Equity-Centered Approaches to Educational Technology

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This chapter reviews the perspectives and scholarship that address educational equity through the application of technology and digital tools. We first explore how equity is framed in global discourse and the role that educational technology has played in both addressing and perpetuating disparities in achievement. Policymakers, designers, and researchers have routinely attempted to use digital technologies to address the learning needs of historically marginalized populations. Before we examine these technological interventions in context, we must first explore the root causes of what "counts" as an achievement gap as well as what "counts" as technology.

Following this overview, this chapter then offers a sociocultural rationale for what equity-centered approaches to educational technology could look like. These guidelines are offered to ground design, research, and pedagogy and build on a foundation that strengthening the relationships fostered in formal learning environments is essential to improving learning outcomes sustainably.

Much of the literature on educational technology centers on its innovations, effectiveness, efficiencies, and the promise of quick fixes to systemic and entrenched educational problems. Scant research has examined its role in addressing inequity (Tawfik, Reeves, & Stich, 2016). Specifically, we question what educational technology can do for students who contend with intergenerational forms of institutional racism, classism, and sexism. How can educational technology be used to liberate students instead of perpetuate inequalities in the schooling system? What does it look like to utilize an equity-centered approach to educational technology in school and out-of-school contexts?

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We ground this chapter's analysis of achievement, equity, and technology around a central perspective based on a review of global literature. Myopically focusing on educational and instructional technology tools, curriculum, and pedagogy as a panacea for achievement gaps fails to achieve the goal of equality. Such approaches do not accurately historicize the macro-sociopolitical root conditions that produce these inequalities. By prioritizing an equity-centered approach to educational technology, educators and researchers can leverage the technology in order to demystify, explain, and analyze the unequal societal conditions of historically marginalized youths' realities. This in turn provides youth with an explanatory framework and model for their struggles, as well as instruments and skills to transform the conditions of their reality. Further, a by-product of this may include the technical know-how to build the tools to create the future they want to see.

For this chapter, we build on a definition of educational technology as "any tool, equipment, or device—electronic or mechanical—that can help students accomplish specified learning goals" (Davies, Sprague, & New, 2008, p. 233). Much of educational technology is designed for a general (e.g., early readers) or highly targeted audience (e.g., students who have failed algebra). Yet decades of Learning Sciences literature has taught us that an ideal learning ecology is designed and customized to address the unique learning styles and cultural backgrounds and experiences of each learner, based on the situated context of their environment (Lee, 2003; Rogoff, 1994; Vygotsky, 1986). And in many cases, that learning environment, whether it is situated within the classroom, school, or community, is filled with material inequities that shape the way individual learners make sense of educational material. By ignoring these institutional constraints and structured forms of marginalization, young learners are again forced to adapt to the tools, rather than the tools adapting to their needs. In this way, educational technology simply perpetuates and reifies the same inequitable conditions found in dominant schooling practices that ignore, invisibilize, and discount the experiences/backgrounds and epistemological traditions of marginalized communities. Rather than see value in who they are and the communities they are from, they are forced to erase their identities to acquiescence to the dominant culture and its practices. To genuinely move toward an equity-centered approach to educational technology, policymakers, district administrators, educators must prioritize and historicize the inequitable conditions of these youths while using technologies that embrace the multiliterate environments they are immersed in (Subramony, 2004).

Contemporary educational research consistently echoes the narrative of an achievement gap between high- and low-resourced students (Darling-Hammond, 2015; Lee, 2002; Reardon, 2011). For historically marginalized populations, policymakers and district officials have routinely attempted to use digital technologies and tools to address this gap (Cakir, Delialioglu, Dennis, & Duffy, 2009; Darling-Hammond, Zielezinski, & Goldman, 2014; Edyburn, 2006). Before we examine these technological interventions and their effectiveness in context, we first explore the root causes of educational inequality and the assumptions underlying the role of technology in addressing these causes. This review, then, focuses on the lasting legacies that have caused purported achievement gaps as well as the sociocultural

construction of what technology means in the twenty-first century. Though this analysis of issues of educational equity is driven by our expertise within primarily US-focused contexts, we recognize that the disparities of achievement that cleave students in the United States by race, class, and gender are consistent with similar differences globally.

Understanding Contexts of Equity and Contesting "Gaps" in Student Achievement

Across eras of schooling and policy, technology has been seen in schools as a means of quickly improving learning outcomes and leveling the playing field for students of various socioeconomic backgrounds. Implicit in these efforts is the need for students to be prepared for the sociotechnical developments within a globally competitive, capitalist society (New London Group, 1996). Preparation for postsecondary education and the ability to navigate new systems and tools are key guidelines for how educational technology falls hand-in-hand with the educational policies shaping public schooling systems today. Reviewing the names of historical policies that have guided educational reform within the United States in the past few decades as an example, the narratives of competitiveness and measuring inadequacy at the student, teacher, school, district, and statewide levels are clear. From fear of leaving children behind (No Child Left Behind) to sustaining state-by-state "races" to achievement metrics (Race to the Top), these policies highlight how educational decisions—and the use of educational technology as part of these decisions—are shaped by market forces and competition across nations.

Within this context of competition, socioeconomic divides in traditional measures of academic achievement are largely understood as dividing student success. This achievement gap highlights educational disparities but also belies the lasting legacies of inequality that have led to its formation. Instead, we propose building an understanding of the role of educational technology by first acknowledging Ladson-Billings' (2006) explanation of an educational "debt" *instead* of an achievement gap. In her explanation of educational inequality within the United States, legacies of economic, racial, and political oppression have fomented the differences in educational outcomes across socioeconomic, gendered, and racial lines. By shifting from a focus of how some students are behind others academically toward understanding the legacies that have created unasked for educational differences within a population (namely, state-sanctioned disparities in equitable schooling, government policies to advantage one group over another, and blatant institutional racist structures), Ladson-Billings' framework allows educators, policymakers, and researchers to shift toward an emphasis on answerability (Patel, 2016) in our responses to equity-driven educational approaches.

This shift acknowledges the cultural aspects of teaching and learning that are often unrecognized in high-stakes testing contexts and builds from the understanding that "learning is actively mediated through learners participation in their culture"

(Young, 2014, p. 350). As Gutiérrez and Rogoff (2003) remind researchers, "people live culture in a mutually constitutive manner in which it is not fruitful to tote up their characteristics as if they occur independently of culture, and of culture as if it occurs independently of people" (p. 21). Further, this is not to say that academic rigor is disregarded from this lens; instead, we recognize that rigor is more than test scores and is tied to equipping students with opportunities for meaningful and dignity-driven educational experiences (Gutiérrez & Penuel, 2014). This cultural historical lens of educational equity broadens the perspectives for studying the possibilities of educational technology by emphasizing the daily lives of individuals in complex learning environments (Gutiérrez, 2008). Further, this perspective recognizes that students do not interact with tools within an isolated bubble but that, instead, meaning making in classrooms is jointly constructed by both teachers and students (Gallego, Cole, & Laboratory of Comparative Human Cognition, 2001; Pacheco & Gutiérrez, 2009). Examining the sociohistorical nature of schooling inequities becomes a broader opportunity to consider the *purpose* of educational technology and to explore the possibilities for improvement and capacity for change through technological innovation. Recognizing that "culture influences and is influenced by human learning and development," we now more specifically explore the role of technology across various educational contexts (Young, 2014, p. 350).

The Allure of Technology as an Educational Panacea

Detailing examples of technology use in classrooms across more than a century, Larry Cuban (1986) highlighted the rigid consistency of schooling systems in his review of technology in classrooms across a century of schooling. And not much has changed in the years since this scholarship. Despite decades of investment and focus on the allure of tools for addressing achievement gaps, Cuban and other researchers have highlighted how myriad schools and districts invest in the latest digital tools—desktop computers, interactive whiteboards, and handheld tablets—in the hopes of improving learning outcomes (e.g., Cuban, 2012; Darling-Hammond et al., 2014). These are "unsubstantiated assurances" from districts about the role that technology can play in transforming young people's learning experiences (Philip & Garcia, 2013).

One danger of the investment—financial, social, and professional—in the value of technology as a means of addressing equity is that it places further expectations on a teaching force rather than distributing this responsibility across multiple actors in educational and social systems that have shaped the tools placed within classrooms. For example, although the Technology, Pedagogy, And Content Knowledge (TPACK) framework attempts to address these concerns with an explicit focus on the relationships and interactions between Technology, Pedagogy, And Content Knowledge (Koehler & Mishra, 2009), it does not take into consideration larger sociopolitical factors that created these "gaps" in the first place. Likewise, while the affordances of educational technology change from year to year, how teachers in

schools globally are prepared and expected to teach has largely remained the same. As Cuban (1986) notes, "Those who have tried to convince teachers to adopt technological innovations over the last century have discovered the durability of classroom pedagogy" (p. 109).

And yet, despite the ruggedness of traditional classroom practices and pedagogy, digital, participatory culture and youth engagement with mobile devices has transformed the landscape of informal learning practices (e.g., Garcia, 2017; Ito et al., 2013). Though we highlight the possibilities of these new cultural practices below, we note here that these evolutions in youth interactions have led to contestations of power and technology use in classrooms. Reflecting on the ways that iPads were implemented in a district-wide rollout in Los Angeles Unified School District (LAUSD)—the second largest district in the United States—*LA Times* reporter Howard Blume (2013a) writes:

> It took exactly one week for nearly 300 students at Roosevelt High School to hack through security so they could surf the Web on their new school-issued iPads, raising new concerns about a plan to distribute the devices to all students in the district.

The more than $1 billion iPad initiative in LAUSD is a notable highlight of the failure of buying tools in an attempt to boost flat lining or declining measures of student growth. However, it is not notable because of the large price tag that came with the initiative's failure nor due to the fact that this failure led to the ousting of the LAUSD superintendent (Blume, 2013b). Instead, the *regularity* that districts will invest in software, digital tools, and the consultations for implementing these devices over the support of educators in meaningful, digitally mediated instruction is what is most notable. The pattern of tech-focused investment, as Cuban and others continually remind us (e.g., 1986, 2012, 2018), is one that—across global contexts—narrows assumptions of achievement to being merely tied to issues of access.

From the use of 16 mm film in the 1950s to *edutainment* mobile apps and immersive digital simulations today, educational technologists have long touted the value and importance of these tools in enhancing the learning for students, often in contrast to traditional teaching methods. Major technological advances since the late twentieth century have significantly altered the information and communication technology (ICT) landscape, particularly around the use of computers, mobile devices, and the Internet in daily life. This in turn has transformed educational technology. In 2014, the US PreK-12 educational software market exceeded $8.5 billion (The Software & Information Industry Association, 2015). By 2020, projections estimate the global educational technology industry will exceed $252 billion (Global Report Predicts, 2016). For countries like Indonesia, China, and India where their youth population exceeds 60, 260, and 350 million, respectively, the focus on educational technology is even more pronounced (Emmanuel, 2018). These profound changes in how twenty-first-century learners receive and make meaning of information force researchers to inquire about the effectiveness of these tools. The benefits of educational technology have been widely documented: from opening new learning opportunities to connecting over physical and political boundaries to increasing communication speed and access, there is little dispute. However, literature reviews

of various global educational technologies and its effectiveness on learning have been mixed (Delgado, Wardlow, McKnight, & O'Malley, 2015; Escueta, Quan, Nickow, & Oreopoulos, 2017).

In addressing issues of technological access, the "one-to-one" model—where every student in every class, school, and district is provided with personal computers—has been widespread (Zheng, Warschauer, Lin, & Chang, 2016). Organizations like One Laptop per Child (OLPC) have provided over 2 million children with a "rugged, low-cost, low-power, connected laptop" in mainly Latin America and Africa. Within the United States, programs such as the Maine Learning Technology Initiative have attempted to provide every secondary student with laptops and tablets. These approaches place solutions of educational equity in enacting widespread distribution of devices; putting a digital device in the hands of youth across the globe—as attempted by OLPC, Maine, and LAUSD—is assumed to "fix" the equity issues that have exacerbated across generations. To address equity around Internet access, former President Barack Obama announced the ConnectED initiative to bring high-speed broadband to 99% of K-12 students by 2018. Despite these efforts, access inequities continue to persist. Bulman and Fairlie found that among US households with incomes in excess of $100,000 per year, 98% of students have a computer at home, as compared to 67% for children in households with incomes less than $25,000 (2016). Globally, there has been mixed results regarding the impact of increased access to hardware on learning outcomes and cognitive results. Several countries, Colombia (Barrera-Osorio & Linden, 2009), Peru (Beuermann, Cristia, Cueto, Malamud, & Cruz-Aguayo, 2015; Cristia, Ibarraran, Cueto, Santiago, & Severin, 2017), and Kenya (Piper, Zuilkowski, Kwayumba, & Strigel, 2016) showed no impact on learning outcomes in experimental studies. However, one of the interventions in Peru showed positive results on cognitive outcomes and a program in China demonstrated significantly improved Math scores (Mo et al., 2015).

Unlike access to hardware, computer-assisted learning (CAL) focuses on the use of software program to complement and supplement traditional classroom learning. CAL may include any of the following: games, research, networking, and/or tutoring. Out of twenty-nine randomized control CAL trails that Escueta, Quan, Nickow, and Oreopoulos reviewed, twenty demonstrated positive results, with fifteen of those twenty focused solely on Math intervention; eight had no effects for a mix of language, Math, and other topics; and one resulted in negative outcomes (2017). An argument made for CAL is its ability to adapt to learners of different ability levels, especially in providing material at the appropriate skill level (Banerjee, Cole, Duflo, & Linden, 2007; Banerjee & Duflo, 2016) and giving real-time feedback for students and teachers to best adapt their curriculum. These twenty-nine studies included a variety of schooling contexts: elementary, secondary, rural, urban, and suburban classrooms from mainly US-based schools.

While these examinations of randomized control trials of various hardware access and CAL programs and interventions shed light on its use and effectiveness in a multitude of schooling contexts around the world, we are wary of making overreaching generalizations over the efficacy for educational technology.

Developing, Sustaining, and Researching Equity-Centered Approaches to Educational Technology

Reviewing the research above, we recognize that there have been substantial transformative, powerful outcomes from some uses of educational technology. At the same time, intentional efforts that ground the needs of educators, students, and communities across various geographic, political, cultural, and socioeconomic contexts require realigning where and how educational technology assists young people's learning experiences. Rather than assuming that technology will inherently address equity issues in classrooms, we describe here what the goals of an equity-centered approach to educational technology would look like and how aspects of design and instruction can build from this stance.

Missing from many of the studies and approaches to utilizing educational technology is the analysis of *how* devices, tools, and investments in new resources will improve learning in particular contexts. In this sense, our field's "fascination with technology and its ostensibly inherent qualities of relevance, motivation, and engagement for youth almost always preclude any possibility of digging deeper" (Philip & Garcia, 2013, p. 302).

Central to an equity-centered approach to educational technology is a focus on teaching, pedagogy, and sustained relationships within classrooms. Tools—and the possibilities that they may bring—come secondary to the core relationships fostered in classrooms (Cummins, 2009; Vakil, 2018). While we recognize the importance of providing access to technological tools and CAL software to support student learning, educational technologists should also consider a deeper and more profound question regarding the need for these tools. Too often these tools are created to address "gaps" or inequalities between groups, whether it is providing broadband access in materially unprivileged communities and low-cost tablets in the global south or using computer tutorial programs to catch struggling readers in an under-resourced urban school in a colonizing nation. But what are the historical antecedents that nurture and uphold structures of inequality? And more importantly, what can be done to dismantle them?

An equity-centered approach to educational technology means addressing these questions head on. The foundation of critical theory is predicated on the fact that technology, particularly as it relates to the industrial revolution, has resulted in a separation between the laborer and the labor and, as a result, exacerbating the dehumanizing effects of management over the working class (Gitlin & Ingerski, 2018 citing Held, 1980). However, technology is a tool designed by people to accomplish certain tasks, often in a more efficient manner. In fact, though we began this chapter with a narrow definition of educational technology (Davies et al., 2008, p. 233), we build on Pea's (1985) recognition that technologies are meant to reshape "who we are by changing what we do" (p. 168). In this way, technology can be redesigned to address various systems that reproduce social inequalities and hierarchies and even serve the interests of those who are most marginalized (Gitlin, 2017).

Though not comprehensive, we offer three design-based and pedagogical directions for equity-centered educational technology. These are built on the previous discussion of Band-Aid approaches that assume that technology alone can heal the wounds of the lasting harms of colonialism, capitalism, and globalization affecting working class youth globally. In doing so, we explore authentic possibilities for technology to extend the natural capabilities of human interaction and to foster powerful relationships within classrooms.

Expanding the Voices and Epistemological Perspectives Undergirding Educational Technology Like the vast majority of education-related research (Smith, 1999), the knowledge that defines educational technology and its school-based implementation comes from particular, western perspectives (Spring, 1994). In this way, expanding the perspectives of this work requires intentionally *repairing* the harms that Ladson-Billings (2006) has noted contribute to educational debt. Such work requires "suspending damage" (Tuck, 2009) in the orientations of research. This perspective of an equity-centered approach to educational technology must take into account that knowledge—in research contexts, in the lives of students, and in the ways that digital tools are developed—can come from myriad perspectives and ontologies (e.g., Bang, Warren, Rosebery, & Medin, 2012; Smith, 1999). Historical perspectives from such framing can ultimately bring in the identities and values of more diverse communities in their design and in their instructional application. An educational technology that stems from often overlooked indigenous roots (de Alvarez & Dickson-Deane, 2018; Moreno Sandoval, 2013), for example, allows researchers to broadly reimagine the nature and values of the field.

This approach recognizes that technologies are not inherently neutral (Bradshaw, 2017; Subramony, 2017). Each line of code, each digital product, each algorithm, each product feature is authored by someone. As Noble (2018) emphasizes in her ethnography of a search engine, each tool we use has implicit, invisible values based on who creates it. Noble's search results of racist and oversexualized pages when she *googles* "black girls" highlight values that may have dehumanized and can shift at the whims of capitalist and social value. Though we do not argue that simply elevating more diverse bodies into existing corporations is the solution to the pressure points of educational technology, researchers should consider who authors the tools within classrooms and from what perspectives.

This expansive approach is one that *can* heal and restore relational trust and empathy between educators and students and between researchers and communities and seek to shift the norms of design-based approaches to technology in schools (Osguthorpe, Osguthorpe, Jacob, & Davies, 2003). As Vakil et al. (2016) explain, "Making visible this relational work will allow the research community to better understand the sets of skills and competencies required to engage in theoretically rich, ethically sound, and hopefully equitable design research" (p. 196).

Constructing Critical Computational Literacy Another example of this can be found in the conceptual and pedagogical framework of Critical Computational Literacy (CCL). Building on diversification efforts at multiple levels of the

technology talent pathway, CCL attempts to address the critical lens required to produce technological tools for disrupting and dismantling structures that uphold inequality while inventing new tools that sustain a more equitable and humanizing world. Critical Computational Literacy is the fusing of critical literacy (Luke, 2012) and computational thinking (Grover & Pea, 2013; Wing, 2006) to create technological tools for transformative social action. Critical literacy advocates have long called for an instructional literacy approach focused on "reading the world and reading the word" (Freire & Macedo, 1987) where one analyzes the macro-sociopolitical messaging undergirding various texts[1] and taking action upon it. Wing (2006) states, "computational thinking (CT) involves solving problems, designing systems, and understanding human behavior, by drawing on the concepts fundamental to computer science" (p. 33). More specifically, CT is the thought process required to understand a problem and express "its solutions in such a way that a computer can potentially carry out the solution" (Grover, 2018). In this process, one may be required to analyze and "decompose" problems to manageable pieces; create computational artifacts; remix, transfer, and reformulate prior solutions; develop algorithms; and collaborate with experts in different disciplines while utilizing a variety of typical computer science concepts like logic, patterns, abstraction, generalization, automation, and iteration (Grover, 2018; Wing, 2006, 2008).

Blending critical literacy and computational thinking toward a production-centered learning environment is a fluid and iterative process that requires the use and knowledge of highly sophisticated digital tools and a contemporary and historical consciousness around sociopolitical systems, including white supremacy, patriarchy, heteronormativity, and capitalism and its impact on society. YR Media, formerly known as Youth Radio, is a youth-driven, multimedia production organization centered in Oakland, California, that epitomizes CCL in several of their publicly disseminated interactives (Lee & Soep, 2016). West Side Stories, an interactive, multimodal map (see Fig. 1), highlights the impact of gentrification in the community of West Oakland (http://youthradio.github.io/). It demonstrates what happens when youth are offered space and tools to cocreate, cosign, and coproduce within a "pedagogy of collegiality" with adult staff (Chávez & Soep, 2005) on an issue that is dramatically impacting the social, economic, and material realities of their neighborhood. They utilized Mapbox, a "mapping platform for developers," to accomplish their goals of highlighting the rich history and culture of this traditionally Black community through digital drawings, video, and audio for transmedia storytelling (Lee & Soep, 2016).

YR Media has continued to demonstrate how CCL can be employed through design in #LR9Live (https://yri.youthradio.org/littlerock9/), "a live tweet-style reenactment of the 60th anniversary of desegregation" of the previously all-White Central High School in Little Rock, Arkansas (Lee & Soep, 2018). Know Your Queer Rights, a mobile app, allows users to learn about historic LBGTQ+ leaders,

[1] Texts refer to the multiple types of artifacts information is communicated and delivered in the twenty-first century. It may include multimodal texts that incorporate the use of images, video, audio, animation, and semiotics disseminated in digital and socially networked interactive spaces.

Fig. 1 Screenshot of West Side Stories: Gentrification in West Oakland interactive map

laws that protect their community, the reporting of discriminatory acts, and message contacts when they are in trouble (Soep, Lee, Van Wart, & Parikh, 2020).

Most would agree that the digital tools used to create these projects (Mapbox, Twitter, Photoshop) were not necessarily created within the framework of traditional "educational technology" tools in mind, but they were clearly used to "help students accomplish specified learning goals." The learning goals in these instances happen to be relevant to taking social action against inequalities in their lives, whether it is about giving a platform for dispossessed peoples or accurately representing the hues of Black people in the media or providing LBGTQ+ youth a space to learn, report, and connect with others. These projects demonstrate that youth themselves investigated the roots of the problems, and through their critical conscious lens, they create solutions that utilized technology for the very same populations that are impacted.

Reaching a New Civic Imagination Finally, we want to recognize that a fundamental purpose of schooling is one of preparing youth for success in interacting within and transforming society beyond the walls of their schools. In this sense, schooling is an act of civic education, and the digital tools that we develop within educational contexts provide implicit and explicit lessons for how youth are to learn, interact, and participate in civic life (de los Ríos, 2018; Mirra, 2018). From punishing students for using mobile devices during class time (Garcia, 2017) to filtering the websites and content they may view to installing keylogging and surveillance software of their netbooks, implicit lessons of docility and control are often part and parcel of contemporary educational technology deployment. From this perspective, we imagine several other dimensions for sparking powerful civic imagination vis-a-vis educational technology.

Cohen, Kahne, Bowyer, Middaugh, and Rogowski (2012) have described "participatory politics" as a kind of civic practice built on the affordances of digital and participatory culture. In it, young people can engage in "interactive, peer-based acts through which individuals and groups seek to exert both voice and influence on issues of public concern" (p. vi). Such activities are reflective of broader frameworks of "connected learning" (Ito et al., 2013) in which young people collaborate, distribute expertise, and engage in interest-driven and production-centered activities. At the heart of these civic activities are the relationships that are fostered between participants; the tools that facilitate and sustain these relationships come secondary to the foundational role of mentorship, learning, and youth interests (Ito et al., 2015). These largely extracurricular contexts of civic learning and participation exemplify the possibilities of educational technology to augment new kinds of civic practices in classrooms.

Designers, researchers, and educators must consider how the lives of young people are shaped civically by the tools introduced in classrooms—both implicitly and explicitly. An equity-centered approach to educational technology grounds the orientations of tools and the assumptions built into their uses. These include both the proximal uses of technology—such as the moment-by-moment instructional possibilities they possess—as well as the distal uses of technology—such as the long-term shifting of civic identity (Philip & Garcia, 2015).

Conclusion

Throughout this chapter, we have highlighted the generational attempts to "fix" global achievement gaps through well-meaning applications and research of educational technology. Though we note several successes with this approach, we are mindful of two key flaws with this premise. First, the assumption of an achievement gap undermines work toward addressing the historical role that racism, oppression, colonialism, and violence have played in disenfranchising large portions of the global population. Secondly, educational technology that is not developed *alongside* and *in* the interests of historically marginalized communities cannot substantively repair the damage done by dominant educational systems. In light of these flaws, this chapter highlights the necessity to shift from educational technology that is at the center of instructional design to tools that support the relationships in classrooms and the possibilities of individual agency.

Educational technology must be of secondary concern to the people and relationships within classrooms. Our articulation of *some* tenets of equity-centered approaches to educational technology is by no means definitive. Instead, we seek to ground some considerations that individuals must make when considering how their tools will be taken up and for what purposes. Ultimately, we see a need for the field to revisit the initial purpose and meaning of educational technology today. Considering the diverse voices, hopes, dreams, and fears of students in global classrooms today, how do tools supplement the startling power of collective action and solidarity?

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