) guiding research investment were the “Future of Work at the Human-Technology Frontier” and “Harnessing the Data Revolution,” both of which have come to fruition in the recent progress of AI technologies (U.S. National Science Foundation,

n.d.). The President’s Council of Advisors on Science and Technology, which guides national science priorities, released a report on AI in 2024. The National Science Foundation issued two “Dear Colleague” letters in 2023, each introducing grant funding in AI education. Meanwhile, popular awareness of AI has exploded in the last several years. Although machine learning technologies have been invisibly incorporated into our lives for decades, the broader public became aware of the power of generative AI in the last several years through the release of generative applications such as Midjourney and ChatGPT.

Education has been a major emphasis of AI-related scientific policy and popular media coverage. The rapidly growing body of research on AI education has largely embraced “literacy” as a framing for what needs to be learned about AI. An “AI literacy framework for families” (Drugă et al., 2023) has been proposed; theoretical articles have conceptualized AI literacy (e.g., Ng et al., 2021); a workshop at the leading conference on human-computer interaction asked “What is AI literacy?” (Long et al., 2023); and a literature review was published on AI literacy in K12 education (Casal-Otero et al., 2023). In some of this research, the term “literacy” does little work beyond grouping learning objectives together, e.g., “We refer to this set of competencies as AI literacy” (Long & Magerko, 2020, p. 598); in other cases, AI literacy is either defined or identified as a construct needing definition, often with reference to prior discourses of computational literacy or digital literacy. But despite the prominence of *literacy* as a way of thinking about AI education, it is curious that the emerging field of AI education appears almost wholly unaware of the decades of research in literacy studies which questioned and refined the concept, as well as many preceding cycles in which *literacy* has been proposed for new media, relying on the same assumptions and repeating the same conceptual and practical missteps.

Discourse around AI education emphasizes its newness, but these arguments are a familiar refrain echoing past arguments for how everyone needs to learn a set of skills and practices, packaged as literacy, regardless of individual, social, or historical context. This all too familiar *song* was first named *The Literacy Myth* by Harvey Graff (1979), and though times have changed and we benefit from over 40 years of literacy studies research, we all too easily fall back into the pattern of presuming that literacy by itself has unique and innate power to transform lives and improve society (Graff, 2022).

Evidence of the persistence of this myth is the inherent value that the term “literacy” is perceived to have when ascribed to any set of skills, competencies, or areas of knowledge. We have yet to come across an exhaustive list of areas of study, policy, and commerce that have co-opted the term literacy in a move to elevate its status and potential effectiveness (e.g., financial literacy, mental health literacy, recreational literacy, culinary literacy). As Graff (1979) documented historically, literacy has been synonymous with progress, while the lack of literacy (or illiteracy) represents stagnation and decay. Everything is better with literacy and inferior without. Literacy is framed as a necessary precursor to individual and social progress, so it comes as no surprise that AI literacy is considered essential for progress, lest we become defenseless victims to the infrastructure of computing technologies that shapes our daily lives.

Fortunately, we have worked our way out of the conceptual trappings of the literacy myth many times before, most recently in the shift from computational thinking to computational literacies (Kafai & Proctor, 2021). The goal of this chapter is to retrace the past and remind ourselves of what we have learned and accomplished with over 40 years of literacy studies research. We do so in the hope of establishing some heuristics for our thinking around AI in the lives of youth lest we fall back into the rut of the literacy myth and its seductive promises. We also point to some ways forward for when we find ourselves in interdisciplinary collaboration with colleagues who may be using the terms AI literacy or AI literacies without considering the ideologies and practices that accompany those terms which have ramifications for the lives of youth. In the rest of this chapter, we summarize six lessons from literacy studies and suggest how they could help reframe AI literacies’ research and practice.

LITERACIES ARE SITUATED WITHIN AND ACROSS SOCIAL CONTEXTS

Though not in direct response to the historical analysis of the literacy myth provided by Graff (1979), concurrent ethnographic research of literacy by psychologists Scribner and Cole (1981), anthropologists Heath (1983) and Street (1984), and compositionist Brandt (2001), among others, revealed that literacy varied across the social domains of people’s lives. Their collective work which came to be known as the New Literacy Studies (NLS) provided a reframing of our understanding of literacy and a set of conceptual tools (i.e., literacy practice, literacy event) to be used in ethnographic

investigations of literacy. We emphasize that this research was ethnographic to highlight the significance of people defining the meaning and value of different forms of literacy in their lives, rather than researchers or policymakers. We will return to this significance later in the chapter.

Parallel to Graff identifying the literacy myth historically, Street (2000) working anthropologically referred to that set of assumptions about literacy as the autonomous model. The autonomous model assumes that literacy, or the ability to read and write, has effects on other social and cognitive processes independent of “the social conditions and cultural interpretations of literacy associated with programmes and educational sites for its dissemination” (Street, 2005, p. 417). The problem with the autonomous model of literacy is that it assumes that literacy is a set of reading and writing skills which are powerful regardless of identity and social position—that anyone can acquire, use, and benefit from. The autonomous model of literacy is the basis for arguments that everyone needs a particular form of literacy (e.g., “computer science literacy for all”), and that it is a matter of equity to identify those who need to be provided this form of literacy to transform their lives.

The literacy myth of the autonomous model also has implications in reverse to justify blaming the marginalized when literacy does not come through for them. If everyone can succeed once they have literacy, and literacy is provided to everyone, then everyone can succeed. When someone does not succeed, it follows that they themselves or the social group or category to which they belong are to blame. This backfiring of the autonomous model of literacy can be used as an explicit tool of oppression (e.g., the use of literacy tests to disenfranchise Black voters in the south of the United States), but it can also occur more subtly. For example, one effect of widespread computing education is the production of computationally governable citizens (Williamson, 2015).

In contrast, Street (2000) argued that the ideological model of literacy subsumes the autonomous model by foregrounding the ideologies of particular forms of literacy situated in social arrangements, such as families, schools, faith communities, commerce, and workplaces. (By *ideology*, we mean a system of ideas and beliefs based on lived experience but not a distinct political commitment.) Rather than consider literacy as a universal, neutral set of skills, NLS ethnographic research considered literacy to be multiple situated social practices. NLS ethnographic research revealed the particular significance of forms of literacy in different domains of

people lives based on what they were accomplishing, with whom, within what social arrangements, and for what social consequences, as well as the meaning and value they ascribed to those practices. To acknowledge how greatly literacy can vary in use and meaning within and across these differences, NLS scholars began using the plural form of literacies to name multiple and distinct social practices (i.e., literacy practices) defined by the people who enact them.

If we are to build on the NLS foundation with AI literacies (plural), we need to retain a few key characteristics of this framework. First, AI literacies are not an autonomous, neutral set of skills, but rather are varied ideological social practices that have different meaning and value across people, social domains, and institutions. The ninth-grade student using AI to write an essay for their teacher is not enacting the same literacy practice as the religious official using AI to write their sermon or homily for their congregation. They are engaged in different social practices, for different purposes, in relationship to different intuitions and social arrangements, and for different social outcomes. Second, the people enacting the literacy practices are the ones who define the meaning, value, affect, and ideology. We understand what role AI plays within these literacy practices by making inductions from observations and interviews with the people enacting those social practices. Therefore, any conversation about AI literacies needs to begin with specific ethnographic examples. Though, we must also avoid the temptation to hastily extract characteristics from those examples and render them as a neutral and universal set of skills and habits of mind. A few current framings of AI literacy adopt this ethnographic stance (e.g., Druga et al, 2023), but most put forward their own prescriptive framing of what skills and practices should be adopted.

LITERACIES VARY WITHIN AND ACROSS POWER RELATIONS

Beyond recognizing the existence of multiple literacies, we should recognize that they operate in the context of power relations which enable and constrain participants' ability to enact them, inform the willingness of others and institutions to validate and sanction them, and shape the value which is attributed to their enactment in any given social context. NLS research foregrounds how ideology shapes literacy practices within and across social domains in people's lives. For example, schools, and in particular English Language Arts classrooms in the United States, often operate within an

assimilationist ideology that sanction particular literacy practices (e.g., standard English, essayist prose) and marginalize others as deficient, constituting linguistic injustice (e.g., Baker-Bell, 2020). Street and Street (1991) characterize this marginalization of literacy practices and the people who enact them as “pedagogization,” or the rendering of unsanctioned literacy practices as noncomplementary with school-sanctioned literacy practices (e.g., Heath, 1983) with a deficit perspective (McCarthey, 2000) and/or considering unsanctioned literacy practices as “inferior attempts at the real thing, to be compensated for by enhanced schooling” (Street & Street, 1991, p. 143). Youth are then caught up in institutions, wherein literacy practices and the people who enact them are valued and treated differently based on how commensurate their literacies are with those sanctioned by the institution (e.g., school). Since U.S. schools tend to reflect white, middle-class values and social practices, those students whose literacy practices are situated in white, middle-class social domains are valued and regarded differently from their peers whose literacy practices may be situated in more diverse social domains.

When enacting literacy practices, people negotiate among the ideologies that frame the literacy practices they *bring along* with them and the ones that others are attempting to *bring about* in the situation (Goff & Rish, 2020). Sometimes, the relationships between the ideologies people are negotiating among are not compatible. For example, two people on a sales call may be negotiating between *zero sum* and *mutual benefit* ideologies; the ELA teacher and their students may be negotiating among *assimilationist* and *pluralist* ideologies, and the religious official writing their sermon or homily may be negotiating among *intolerance* and *acceptance* ideologies within their congregation. Bloome and his colleagues (2000) named possible relationships among literacy practices, including but not limited to: *oppositional*, the out-right rejection of literacy practices as resistance to a dominant cultural group (e.g., Ogbu, 1991); *assimilative*, the adoption of literacy practices to become part of the dominant cultural group (e.g., Guthrie, 1985); and *adaptive*, the recasting of literacy practices so that they are consistent with one's own culture (e.g., Kulick & Stroud, 1991). Youth are engaged daily in these negotiations among literacy practices and the ideologies that frame them within and across the social domains of their lives.

The questions for our consideration of AI literacies are What ideologies are youth negotiating when enacting literacy practices that involve AI? What is the relationship between the AI literacies they *bring along* with

them to a social arrangement such as an ELA classroom and the literacy practices the ELA teacher is attempting to support and *bring about* among the students? We may find that there are any number of relationships among the literacy practices involving AI that youth are negotiating, including but not limited to: *adopting, adapting, resisting, and refusing*. We fear that AI could become yet another means for supporting assimilationist ideologies in ELA classrooms depending on how the ELA teacher positions and frames the use of AI among youth (e.g., authoritative source, mentor text, genre model, text to be interrogated).

At the same time, generative AI has disrupted some of the mechanisms by which sanctioned literacies are recognized and rewarded. For example, it has become near impossible to catch students passing off AI texts as their own writing. Anyone can now effortlessly produce a properly formatted essay, lab report, or working computer code. This fact fundamentally destabilizes schools' processes of evaluating and sorting students according to their performance of sanctioned literacies and will perhaps also disrupt the role education plays in sorting youth into their later social class positions. The disruption of dominant literacies could create an opening for schools to embrace syncretic ideologies (Gutiérrez, 2014), but there is already an evidence of a reactionary response: increasingly invasive efforts to maintain the status quo through an arms race of monitoring tools to catch students using AI tools.

LITERACIES VARY IN SCALE AND DURABILITY

Social practices mediated by reading, writing, and related semiotic systems (i.e., literacy practices) are defined in part by the extent to which they are shared and mutually recognized by people within and across social domains, as well as the extent to which they are concretized within institutions and related social arrangements. Two people engaged in the same activity may or may not be enacting the same literacy practice. For example, two students in an ELA classroom who are writing a personal essay may attribute different meaning, affect, and value to the literacy practice. One student may report writing the personal essay to earn a grade, in which case the literacy practice may be framed around compliance with the teacher's expectations. Another student may be writing the same personal essay with a relative or a loved one as the primary audience, in which case the literacy practice may be framed around a relationship with the intended audience. In both cases, the students may be expected to

comply with particular genre constraints or formulas (e.g., five paragraphs, standard English, first person), in which case they may be using language in ways that are particular to the institution of school. Further, this may not be their first personal essay for them, indicating that the literacy practices they are enacting have a history. However, there is no promise that this literacy practice will continue to be relevant and useful to them once they are no longer writing for a classroom assignment. Last, some characteristics of their literacy practices are deeply concretized as an enduring genre within the institution of schooling (with no indication of widespread change on the horizon) and recognized across a macro scale (i.e., five paragraph personal essay).

For AI literacies among youth, we cannot assume they do or do not have a history of enacting literacy practices with AI. We cannot assume that the way we ask them to consider using AI will be commensurate with their past experiences, if any. Further, any AI literacies that we hope our youth to take up will have to be reconciled with the literacy practices that students *bring along* with them based on their history and the literacy practices that are presently sanctioned and valued by the school. Simply adding AI literacies, however they are defined ideologically and supported by teachers, to a set of school-sanctioned literacy practices provides no guarantee students will adopt them with fidelity and enact them in ways that have durability beyond the social domain of schooling.

Likewise, we cannot assume that any literacy practice has a patterned predictability and durability, both in terms of its history and its future. Some literacy practices are emergent, ephemeral, and fleeting as social arrangements and relationships shift and change. Every day literacy practices are shaped by feeling, affect, embodiment (Pahl & Rowsell, 2020), and take on different characteristics with movement across space and places (Stornaiuolo et al., 2017). A literacy practice that has value in one moment may not in the next, and a literacy practice may be encountered in one context and become more durable over time in a completely different context. We see this often in the lives of youth as they use language and related semiotic systems creatively and not always for reasons that school may consider purposeful or rational (Leander & Boldt, 2012).

NOT ALL PRACTICES ARE DEFINED BY THE TOOL

The identification and naming of literacy practices is significant because in most cases the modifier is considered to be the most essential characteristic

of the literacy practice. Some examples include the type of place, urban literacies (Kinloch, 2015); the identity of the people involved, Black immigrant literacies (Smith, 2023); the purpose of the social practices, agitation literacies (Muhammad, 2019); restorative literacies (Wolter, 2021); the ideology of the social practices, social justice literacies (Boyd, 2017), critical literacies (Pandya et al., 2022); and the semiotic systems, multimodal literacies (Albers & Sanders, 2010). Additionally, literacy practices are often named for the tool or mediational means that is used to enact the social practices (e.g., digital literacies). In many cases when the tool is the modifier, literacy is being used within an autonomous model and the term is primarily being co-opted to elevate the status of what we would otherwise call competencies, set of skills, or knowledge. However, if literacies (plural) is being used with a type of mediational means/tool as the modifier, we would expect that it is being framed within an ideological model of literacy (though this is not always the case). The question is: to what extent is the tool the most essential characteristic of the literacy practice?

Using standardized testing as an example, students are often expected to answer multiple choice questions and produce specific genres of writing on an abbreviated timescale (e.g., short answer, extended response). The literacy practices required to be successful on these standardized tests are rehearsed in preparation for the exam, enacted on the day of the exam, and then never used again (unless taking a similar standardized test in the future). The literacy practices of producing the specific genres of writing and filling out the multiple-choice answer sheet only have value within domains where such exams are consequential to the person taking the exam (and the institution that may be rated on the test takers' scores). We might refer to this literacy practice as *test taking literacies* to point to the essential characteristic of the literacy practice (in this case the purpose). However, it would be odd if we named this literacy practice after the tool used, #2 pencil literacies. While it is true that the specific tool is required for enacting this literacy practice, we could argue that it is not the defining characteristic.

Therefore, when considering any literacy practice that involves AI, we should consider the extent to which AI is the defining characteristic. Returning to two earlier examples, using AI may or may not be a defining characteristic for the ninth-grade student writing an essay for their teacher or for the religious leader writing their sermon or homily for their congregation. We need to consider what is revealed and concealed, as well as what

is valued and devalued, when we foreground the tool or mediational means as the defining characteristic of the literacy practice under consideration. Framing either of these examples as AI literacies implies that using AI is what matters most in each scenario. If using AI is seen as the essential characteristic of the practice, then the teacher, tool designer, or policymaker (each of whom controls what counts as “using AI”) also become the arbiter of which literacy practices are sanctioned and supported.

AVOIDING *A PRIORI* DEFINITIONS OF LITERACIES

In our view, research activity under the banner of New Literacies represents a cautionary tale for AI literacies. Though not their intention, Lankshear and Knobel (2006) provided a definition of New Literacies that was taken up in ways that runs contrary to the ethnographic and anthropologic NLS foundation on which it based. They noticed that new technologies created the potential for literacy practices that differed from those we were accustomed to considering among youth and adults. They defined New Literacies as social practices that involved new technologies but also liberatory new ways of using them, resulting in collective and distributed authority and expertise. Wikis were new ways of writing; the distributed authorship of Wikipedia redefined what counts as evidence and who gets to be an authority. However, the transformative potential of new technologies can easily blunted when they are co-opted into existing scripts (Cuban, 2003), so New Literacies scholars (e.g. Kist, 2005) sought out examples of the practices they imagined, and advocated for the potential of new digital and networked tools.

Because this project was committed to the potential of specific technologies, literacy practices were only relevant to the research when they used certain technologies in certain ways. Such operationalization of an *a priori* definition of a particular literacy practice puts the researcher and the practitioner in a deductive mode where they are seeking out evidence to support their idealized literacy practice. Unanswered is the question whether those same participants in those studies would have named the ontology of their literacy practices as the most significant element to them. In other words, rather than working inductively from an ethnographic perspective that leaves open the question of what are the most essential characteristics of literacy practices to the participants, much New Literacies research went hunting for examples to support their idealized model. The result was often a valuation of the literacy practices being considered based on the extent to

which they represented the idealized model: non-example, peripheral case, or paradigmatic case (Lankshear & Knobel, 2006).

Research and practice on AI literacies runs the risk of falling into a comparable pattern of asserting what AI practice should look like rather than learning what works alongside users. This risk is magnified by the recent urgency to teach and research AI. When school systems demand AI literacy but also insist on predefined learning objectives to teach and measure, they implicitly demand the autonomous model of literacy. Meanwhile, a research proposal may feel more focused, with greater potential impact (and thus more likely to be funded), when it specifically defines the kinds of AI use it is looking for and the outcomes which are hypothesized to result.

AGENCY IS SLIPPERY

With traditional print literacies, there was no difficulty in distinguishing the reader or writer from the text. Agency—the capacity to form intentions and the power to act on them—was a property of the reader/writer, whose semiotic action was mediated by text. New media technologies play a more active role in organizing, contextualizing, and interpreting meanings, and therefore complicate the locus of agency. NLS has been particularly interested in how individual and collective agency is mediated by semiotic systems, and how those systems reciprocally shape the possibilities and meanings of literacy practices. Readers and writers have some agency to determine how they will use tools, but tool designers and increasingly the tools themselves are also agentic, shaping tools' use and co-author the resulting meanings.

Post-humanist perspectives on literacy as a social practice have broadened considerations of how agency is distributed in any given social arrangement (Burriss & Leander, 2024). Informed by actor-network theory (Latour, 2005), agency is extended to non-human actors within the social context. Rather than only considering how the design of an object makes some actions easier (affordances) and some actions more difficult (constraints), actor-network theory goes a step further to suggest that objects not only mediate but also “authorize, allow, afford, encourage, permit, suggest, influence, block, render possible, and so on” (Latour, 2005, p. 72). Agency is distributed across people and objects and actions are taken within assemblages of people and objects. Actor-network theory is a particularly helpful theoretical lens for thinking about generative AI, where it is much more difficult to distinguish the reader or writer from the text,

and where literacy practices are not only enacted by people but also in part by objects such as AI.

Even though agency may be distributed, we should not consider all actors equal in today's AI-powered assemblages and networks of literacy. People are not passive dupes whose actions are wholly determined by semiotic structures; they are adaptive within situations and prone to take actions based on thoughtful reflection or unpredictable whimsy. Youth, and particularly those growing up in a world that was not built for them, are often particularly adept at repurposing tools in unanticipated ways (Vogel et al., *in press*). At the same time, however, the agency of AI tools will likely continue to grow as they "read" us (e.g., automatic essay graders, automatic resume evaluators, meeting summary tools) and "write" on our behalf (e.g., chatbots, auto-generated email, AI writers, and programmers) in more and more social situations.

Current framings of AI literacy seldom embrace this complexity, defaulting instead to either an optimistic assumption that AI are tools like any other with agency resting in users, or to a pessimism which sees today's AI as a step toward superintelligence, which threatens human agency or even human existence. Instead, we propose that the ethnographic stance developed by NLS be extended to exploration of how, in each specific situation, humans, computers, and other symbolic systems all participate in meaning-making via flexible and shifting roles. Should humans be granted a special ontological status, with intrinsic rights and dignity? Today it is easy to answer in the affirmative, but it is also easy to imagine a near future where the answer is much murkier.

Finally, we suggest that theories that were developed to account for semiotic agency within human culture (e.g. linguistic anthropology and sociology of language) may be particularly helpful for making sense of the agency of large language models which model and reproduce human discourse. For example, language ideologies (Irvine & Gal, 2000) are cultural ideas that shape how listeners interpret language and perceive speakers. Large language models enact language ideologies they learned from training data when they participate in discourse as listeners and speakers. Social constructs such as race and gender, which we also use to make sense of speakers and their speech, are also reproduced and reenacted by large language models. Further, race and gender are coded into and associated with other variables in algorithms that replicate and intensify hierarchical outputs and discriminatory allocation of access and resources, as well as

undue attention, surveillance, and scrutiny (Buolamwini, 2023). Benjamin (2019) named the racial discriminatory aspects of algorithmic bias The New Jim Code. Following, while we acknowledge that people should be granted a larger consideration of agency within assemblages and networks, we are also aware that algorithms and related AI are shaping those social, material, and digital contexts in ways that exacerbate persistent societal inequities and injustices, including discriminatory practices and policies.

LOOKING AHEAD

Each technological revolution of the last 50 years has been met with similar hopes and fears and has been followed by similar proposals for the kind of literacy we need now. We view these as verses with the same refrain of the literacy myth. Our purpose in this chapter has been to trace the origin of the song to which these verse belong, as well as present six lessons learned in response. However, it is easy to imagine how the tired song may repeat itself:

An aspirational model of AI literacy is developed, along with curricula which rely on best practices to ensure consistent outcomes. The model is then incorporated into institutions and policy with the promise that AI literacy will improve people's lives, and with the premise that it is needed because most people are AI illiterate. In schools, AI literacies are taught and assessed from an assimilationist ideology that does not take into consideration the literacy practices and identities youth *bring along* with them. Research then shows an AI literacy gap falling along existing inequities, creating yet another divisive statistic that is used against the most vulnerable and marginalized.

We argue that if the song is *not* to remain the same with AI literacies, then we must begin with considering what people, particularly youth, are doing with AI currently, in classrooms as well as in their daily lives. Without knowing how people are actively and passively using AI to enact social and literacy practices, we are setting ourselves up to repeat past patterns and harms. We imagine a different possible future, within which researchers and practitioners take time to understand how AI is currently being used within the literacy practices of youth, as well as the value, meaning, and affect youth attribute to those practices. Researchers and practitioners work from the understanding that any AI practices they would like to introduce come with ideologies that need to be reconciled with the ideologies of youths' existing everyday literacies. Researchers and practitioners

do not expect wholesale adoption and fidelity of the AI literacies they are introducing but rather learn alongside people what is useful and valuable. Researchers and practitioners resist the urgency to standardize and assess AI literacies and avoid the temptation to scale and commercialize related processes and procedures. They allow for the possibility that the AI literacies being introduced may or may not have significance to people's lives outside of the context in which they are being introduced. For example, if AI literacies are solely situated in school-based social contexts and school-sanctioned literacy practices, it should come as no surprise if people do not bring them along to other domains of their lives outside of school.

We recognize that our observations about the history of literacy studies, our arguments about current iterations of AI literacy, and our hopes for how we might avoid perpetuating the literacy myth and its related harms are in tension with dominant practices of education (which insists on specifying what is to be learned *a priori*, and measuring it accordingly) and positivist research (which expects *a priori* operationalization of constructs and their hypothesized effects). Nonetheless, when we find ourselves in conversations, meetings, and invitations for writing about AI, we will be working steadfastly to change the tune.

REFERENCES

Albers, P., & Sanders, J. (Eds.). (2010). *Literacies, the arts, & multimodality*. National Council of Teachers of English

Baker-Bell, A. (2020). *Linguistic justice: Black language, literacy, identity, and pedagogy*. Routledge.

Benjamin, R. (2019). *Race after technology: Abolitionist tools for the New Jim Code*. Polity.

Bloome, D., Katz, L., Solsken, J., Willett, J., & Wilson-Keenan, J.-A. (2000). Interpellations of family/community and classroom literacy practices. *The Journal of Educational Research*, 93(3), 155–163. <https://doi.org/10.1080/00220670009598704>

Boyd, A. S. (2017). *Social justice literacies in the English classroom: Teaching practice in action*. Teachers College Press.

Brandt, D. (2001). *Literacy in American lives*. Cambridge University Press.

Buolamwini, J. (2023). *Unmasking AI: My mission to protect what is human in a world of machines*. Random House.

Burriess, S. K., & Leander, K. (2024). Critical posthumanist literacy: Building theory for reading, writing, and living ethically with everyday artificial intelligence. *Reading Research Quarterly*, 59(4), 560–569. <https://doi.org/10.1002/rrq.565>

Casal-Otero, L., Catala, A., Fernández-Morante, C., Taboada, M., Cebreiro, B., & Barro, S. (2023). AI literacy in K-12: A systematic literature review. *International Journal of STEM Education*, 10(1), 29. <https://doi.org/10.1186/s40594-023-00418-7>

Cuban, L. (2003). *Oversold and underused: Computers in the classroom*. Harvard University Press.

Drugat, S., Yip, J., Preston, M., & Dillon, D. (2023). The 4 As: Ask, adapt, author, analyze: AI literacy framework for families. In M. Ito, R. Cross, K. Dinakar, & C. Odgers (Eds.), *Algorithmic rights and protections for children* (pp. 193–232). The MIT Press. <https://doi.org/10.7551/mitpress/13654.003.0014>

Goff, B., & Rish, R. (2020). What's brought along and brought about: Negotiating writing practices in two high school classrooms. *Learning, Culture and Social Interaction*, 24, 100291. <https://doi.org/10.1016/j.lcsi.2019.02.016>

Graff, H. (1979). *The literacy myth: Literacy and social structure in the nineteenth-century city*. Academic Press.

Graff, H. J. (2022). The new literacy studies and the resurgent literacy myth. *Literacy in Composition Studies*, 9(1), 47–53.

Guthrie, G. P. (1985). *A school divided: An ethnography of bilingual education in a Chinese community*. Erlbaum.

Gutiérrez, K. (2014). Syncretic approaches to literacy learning: Leveraging horizontal knowledge and expertise: Integrative research review. *Literacy Research Association Yearbook*, 63, 48–61.

Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge University Press.

Irvine, J. T., & Gal, S. (2000). Language ideology and linguistic differentiation. In P. V. Kroeskrity (Ed.), *Regimes of language: Ideologies, polities and identities* (pp. 35–84). School of American Research Press.

Kafai, Y. B., & Proctor, C. (2021). A revaluation of computational thinking in K-12 education: Moving towards computational literacies. *Educational Researcher*, 51(2), 146–151.

Kinloch, V. (2015). *Harlem on our minds: Place, race, and the literacies of urban youth*. Teachers College Press.

Kist, W. (2005). *New literacies in action: Teaching and learning in multiple media* (Vol. 75). Teachers College Press.

Kulick, D., & Stroud, C. (1991). Conceptions and uses of literacy in Papua New Guinea village. In B. Street (Ed.), *Cross-cultural approaches to literacy* (pp. 30–61). Cambridge University Press.

Lankshear, C., & Knobel, M. (2006). Sampling “the New” in new literacies. In *The new literacies sampler*. (pp. 2–17). Peter Lang.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press.

Leander, K., & Boldt, G. (2012). Rereading “A Pedagogy of Multiliteracies”: Bodies, texts, and emergence. *Journal of Literacy Research*, 45(1), 22–46. <https://doi.org/10.1177/1086296X12468587>

Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. In *Proceedings of the 2020 CHI conference on human factors in computing systems*. Association for Computing Machinery, (pp. 1–16). <https://doi.org/10.1145/3313831.3376727>

Long, D., Roberts, J., Magerko, B., Holstein, K., DiPaola, D., & Martin, F. (2023). AI literacy: Finding common threads between education, design, policy, and explainability. In *Extended abstracts of the 2023 CHI conference on human factors in computing systems* (pp. 1–6). <https://doi.org/10.1145/3544549.3573808>

McCarthy, S. J. (2000). Home–school connections: A review of the literature. *Journal of Educational Research*, 93(3), 145–153. <https://doi.org/10.1080/00220670009598703>

Muhammad, G. E. (2019). Protest, power, and possibilities: The need for agitation literacies. *Journal of Adolescent & Adult Literacy*, 63(3), 351–355.

Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence*, 2, 100041. <https://doi.org/10.1016/j.caai.2021.100041>

Ogbu, J. (1991). Cultural diversity and school experience. In C. Walsh (Ed.), *Literacy as praxis* (pp. 25–51). Ablex.

Pahl, K., & Rowsell, J. (2020). *Living literacies: Literacy for social change*. MIT Press.

Pandya, J. Z., Mora, R. A., Alford, J. H., Golden, N. A., & De Roock, R. S. (2022). *The handbook of critical literacies*. Routledge.

Scribner, S., & Cole, M. (1981). *The psychology of literacy*. Harvard University Press.

Smith, P. (2023). *Black immigrant literacies: Intersections of race, language, and culture in the classroom*. Teachers College Press.

Stornaiuolo, A., Smith, A., & Phillips, N. (2017). Developing a transliteracies framework for a connected world. *Journal of Literacy Research*, 49(1), 68–91.

Street, B. (1984). *Literacy in theory and practice*. Cambridge University Press.

Street, B. (2000). Literacy events and literacy practices. In M. Martin-Jones & M. Jones (Eds.), *Multilingual literacies: Comparative perspectives on research and practice* (pp. 17–29). John Benjamin.

Street, B. V. (2005). AT LAST: Recent applications of new literacy studies in educational contexts. *Research in the Teaching of English*, 39(4), 417–423. <https://doi.org/10.58680/rte20054482>

Street, J. C., & Street, B. V. (1991). The schooling of literacy. In D. Barton & R. Ivanič (Eds.), *Writing in the community* (pp. 106–131). Sage.

United States National Science Foundation. (n.d.). *NSF's 10 Big Ideas*. U.S. National Science Foundation. www.nsf.gov/news/special_reports/big_ideas/human_tech.jsp; www.nsf.gov/news/special_reports/big_ideas/

Vogel, S., Suárez, E., Semel, B., & Proctor, C. (Eds.) (in press). *Learning machines, humans learning: Critical perspectives on languaging in digitally-mediated environments*. de Gruyter Mouton.

Williamson, B. (2015). Educating the smart city: Schooling smart citizens through computational urbanism. *Big Data & Society*, July-December, 1–13. <https://doi.org/10.1177/20539517156177>

Wolter, D. L. (2021). *Restorative literacies: Creating a community of care in schools*. Teachers College Press.