

*Technology for Equity and Social Justice in Education:  
A Critical Issue Overview*

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## Technology for Equity and Social Justice in Education: A Critical Issue Overview

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Despite a history of techno-idealistic rhetoric and reform efforts in the United States, technology integration in education has tended to reinforce an inequitable and unjust social status quo in our classrooms and more broadly. Today, issues of technology and equity in education are often framed in terms of “access” and digital “participation,” both measures of formal equality that may leave us significantly short of substantive equity. This critical issue is formed around a general critique of technology as a value-free subject or set of tools in education. The contributing authors demonstrate what it means to interrogate our assumptions about technology in broader ethical contexts and critically engage technology specifically for transformative educational goals of equity and social justice.

*Keywords:* technology, education, equity, social justice

This introduction to the *Texas Education Review*'s critical issue on technology for equity and social justice articulates a critical perspective on technology as a *medium, process* and *focus* of education. Far from downplaying the importance of technology in education, the goal of the issue is rather to examine the relationship of technology to social and educational goals and activities, and show how a critical perspective informs substantive action for equity and social justice.

In an effort to tie this issue to the concerns of a relatively broad audience, I have chosen to frame it in relation to two well-evidenced and vexing observations on technology and educational change in the United States. The first is that, despite widespread and energizing rhetoric about technology for reform, technology integration has had a relatively superficial impact on learning and teaching practices in school. Second, historical efforts for equality within and through our public educational systems have also been met with limited substantive success. Considering these two observations, this issue overview makes the case that truly transformative technology integration—that is, technology integration that goes against status quo to change schools and society for the better—requires both a critique of oppression and substantive action for social justice. I then present the four contributions to this critical issue as individual cases, issues and methods of critique and action within this ethical problem space, fully recognizing that the individual authors may have followed very different pathways into equity-focused technology work. This critical issue, perhaps more than others, depends upon its constituent contributors to frame and re-frame the project at hand, that is, what it means to act for equity and social justice with technology in education.

### Retooling the Educational Status Quo

Larry Cuban (2001) identifies the following *Silicon Valley syllogism* as the driving force and rationale behind techno-idealistic educational reform efforts in this country.

Change makes a better society.

Technology brings about change.

Therefore, technology makes a better society. (p. 29)

Techno-promoters in education are driven by an “unshakable faith in the capacity of technology to improve life” (2001, p. 10). And yet, we can point to several decades of careful work by researchers and historians of education like Cuban and others that shows how technology in schools, far from catalyzing educational disruption or broad social change, tends to be rather reliably co-opted in the retooling of the educational and social status quo (Cuban, 2001, 2013; Philip & Olivares-Pasillas, 2016; Sims, 2017; Tyack & Tobin, 1994). Tyack and Cuban (1995) famously attribute this to the resilient “grammar of schools,” that is, the deep-rooted cultural assumptions, values and attitudes that structure schools as normative institutions focused on the formation and transmission of a national culture and identity. Despite urgent calls for change, the stasis we observe in our schools is a result of the fact that they basically do what many Americans want them to do.

Most Americans have been to school and know what a "real school" is like. Congruence with that cultural template has helped maintain the legitimacy of the institution in the minds of the public. But when schooling departed too much from the consensual model of a "real school," failed to match the grammar of schooling, trouble often ensued. If teachers did not maintain strict discipline and consistently supervise students in class, if traditional subjects were neglected, if pupils did not bring report cards home, reforms might be suspect. (Tyack & Cuban, 1995, p. 9)

Updating this formative critical scholarship with a three-year ethnographic study of the high profile, high tech, philanthropist-driven “Downtown School” (a pseudonym), Sims (2017) provides insight into the nature of the disconnect between technology-driven reform and actual school change, documenting what he calls “cycles of disruptive fixation” (2017, p. 11). Well-intentioned, philanthropic, “entrepreneurial reformers” tend to initiate such cycles, forming alliances with educational experts and insiders to implement their techno-idealistic visions of educational change. As these disruptive interventions tend to be high profile and politically risky, there is tremendous pressure to show success, often in terms of relatively traditional educational metrics. What’s more, in failing to adequately consider the entrenched sociopolitical aspects and interests in schools, the reformers find their innovations systematically co-opted to support traditional teaching and learning practices and traditional groups of stakeholders. Standing in for real reform, fictions of technology-driven change are collectively elaborated, celebrated and--paradoxically--used as justification for further techno-idealistic intervention. Sims, echoing Cuban, Tyack and others, writes that such cycles of disruptive fixation are recurrent in the history of techno-philanthropic education reform in this country, and that they will likely continue as long as reformers pursue tech-driven disruption without considering the social and political nature and goals of schooling in America.

If we are going to transform our educational systems with technology, we must start with a more sophisticated understanding of what technology is and how it relates to whatever it is we want to do as a society with our schools. We must reflect upon our sociopolitical goals, the assumptions, ideals, and ambitions that account for and stubbornly reinforce the grammar of schools in the face of would be disruptors and change makers. “Without a critical examination of the assumptions of techno-promoters,” writes Cuban, “a return to the historic civic and social mission of schooling in America, and a rebuilding of social capital in our schools, our passion for school-based technology, driven by dreams of increased economic productivity and the demands of the workplace, will remain an expensive, narrowly conceived innovation” (2001, p. 196).

This question of the civic and social mission of schooling in America brings us to the second of our two vexing observations: formal efforts to make our schools and society more just and equitable are rarely met with substantive success.

## Goals of Equity and Justice

The ideal civic and social mission of our schools has been understood in a variety of ways, ranging from the *amalgamation* or *replication* of American society (see Tyack, 1974, on Americanization) and *preparation for the workplace* (Bobbitt, 1918) to *continued capacity for growth* (Dewey, 1900), *reception* and *reproduction* (Grumet, 1988), *happiness* (Noddings, 2003), *liberation* (Freire, 2000), *reimagining* (Greene, 1995), *interruption* (Sumara & Davis, 1999) and *decolonization* (Tuck & Yang, 2012). For Labaree (1997), the history of public education in America is a story of competing and often contradictory goals, of “shifting priorities” and “pendulum swings” (1997, p. 34). He argues that a contemporary fixation on liberal goals of *social mobility*—at the expense of other democratic goals—is resulting in rampant credentialism and the reconceptualization of education as a distinctly private good. In “portraying the social structure as a structure of opportunity that can be negotiated by those with the most valuable credentials, the social mobility goal puts a democratic face on the inequalities of capitalism” (p. 49). Labaree argues that we must reestablish education as public, and prioritize the competing, yet deeply traditional American goals of democratic *equity* and social *efficiency*, that is, “the view that education should provide everyone with the capacities required for full political participation as informed citizens, and the view that education should provide everyone with the capacities required for full economic participation as productive workers” (p. 51).

It is one thing to identify a goal like equality and pursue it by decree, but it’s quite another thing to understand how such a goal does or does not operate in sociopolitical context to bring about substantive change. Guinier (2004), in examining *Brown v. Board of Education*—perhaps the country’s most famous effort to prioritize the goal of democratic equality in education—details how the Supreme Court, in conceptualizing and acting upon equality as an issue of segregation, managed to uphold a principal of *formal* equality that was not realized *substantively*: “The Court ordered an end to segregation and segregation was not ended” (Rosenberg, 1991, as cited in Guinier, 2004, p. 93). In dealing with the “problem” of race through desegregation rather than redistribution of resources and power, and in casting America’s race problem as a “psychological and interpersonal challenge” rather than a structural political and economic problem, the court contributed to the propagation of liberal colorblind thinking and the equation of race-consciousness with the evils of segregation. This *formal* conceptualization of equality, what Gutierrez and Jaramillo call the “sameness as fairness principle” (2006, p. 180), does not account for structural oppression in guiding policy or practice. Guinier argues that substantive equity and social justice does not arise by decreeing and acting on formal goals of equality alone (e.g. integration, diversity, inclusion, participation), but also requires resource redistribution and the cultivation of new racial literacies, that is, the “capacity to decipher the durable racial grammar that structures racialized hierarchies and frames the narrative of our republic” (Guinier, 2004, p. 100).

Learning from *Brown*, justice- and equity-centered technology integration efforts in education must move beyond formal goals and measures of equality—like technology *access*, STEM *diversity*, or digital *participation*—and use technology to build vocabularies and fluencies around race, class, gender and other lines of oppression. The critical literacies envisioned by Guinier (2004) must help us understand and learn about how technology is implicated in the reinforcement of the *durable grammars* of school and society, and how technology in educational contexts is entangled with broader ethical issues facing society.

## Thinking Critically about Technology

Pushing for the incorporation of new technologies in learning must be accompanied by careful deliberation of how these tools might fortify, attenuate, or alter learning opportunities

and relationships of power in the classroom. Introducing new technologies and curricula into classrooms without a deep interrogation of the inequities and injustices that currently exist within these spaces is bound to lead to the same cycle of unfulfilled promises of digitally inspired reform. (Philip & Olivares-Pasillas, 2016)

We have all heard people say, in the context of education or otherwise, that the “technology is just a tool.” Kruger-Ross (this issue) discusses how common it is that we view technologies as *neutral instruments*, as simply a technical *means to an end*. This is what Feenberg (1991) calls an *instrumentalist* way of thinking about technology, a perspective which tends to ignore how our technological tools are manifest within social contexts, and that social agendas, assumptions and typical ways of knowing and acting are reflected in not just their use, but their very design. Most scissors are designed for the work of right-handed folks, the keyboard on your laptop in the United States is likely to be in English, the algorithmically driven newsfeed on your favorite social networking platform is designed to respond in certain ways and not others to your presumed cultural interests and political affinities, and the digital representations of our world on social media and television reflect the biases, assumptions and priorities of those who control their production. Technologies are never *just* tools or neutral media, they are manifestations of our attitudes, assumptions and relations in the world. In taking a strictly instrumentalist view of our educational technologies, we do not account for the way they *black-box* (Latour, 1987) sociopolitical assumptions and agendas, and smuggle dominant ways of knowing, understanding the world into classrooms. We do not account for how, in the context of a status quo sociotechnical infrastructure of schools, they exclude and marginalize *by design*.

At the same time, we also often describe and think about technology as an overwhelming force, a sociotechnical wave from which there is no escape. We speak of virtual reality as “the wave of the future,” and urge our teachers, students and schools to “keep up or get left behind.” In this *substantivist* view, technology is not seen as a benign set of instruments, but rather amounts to a value-laden, totalizing force that dominates and instrumentalizes the substance of our culture and society itself. This substantivist view is fatalistic about how technology operates in our world, and about our human ability to act with it. In viewing technology deterministically as an unstoppable sociotechnical force, we defer our very human agency and ability to make change.

A *critical perspective on technology*, on the other hand, simultaneously recognizes the value-ladenness of our technologies and techniques as well as our human agency in their design, use, and proliferation. From a critical perspective, “technology is not a thing in the ordinary sense of the term, but an ambivalent process of development suspended between different possibilities” (Feenberg, 1991, p. 14). As an “ambivalent process,” technology does not on its own contribute to truly transformative goals or ideals of equity and social justice in educational contexts. We must interrogate individual technologies and their use in context in order to uncover how they are implicated in the reproduction of a stratifying and oppressive society, and also how they might be used to interrupt this process and actively pursue transformation.

Giroux (1983) writes that resistance to dominant ideologies in schooling necessarily combines a *critique of oppression* and a *commitment to emancipation*. Technology innovation that does not do these things will inevitably amount to a retooling of the inequitable and unjust social and educational status quo. Important to note is that technology innovation, when conceived in this way as a *process of resistance* to an unjust and oppressive status quo, will inevitably challenge us to look more closely at resistance to technology *itself* in education. Rather than narrowly focusing on and celebrating the “early adopters” of technology in schools, a more critical perspective would challenge us to identify and document cases of *transformational resistance* (Solorzano & Delgado Bernal, 2001) to technology

that are rooted fundamentally in a critique of oppression and oriented to social justice. Acknowledging that technology itself is value-laden and often used to change the game in favor of the powers that be, a critical sense of technology innovation might lead us, for example, to re-examine Rogers' (1995) famous (and somewhat pejorative) category of *laggards* in diffusion of innovation theory. In this vein, we should highlight recent empirical examinations of the “digital downsides” of technology in education (Selwyn, 2016) and cogent counternarratives of, for example, MOOCs as neocolonial curricular enterprises (Altbach, 2013), the maker movement as a branded, normative expression of dominant cultural values (Vossoughi, Hooper, & Escudé, 2016), and social media as an antidemocratic tool of oppression (Morozov, 2013; Stevens & O'Hara, 2015; Watters, 2014). Such critiques challenge us to move beyond our instrumentalist and substantivist notions of technological neutrality or determinism, and understand our technologies rather as value-laden arrays of sociomaterial processes and possibilities.

### **This Critical Issue: Getting Specific about Technology for Equity and Social Justice**

This special issue is focused on what technology-mediated educational change (in or out of school) involves and looks like when centered first and foremost on the goals of equity and social justice. Echoing a call from Lee and Soep (this issue), the issue endeavors to contribute to a growing community of educators, change makers and researchers working to shift the discussion from *technology for all* to *technology for what*. In a time where much of the discourse about technology and change in education is framed in terms of access and participation, both measures of *formal equality* that leave us significantly short of achieving goals of *substantive equity* (Guinier, 2004), this critical issue is an effort to get specific about questions like the following:

1. How do new technologies “fortify, attenuate, or alter learning opportunities and relationships of power” in education (Philip & Olivares-Pasillas, 2016, p. 2)?
2. Where do current discourses, policies and practices related to technology design and integration in education leave us with respect to goals of substantive equity?
3. What standpoints and approaches can be useful in interrogating and responding to assumptions about technology in education? What are these assumptions?
4. What does (or might) it look like to engage technology in pursuit of substantive equity?

To this end, Lee and Soep provide a unique case report on the work of Youth Radio, a program which engages Oakland teens after school in the development of critical computational literacies. With Youth Radio, teens not only learn marketable media and technology skills in the context of real client relationships, but they also gain an understanding of how technology, computing and new media are intertwined in the broader social issues which matter to them most. Lee and Soep show how Youth Radio creates a learning space for D, an interaction designer, to examine the way photographic technologies improperly record black skin, critique the historical misrepresentation of blackness, and respond by producing novel and nuanced representations of the Little Rock Nine to new audiences through social media. D's work at Youth Radio shows what it means to be both *critical of* and *active with* technology for equity and justice, that is to combine a critique of the way oppression operates in society with an active commitment to emancipation.

Harron (this issue) shows how a *justice-centered approach to CS education* (Vakil, 2018) is used in the design of a computational literacy module for preservice teachers. The case provides rich detail and a variety of curricular artifacts showing what a computational literacy curriculum looks like

when the instrumentalist assumption that computers and computational methods are neutral tools is rejected outright, and where learners are engaged in computing projects and experiences that frame technology, digital representation, and coding as intertwined within social and ethical issues. The case illuminates a variety of exercises that show preservice teachers how important it is to interrogate the assumptions and biases that are black-boxed in computing curricula.

In an editorial on the expanding role of teachers in modeling citizenship and action for justice outside of the classroom, Hildebrandt (this issue) invokes the classic concept of the *null curriculum* (Eisner, 1985) in the age of social media. Hildebrandt argues that teacher educators must move beyond traditional notions of the teacher as neutral, uncritical, or silent participants on social media, as even silence amounts to a null curriculum in itself, a tacit *teaching* of the status quo. To support teachers in the enactment and modeling of more full and active identities on social media, Hildebrandt points to the way that social media can be used to host *communities of discomfort*, online spaces where teachers are not alone in grappling with difficult ideas.

Finally, Kruger-Ross (this issue) demonstrates a method of “bracketing and critique” that can help us uncover the assumptions we make about how technology is conceptualized and how it operates in education and our lives outside of schools. Focusing on ideas such as “machine learning” and “learning is earning,” he shows how productive tensions and preconceptions about the goals of education and the role of technology are revealed when we examine our everyday language, asking ourselves, as philosophers commonly do, “why is this so?”

### Concluding Thoughts on Critique, Action and Speculation

The history of technology in education might be understood as a long, ambivalent obsession with what is to come. Whether out of excitement over possibilities or anxiety about risk, our gaze tends to be drawn toward the horizon. Even taking a critical perspective, viewing technology not as a neutral thing or deterministic trend, but as a developmental process set amidst possibilities, a future orientation seems inevitable. And yet, in always looking to the horizon we run the risk of perennially deferring action on our urgent goals of equity and social justice. Or, we tinker with these goals only abstractly in an abstract future. Or, we make them contingent on tomorrow’s silver bullets. The real work of change, however, is largely in the here and now. As Neil Selwyn (2010) points out, “the practical significance of an avowedly ‘state-of-the-art’ perspective on technology and education is often limited – tending to underplay social influences and relations, and offering little useful insight into how present arrangements may be improved or ameliorated” (Selwyn, 2010, p. 69). Selwyn reminds us how important it is to focus on the “state-of-the-actual” when it comes to technology in education (p. 69). To this end, critical innovators with technology in education will often be found working in uncontrolled settings in which we live and act, in and out of school, simultaneously intervening with and building theory about how technology operates in context per more equitable futures, working reflexively, drawing on participatory methods and supplementing the scientific epistemologies of traditional educational research with more “designerly ways” (Cross, 1999) of knowing, thinking and acting with technology (see, for example, Barab & Squire, 2004; Engeström, 1996, 2011; Gutiérrez & Jurow, 2016; Penuel, Fishman, Haugan Cheng, & Sabelli, 2011). It is our hope that the cases and insights assembled in this critical issue contribute to our understanding of what technology means and how it can be used in educational contexts for equity and social justice, helping us better see and act on the state-of-the-actual in light of a more equitable and just horizon.

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