

Urban Education

<http://uex.sagepub.com>

Insisting on Digital Equity: Reframing the Dominant Discourse on Multicultural Education and Technology

Paul C. Gorski

Urban Education 2009; 44; 348 originally published online May 19, 2008;

DOI: 10.1177/0042085908318712

The online version of this article can be found at:

<http://uex.sagepub.com/cgi/content/abstract/44/3/348>

Published by:



<http://www.sagepublications.com>

Additional services and information for *Urban Education* can be found at:

Email Alerts: <http://uex.sagepub.com/cgi/alerts>

Subscriptions: <http://uex.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

Citations <http://uex.sagepub.com/cgi/content/refs/44/3/348>

Insisting on Digital Equity

Reframing the Dominant Discourse on Multicultural Education and Technology

Paul C. Gorski

George Mason University

In the United States, where technological progress is portrayed as humanistic progress, computer technologies often are hailed as the great equalizers. Even within progressive education movements, such as multicultural education, the conversation about instructional technology tends to center more on this or that wonderful Web site or piece of software than on equitable access to these technologies. In this article, the author challenges people working at the intersections of multicultural and instructional technology, insisting that our first concern must be the elimination of digital inequities. It is only when we reframe the dominant discourse in this way that we practice authentic multicultural education.

Keywords: *digital divide; digital equity; race; class; gender*

Although definitions of multicultural education in the United States vary, a review of scholarship by the field's leading and pioneering voices (Banks, 2004; Grant & Sleeter, 1998; Nieto, 1995, 2000; Sleeter, 1996, 2003) reveals a critical point of agreement: Multicultural education, at its heart, is social reconstructionist in nature, a movement to identify and eliminate the inequities and injustices that plague our schools, societies, and world. So although individual educational practices, programs, or resources may be consistent with or reflective of multicultural education philosophy, authentic multicultural education is achieved only through systemic and comprehensive school reform—through the identification and elimination of racism, classism, sexism, heterosexism, and other inequitable distributions of privilege and power. In other words, multicultural education's chief concerns are equity and social justice.

Unfortunately, most of the policies, practices, programs, and literature that pass as multicultural education seem concerned more with celebrating

the joys of diversity or learning about cultures than about equity and social justice (C. Jackson, 2003; Nieto, 2000; Gorski, 2006). As a result, much of what people call “multicultural education” results more in supporting stereotypes and sustaining inequities than demolishing them (Cochran-Smith, 2004; Díaz-Rico, 1998; Gorski, 2006). For example, many U.S. schools sponsor “multicultural” assemblies, guest speakers, food festivals, craft fairs, and other feel-good diversity programs, but very few demonstrate a deep, consistent commitment to uncovering, much less eliminating, the oppressive conditions that pervade the education system. Likewise, many local U.S. school systems host “multicultural” conferences or professional development workshops, but very few are dedicated to addressing the systemic inequities in educational opportunity and access between their wealthiest and poorest students.

All indications are that this depoliticizing of multicultural education will grow worse before getting better. This is due, in part, to an overall rightward shift in U.S. politics which, in turn, has spawned a myriad of education policy hostile to multicultural education. The result: standardization, privatization, corporatization, high-stakes testing, and millions of teachers feeling pressured to abandon any activism or classroom practices that do not prepare their students for federal- and state-mandated tests.

Given this sociopolitical context, if we intend to consider technology from an authentic multicultural education framework, we must begin by acknowledging the inequities that exist in our schools. We must acknowledge, too, that these inequities do not disappear when we add computers and Internet access to classrooms. I was not always so insistent on this point. Truth is, I wrote a dozen essays and the first edition of a book (*Multicultural Education and the Internet: Intersections and Integrations*) praising the multicultural education potentials of computer and Internet technologies before I ever took up the cause of digital equity. I bowed to the temptation so often presented by new technologies, assuming that technological progress meant social progress. It does not. In fact, a review of the research on the ways in which disenfranchised communities have been affected by mindless applications of computer technology in schools reveals, quite clearly, the opposite: As it stands now, these technologies, as they are being employed, appear to be contributing to inequities more than disrupting them. So before we exalt at the enriching cross-cultural learning potentialities of blogs and wikis, the myriad resource-rich educational Web sites, and new forms of multicultural professional development made possible by technology, we must ask ourselves some critical questions: Who has the easiest, most consistent access to these resources? How are educators using technology

differently with different populations of students? Who stands to gain the most—economically, politically, and so on—from the growing urgency to technologize schools and classrooms? What are the equity and social justice implications of this educational technology craze?

I do not intend to answer these questions fully in this article. They require the attention of a multifaceted line of inquiry, which is more than one person can undertake.

However, I do intend to challenge those of us (including myself) who work at the intersections of multicultural education and instructional technology to reject the softening of multicultural education, to frame the conversation about multicultural education and computer technologies by thrusting equity and social justice concerns to the fore, to temper the enthusiasm about this or that technology, this or that Web site, this or that “best practice” with the realities of pervasive digital inequities. And I intend to reignite a sense of urgency to tackle these inequities before we dub computers and the Internet, as many already have, the great equalizers. Informed by these concerns, my central argument is this: Any discussion of the multicultural possibilities of instructional technology must begin where every discourse on multicultural education should begin—with a critical examination of the ways in which a growing reliance on these technologies may contribute to the very inequities multicultural education is supposed to eliminate.

I employ as my theoretical framework critical multicultural education (McLaren, 1995)—an approach to multiculturalism that draws on critical theory and critical pedagogy and that centers on equity and social justice concerns. Critical multicultural education challenges theorists and practitioners to reject the ways in which multicultural education has been recast and politically softened to fit more tidily into dominant hegemony. Similarly, it pushes us to take a systems view and to ask critical questions about who benefits from present social conditions and trends.

In an approach consistent with the critical theory aspect of critical multicultural education, I make my argument, not on philosophical bases alone, but on a critical analysis—a deep synthesis—of the growing body of research on digital equity and inequity. Through this analysis and synthesis I intend to paint a picture of where we stand, at a systems level, in the pursuit of equitable educational opportunity when it comes to access to instructional technology.

I begin by conceptualizing digital equity using this critical multicultural education framework. Then, using the same theoretical framework, I synthesize the ways in which digital inequities persist in the United States according to existing research, paying special attention to the implications for

educational equity. I conclude by posing a series of challenges to multicultural education theorists and practitioners—including myself—who write, teach, and speak about technology's educational potentials.

Conceptualizing Digital Equity

Scholars, educators, and activists have used the term *digital divide* since the mid-1990s to describe disparities in access to computers and the Internet based on race, socioeconomic status, gender, and other social and cultural identifiers (Light, 2001). More often than not, "access" has been defined narrowly as physical access—as living, working, or learning in close physical proximity to these technologies (Gorski, 2003; Makinen, 2006; McKenzie, 2007; Valadez & Duran, 2007; Warschauer, 2002). According to this conception, if I live in a household or sit in a classroom in which a computer and an Internet connection exist, I have computer and Internet access. It matters not how I use these technologies (to conduct research or to play Solitaire), how obsolete my hardware is, how slow my connection is, or even whether I can afford software. Nor does it matter how often society, the media, or teachers tell me, implicitly and explicitly, that people of my gender or race or socioeconomic status are incapable of finding success in technology-driven fields; that we are no more genetically prepared for such endeavors than for advanced mathematics or the hard sciences.

So when, in August 2000, women surpassed men to comprise the majority of the U.S. online population (National Telecommunications and Information Administration [NTIA], 2000), many information technology experts, policy makers, and education activists proclaimed the end of the gender digital divide. Not so fast, warned scholars from fields like critical theory, feminist studies, and multicultural education, who had entered the national dialogue on the digital divide in the late 1990s. Although it was true, they argued, that more U.S. women than men were using the Internet, girls and women continued to face a myriad of inequities related to technology. For example, that same year, 2000, young women represented only 17% of Advanced Placement computer science test takers and only 20% of information technology professionals (American Association of University Women [AAUW], 2000). Meanwhile, despite popular belief, the percentage of women pursuing technology-related careers has decreased steadily since the mid-1980s (Kramarae, 2001).

As critical consciousness demanded, these scholars rejected simplistic notions of technology "access." They situated and analyzed the digital divide

within larger analyses of racism, sexism, classism, linguisticism, ableism, and imperialism. They framed the divide as a symptom of these larger systemic inequities. And they began to ask deeper questions about the relationships between capitalism, globalization, the corporatization of schools, and the growing social and educational importance assigned to computer and Internet technologies.

From their work emerged the digital equity movement and its base concern: that most conceptions of the digital divide, and as a result, most programs designed to address it, are too simplistic and thus replicate the very power-oppression continuum they purport to eliminate (Gorski, 2003). As Makinen (2006) has argued, bridging technical gaps—gaps in simple physical access to technologies—is insufficient if we fail to address the gaps in opportunity actually to use the technologies in ways that empower people to participate more fully and equitably in society.

Although the scholarship growing out of this movement has varied in scope, focus, and depth, contributing scholars and activists have been concerned consistently with three primary goals, all of which reflect the sorts of concerns that critical multicultural education focuses on: (a) to challenge the notion that computers and the Internet are or can be the “great equalizers” of the United States or the world; (b) to uncover the ways in which these technologies, due to an unequal distribution of hardware, software, infrastructure, digital literacy, and other necessary forms of capital, are contributing to existing inequities; and (c) to expand the digital divide concept of “access” beyond physical access to include social, cultural, and political access to these technologies and the resulting potentials for social and economic benefits.

It is in this critical spirit, I believe, that any authentic conversation about multicultural education and instructional technology must begin. And so it is with this lens—the digital equity lens, informed by the theoretical framework of critical multicultural education—that I synthesize the ways in which digital inequities persist in the United States and its schools.

Digital Inequities

Despite the popular belief that identity-based discrepancies in physical access to computers and the Internet are disappearing, substantial gaps remain. For example, although 70% of White adults in the United States use the Internet, only 57% of African Americans are online. Meanwhile, although 93% of households with annual incomes greater than \$75,000 have home Internet access, fewer than 49% of households with annual incomes less

than \$30,000 have access (Fox, 2005). As stands to reason, then, economically disadvantaged children and children of color are more likely than their wealthy and White counterparts to live in households without computers and Internet access (Judge, Puckett, & Cabuk, 2004). Their peers with disabilities do not fare much better; people with disabilities in the United States have significantly lower rates of home access to computers and the Internet than people without disabilities (Dobransky & Hargittai, 2006; Lenhart, 2003). And even as these historically disenfranchised groups began making some progress in physical access rates, the broadband (high-speed access) revolution came along to widen the gaps (Fox, 2005; NTIA, 2004; Whitacre & Mills, 2007).

Although schools have inched closer to digital parity (Judge et al., 2004), inequities remain there, too (Valadez & Duran, 2007). Overall, 94% of public school instructional rooms have Internet access, a significant jump from just 3% in 1994 and 77% in 2000 (National Center for Educational Statistics [NCES], 2006). But the percentage remains higher in schools with fewer than 6% students of color (96%) than in those with more than 50% students of color (92%). Similarly, 96% of instructional rooms in schools with low-poverty enrollments have Internet access, compared with 91% in high-poverty schools. A review of data on student-to-computer ratios reveals the same trend: Schools with fewer than 6% students of color have, on average, one instructional computer with Internet access for every three students; schools with more than 50% students of color have one computer for every 4.1 students (NCES, 2006). And although similar data related to (dis)ability does not exist, Ability Hub (2002) reports that computers in both public and private schools frequently are ill-equipped for students with disabilities who need adaptive technologies to use them or access the Internet.

So even when we limit our analysis by the digital divide physical access model, we find lingering inequities. But this is only the tip of the digital inequity iceberg.

When we dig deeper—when we broaden our concept of access—we find a vast, complex web of inequities, sociopolitical in nature, unsolvable merely by adding more or faster computers and Internet access to homes and schools (Valadez & Duran, 2007; Warschauer, 2003). These include (a) inequitable access to support and encouragement to pursue educational and professional interests related to technology, (b) inequitable access to affirming and non-hostile information technology (IT) and cyber-cultures, and (c) inequitable access to affirming and nonhostile content.

Support and Encouragement to Pursue Technology Interests

Racialized and gendered socializations teach us that certain people are not supposed to be interested in, or even capable of, technology-related educational and professional pursuits (Cassell & Jenkins, 1998). Every time a teacher defaults to one of her or his male students to help troubleshoot problems with audio-visual equipment, she or he sends a clear, if unintended, message: girls are not supposed to have the knowledge or skills to help solve such problems. This tendency is, of course, a symptom of larger, systemic repression, part of the same set of messages that drives young women out of academic pursuits in math and science (Gorski, 2003). A variety of studies have shown how these sorts of stereotypes, and the way they are perpetuated by teachers and other authority figures, often unintentionally, have a direct influence on girls' attitudes toward technology (Beyer, Rynes, Perrault, Hay, & Haller, 2003; Scheckelhoff, 2006). By high school, girls are considerably less likely than boys to take computer science courses (Pinkard, 2005) or to report positive attitudes toward computers at all (Cooper, 2006). Ultimately, according to Cooper (2006), girls and women are more likely than men to report computers as a source of anxiety in their lives rather than a source of fun or personal or professional growth.

But what may be even more insidious are the ways in which teachers and schools embed these messages in curricula and pedagogies. For example, whereas teachers working with predominantly students of color tend to use computer and Internet technology for word processing, skills and drills, and other lower-order thinking activities, their colleagues in schools with predominantly White students tend to use these technologies to encourage critical analysis, construction of ideas and concepts, and inquiry (Solomon & Allen, 2003). Not surprisingly, then, even after controlling for factors such as education and income, Mossberger, Tolbert, and Stansbury (2003) found that African American and Latino people are less likely than their White counterparts to report having the skills necessary to use computers and the Internet.

Consistent patterns are observed across socioeconomic status: Students in high-poverty schools are more likely to use computers and the Internet for rote learning whereas their peers in low-poverty schools use them for higher-order thinking activities (Becker, 2000; Judge et al., 2004), and these patterns begin in early childhood classrooms (Judge, Puckett, & Bell, 2006). For example, Valadez and Duran (2007), who studied an economically diverse cross-section of schools in southern California, found that although

teachers in high-poverty schools tended to use these technologies more for record-keeping and administrative tasks, those in low-poverty schools were more likely to use them for creating instructional materials and strengthening instructional practices.

These trends are due, in part, to teachers' inequitable access to resources and support to use these technologies in pedagogically sound ways (Mossberger, Tolbert, & Gilbert, 2006). According to the NCES (2002), compared with teachers in schools with fewer than 6% students of color, those in schools with 50% or more student of color enrollment are less likely to have training in the use of the Internet (82% compared with 70% having been trained) and less likely to have assistance in using the Internet, such as an onsite technology specialist (76% compared with 65%).

To understand these inequities in their full complexities, we must understand them as part of the larger landscape of inequity in our schools and society. The pedagogical trends mirror exactly the larger discrepancies in students' access to higher-order thinking instruction (Barton, 2004; National Commission on Teaching and America's Future, 2004). In other words, students who are least likely to have access to higher-order instruction without these technologies are also least likely to have access to such instruction when these technologies are in play. The inequities in teachers' access to the resources and support they need also mirror larger race and class inequities in U.S. schools—inequities that disproportionately leave students of color and students from low-income families with fewer resources, less experienced teachers, and teachers with less pedagogical training (NCTAF, 2004). Likewise, the patterns of gender socialization and the resulting differences in boys' and girls' attitudes toward technology are consistent with a history of gender inequity in the United States and its schools (Kimmel, 2000; Sadker & Sadker, 2005).

And in an increasingly techno-centric world, the implications of these socializations are devastating. For example, as mentioned earlier, women represent 17% of Advanced Placement computer science test takers. They represent only 10% of the more advanced AB test takers (AAUW, 2000). Women earn only 27% of bachelors degrees in computer science (National Science Board [NSB], 2006)—the same percentage they earned in 1997 (NCES, 1999), despite the fact that during the same period the overall percentage of bachelors degrees earned by women increased dramatically (NSB, 2006).

Similarly, powerful evidence demonstrates how these inequities influence people of color. Research indicates, for example, that African American and Latina(o) people are much more likely than their White counterparts to view or use computer and Internet technologies for entertainment purposes,

and that this trend begins in childhood (L. Jackson et al., 2007). White people, on the other hand, are more likely than people of color to use these technologies to seek financial or health information (Spooner & Rainie, 2000; Saunders, 2002).

So as wealthier students, White students, and young men, on average, are being socialized and trained to participate in an increasingly computer-reliant society and world, many students of color, young women, and low-income students are being socialized to see computers more or less as digital flashcards.

Affirming and Nonhostile IT and Cyber-Cultures

In 1999 the Economic Development Administration (EDA) uncovered a variety of sociopolitical barriers to improving the technology infrastructure of Native American communities. Among these barriers was federal policy that fails to consider the severity of technology gaps faced by Native peoples (EDA, 1999). In fact, since 1998, the U.S. government has published a vast array of reports related to gaps in technology access across race, socioeconomic status, level of education, (dis)ability, and other identities, but for reasons unexplained in these reports, the government agencies conducting this research stopped collecting data on computer and Internet access and use among Native Americans after 1999. According to Kade Twist (2002),

The Bush administration is effectively removing Indians from the public discourse relating to the digital divide, placing them at a further disadvantage in the emerging economy. Furthermore, the exclusion of Indians leaves federal decision makers without evidence of a problem or a solution—it's simply an act of avoidance. (P. 1)

The invisibility of Native communities is not new, nor is it unique to issues of digital equity—this, again, represents the ways in which such inequities are replicated, rather than mitigated, by the digital revolution. But it both deepens and helps explain, along with a long history of racism, other barriers identified by the EDA (1999) study—namely, Native communities' distrust for new technologies and their distrust for federal assistance. A related mistrust has been found among African Americans, 72% of whom are “very concerned” about businesses and other people obtaining their information online, compared with 57% of White Internet users (Gandy, 2001). Nothing is more hostile, nothing breeds a culture of greater distrust—than being rendered invisible. But this is what the cultures surrounding computer and Internet

technologies have done to already-disenfranchised groups in the United States. And it does not stop at race.

These cultures, constructed by men and for men, are at best unwelcoming to girls and women (Gerrad, 1999; Grigar, 1999; Herring, 1999; M. Jackson, 2007; Margolis & Fisher, 2002). For example, despite the common assumption that the Internet can be an important tool for facilitating democratic dialogue free from the gendered dynamics of face-to-face communication, research reveals that these dynamics are reproduced almost exactly online (Castner, 1997; Guiller & Durndell, 2007; Lee, 2007). For example, in their study of online engagement among college students, Guiller and Durndell (2007) found that men were more likely than women to use authoritative language and respond negatively to disagreements with their arguments, whereas women were more likely than men to passively agree with others. They concluded that gendered—often sexist—communication dynamics translate almost perfectly online.

These dynamics are reinforced by often-implicit messages from the media that women are not welcome in information technology circles (AAUW, 2000). But they also emerge directly from the information technology industry itself, whose advertisements have been found to draw on gender-role stereotypes (Gannon, 2007; Johnson, Rowan, & Lynch, 2006; Knupfer, 1998). For example, Gannon's (2007) study of laptop advertisements revealed a consistent pattern of hyper-feminizing of women—if women appeared in them at all. To make matters worse, girls and women face a persistent threat of cyber-harassment and cyber-stalking (Barak, 2005; Gorski, 2003).

People with disabilities experience a similarly hostile information technology culture. As mentioned earlier, public computer labs as well as computers in public and private schools frequently are not equipped for students needing adaptive technologies (Ability Hub, 2002; Dobransky & Hargittai, 2006). Consistent with this finding, the majority of computer and Internet educational workshops are not designed to accommodate people who need adaptive resources, all but forcing many people with disabilities into segregated workshops (Kearns, 2001). In fact, a study by the International Center for Disability Resources on the Internet shows that a majority of people living without disabilities assume that people with disabilities have no reason to access the Internet (Kearns, 2001). The study reveals, as well, that these attitudes lead people with disabilities to be "hesitant to use the Web for fear of seeming ignorant or unknowable" (p. 4). Following logically from these sociopolitical realities is a widespread lack of compliance with Web disability accessibility standards. After all, if people with disabilities do not use the Internet, why would we expend the effort to make Web sites accessible to

them? Much of the Web is not, in fact, accessible to people with a variety of disabilities, such as blind individuals (Dobransky & Hargittai, 2006).

Again, what is clear is that these technologies are not, in and of themselves, the great equalizers. In fact, as it stands, they more often seem to be tools for further embedding existing inequities—existing gaps of access to opportunity. So if I, as a teacher, intend to use computers and the Internet in my teaching, I must understand these dynamics of culture and hostility—of privilege and power—in techno-space to the same extent that I understand them in my classroom.

Affirming and Nonhostile Content

I also must think as critically about the content of computer software and Web sites as I do about the other learning materials I use. Because research shows that even when disenfranchised groups do gain physical access to these technologies, they often struggle to find affirming and non-hostile content.

This reality may be most prevalent for girls and women. The prevalence of online pornography—the most lucrative Internet industry—can create, in and of itself, a discomfiting online atmosphere for women. But it gets worse. A plethora of studies have shown how educational software often cycles sexism by depicting girls and women in stereotypical and subservient roles, if girls and women appear in them at all (AAUW, 2000; Birahimah, 1993; Drees & Phye, 2001; Hodes, 1996; Sheldon, 2004). Most recently, Sheldon (2004) found in a study of preschool educational software that male characters appear more often than girls and that gender stereotypes are replicated precisely across programs. In addition, as Cooper (2006) points out, most educational software is designed from a stereotypically male frame of reference, based around competitive games. Demonstrating, yet again, how digital inequities are tied to larger forms of oppression, the American Association of University Women (AAUW, 2000) found that, despite the overwhelming evidence that such disparities exist, more than half of all classroom teachers fail to notice these patterns. Again—what is crucial to understand here is that, although gender stereotyping in educational software is troubling, what should be of greater concern is that it is a mere replication of larger patterns of gender bias and oppression in larger society.

Sexist conditions similarly exist in another computer industry: video games (Cassell & Jenkins, 1998; Gorski, 2003; Royse, Lee, Undrahbuyan, Hopson, & Consalvio, 2007). Inequities in the gaming world are particularly critical because most children are introduced to computer technology through

video games (Cooper, 2006). Although research shows that girls and women have little interest in video games with redundant violence (AAUW, 2000), 89% of top-selling games contain violent content (Glaubke, Miller, Parker, & Espejo, 2001). Most women in these games are trophies for victorious male characters. And even games, like the best-selling *Tomb Raider*, that challenge norms by employing strong, heroic female lead characters tend to do so in highly sexualized ways, portraying them as sexual objects for heterosexual male consumers (Grosky, 2003; Cassell & Jenkins, 1998; Kerr, 2003). Cassell and Jenkins (1998) argue that too often, video games simply “reaffirm sexist ideologies and circulate misogynistic images” (p. 3).

While girls and women face hostile content, some groups, such as economically disadvantaged Internet users, struggle to find any relevant content at all. According to a study by The Children’s Partnership (TCP, 2003), the resources low-income Internet users in the United States most want to find online scarcely exist: local job listings (including entry-level positions), local housing listings (including low-rent apartments and homes in foreclosure), and local community information about schools and health care services. In addition, due to the interrelatedness of socioeconomic status and literacy (another symptom of systemic classism), many low-income Internet users find very few Web sites accessible. They even struggle to locate limited-literacy resources such as information about working toward high school equivalency degrees, sites that incorporate graphics to help users improve reading skills, and tutorials for using computers and the Internet more efficiently (TCP, 2003).

Like socioeconomically disadvantaged people, speakers of languages other than English who find their way online are unlikely to find culturally relevant resources there (Resta & McLaughlin, 2003). A study of 1,000 of the top U.S.-based Web sites reveals that only 2% offer any content in a language other than English (TCP, 2003). Furthermore, the limited non-English content offered by popular Web portals like Yahoo! tends to focus on entertainment rather than daily life needs. Even sites like LatinoWeb, perhaps the most popular Latina(o)-focused Web portal, reinforces this inequity, offering links to business, industry, and health information in English only while providing links to shopping Web sites in Spanish. U.S.-based Web search engines contribute to this inequity, as well, as most are not designed for non-English searches. But even U.S.-based search engines for languages other than English pale in comparison to their English-focused counterparts. According to TCP (2003), users of the former have a one in five chance of finding information relevant to their searches whereas users of the latter have only a one in eight chance of doing so.

Add to all of these dynamics the growing use of these technologies by hate groups in the United States peddling everything from White supremacy to Islamophobia to heterosexism, and we are left with the undeniable conclusion, again, that computers and the Internet can be contemporary tools of oppression just as easily—perhaps more easily—than tools of multicultural education.

Our Challenges

We—those of us who conceive our work at the intersections of multicultural education and technology—must dedicate ourselves to keeping these and myriad other dimensions of digital inequity at the fore of our discourses. We must challenge ourselves to fight for equitable access to these technologies in the broadest possible sense before or, at the very least, while we rave about their potential contributions to multicultural curricula. When we fail to do so, we fail in our commitments to the chief goals of multicultural education: equity and social justice.

In the spirit of recommitting to these goals I offer the following challenges. I offer them as much to myself—as part of my own quest for growth and reflection—as to my multicultural education and instructional technology colleagues.

Challenge One: We must never write about, speak about, or encourage philosophical intersections of multicultural education and technology without acknowledging digital inequities. For example, we must acknowledge that innovative uses of technology for multicultural education are innovative only for the people who have access to them—access in the broadest sense.

Challenge Two: We must refuse to advocate for the growing role of computers and the Internet in education until all teachers, regardless of the composition of the students they serve, are trained to integrate these technologies in progressive and pedagogically sound ways.

Challenge Three: We must discuss digital inequities, not as individual phenomena, but as symptoms of larger systemic inequities. And we must challenge strategies for “closing” or “bridging” the digital divide that fail to consider digital inequities in this broader context.

Challenge Four: We must advocate cost limits on computers, educational software, Internet access, and adaptive technologies.

Challenge Five: We must encourage school systems to place instructional technology specialists in every school. And we must insist that these specialists be trained educators, not merely hardware technicians or IT professionals.

Challenge Six: We must refuse to publicize popular Web portals such as Yahoo! until they provide more non-English and limited-literacy content.

Challenge Seven: We must critique publicly the notion that technological progress necessarily is synonymous with social, cultural, and humanistic progress—what Smith (1994) and M. Jackson (2007) refer to as “technological determinism.” And we must produce more and deeper scholarship on the relationships between technological progress and globalization, corporatization, imperialism, and other means of concentrating power and privilege.

Challenge Eight: Finally, and most importantly, as with any work that we call multicultural education, we must push ourselves, ever vigilantly, to transcend celebrating the joys of diversity, beyond learning about this or that culture, and to ask ourselves, How can we use these technologies to further the cause of equity and social justice in schools and society? Anything less can scarcely be called authentic multicultural education.

References

- Ability Hub. (2002). *Assistive technology solutions*. Available from <http://www.abilityhub.com>
- American Association of University Women (AAUW). (2000). *Tech-savvy: Educating girls in the new computer age*. Washington, DC: AAUW Educational Foundation Research.
- Banks, J. (2004). Multicultural education: Characteristics and goals. In J. Banks & C. Banks (Eds.), *Multicultural education: Issues and perspectives* (pp. 3-30). San Francisco: Jossey-Bass.
- Barak, A. (2005). Sexual harassment on the Internet. *Social Science Computer Review*, 23(1), 77-92.
- Barton, P. E. (2004). Why does the gap persist? *Educational Leadership*, 62(3), 8-13.
- Becker, H. J. (2000). Who's wired and who's not: Children's access to and use of computer technology. *The Future of Children: Children and Computer Technology*, 10(2), 44-75.
- Beyer, S., Rynes, K., Perrault, J., Hay, K., & Haller, S. (2003). Gender differences in computer science students. *Proceedings of the 2003 ACM SIGCSE*, pp. 49-53.
- Birahimah, K. (1993). The non-neutrality of educational computer software. *Computer Education*, 20(4), 283-290.
- Cassell, J., & Jenkins, H. (1998). Chess for girls? Feminism and computer games. In J. Cassell & H. Jenkins (Eds.), *From Barbie to Mortal Kombat: Gender and computer games* (pp. 2-45). Cambridge, MA: MIT Press.
- Castner, J. (1997). The clash of social categories: What egalitarianism in networked writing classrooms? *Computers and Composition*, 14, 257-268.
- The Children's Partnership (TCP). (2003). *Online content for low-income and underserved Americans*. Washington, DC: Author.
- Cochran-Smith, M. (2004). *Walking the road: Race, diversity, and social justice in teacher education*. New York: Teachers College Press.
- Cooper, C. (2006). The digital divide: The special case of gender. *Journal of Computer Assisted Learning*, 22(5), 320-334.
- Díaz-Rico, L. T. (1998). Toward a just society: Recalibrating multicultural teachers. In R. Chávez Chávez & J. O'Donnell (Eds.), *Speaking the unpleasant: The politics of (non) engagement in the multicultural education terrain* (pp. 69-86). Albany: State University of New York Press.

- Dobransky, K., & Hargittai, E. (2006). The disability divide in Internet access and use. *Information, Communication, & Society*, 9(3), 313-334.
- Drees, D. E., & Phye, G. D. (2001). Gender representation in children's language arts software. *The Journal of Educational Research*, 95(1), 49-55.
- Economic Development Administration. (1999). *Assessment of technology infrastructure in native communities*. Washington, DC: U.S. Department of Commerce.
- Fox, S. (2005). *Digital divisions*. Washington, DC: Pew Internet & American Life Project.
- Gandy, O. (2001). African Americans and privacy: Understanding the Black perspective in the emerging policy debate. In J. Barber & A. Tait (Eds.), *The information society and the Black community* (pp. 59-73). Westport, CT: Praeger.
- Gannon, S. (2007). Laptops and lipsticks: Feminising technology. *Learning, Media, & Technology*, 32(1), 53-67.
- Gerrard, L. (1999). Feminist research in computers and composition. In K. Blair & P. Takayoshi (Eds.), *Feminist cyberscapes: Mapping gendered academic spaces* (pp. 377-400). Stamford, CT: Ablex.
- Glaubke, C., Miller, P., Parker, M., & Espejo, E. (2001). *Fair play? Violence, gender and race in video games*. Oakland, CA: Children Now.
- Gorski, P. C. (2006). Complicity with conservatism: The de-politicizing of multicultural and intercultural education. *Intercultural Education*, 17(2), 163-177.
- Gorski, P. C. (2003). Privilege and repression in the digital era: Rethinking the sociopolitics of the digital divide. *Race, Gender & Class*, 10(4), 145-176.
- Grant, C., & Sleeter, C. (1998). *Turning on learning: Five approaches to multicultural teaching plans for race, class, gender, and disability*. Upper Saddle River, NJ: Prentice-Hall.
- Grigar, D. (1999). Over the line, online, gender lines: E-mail and women in the classroom. In K. Blair & P. Takayoshi (Eds.), *Feminist cyberscapes: Mapping gendered academic spaces* (pp. 257-281). Stamford, CT: Ablex.
- Guiller, J., & Durdell, A. (2007). Students' linguistic behavior in online discussion groups: Does gender matter? *Computers in Human Behavior*, 23(5), 2240-2255.
- Herring, S. C. (1999). The rhetorical dynamics of gender harassment online. *The Information Society*, 15(3), 151-167.
- Hodes, C. (1996). Gender representations in mathematics software. *Journal of Educational Technology Systems*, 21(1), 67-73.
- Jackson, C. (2003). Crystallizing my multicultural education core. In G. Gay (Ed.), *Becoming multicultural educators: Personal journey toward professional agency* (pp. 42-66). San Francisco: Jossey-Bass.
- Jackson, L. A., Samona, R., Moomaw, J., Ramsay, L., Murray, C., Smith, A., & Murray, L. (2007). What children do on the Internet: Domains visited and their relationship to socio-demographic characteristics and academic performance. *CyberPsychology & Behavior*, 10(2), 182-190.
- Jackson, M. H. (2007). Exploring gender, feminism, and technology from a communication perspective: An introduction and commentary. *Women's Studies in Communications*, 30(2), 149-156.
- Johnson, N. F., Rowan, L., & Lynch, J. (2006). Constructions of gender in computer magazine advertisements: Confronting the literature. *Studies in Media and Information Literacy Education*, 6(1). Retrieved March 9, 2008, from <http://www.utpress.utoronto.ca/journal/ejournals/simile>
- Judge, S., Puckett, K., & Bell, S. M. (2006). Closing the digital divide: Update from the early childhood longitudinal study. *Journal of Educational Research*, 100(1), 52-60.

- Judge, S., Puckett, K., & Cabuk, B. (2004). Digital equity: New findings from the early childhood longitudinal study. *Journal of Research on Technology in Education*, 36(4), 383-396.
- Kearns, T. (2001). *Using partnerships to bridge the digital divide within the disability community*. Raleigh, NC: International Center for Disability Resources on the Internet.
- Kerr, A. (2003). Women just want to have fun: A study of adult female players of digital games. In M. Copier & J. Raessens (Eds.), *Level up: Digital games research conference* (pp. 270-285). Utrecht, The Netherlands: University of Utrecht.
- Kimmel, M. (2000). *The gendered society*. New York: Oxford University Press.
- Knupfer, N. (1998). Gender divisions across technology advertisements and the WWW: Implications for educational equity. *Theory Into Practice*, 37(1), 54-63.
- Kramarae, C. (2001). *The third shift: Women learning online*. Washington, DC: AAUW Educational Foundation.
- Lee, E. (2007). Wired for gender: Experientiality and gender-stereotyping in computer-mediated communication. *Media Psychology*, 10(2), 182-210.
- Lenhart, A. (2003). *The ever-shifting Internet population: A new look at Internet access and the digital divide*. Washington, DC: Pew Internet & American Life Project.
- Light, J. (2001). Rethinking the digital divide. *Harvard Educational Review*, 71(4), 709-735.
- Makinen, M. (2006). Digital empowerment as a process for enhancing citizens' participation. *E-learning*, 3(3), 381-395.
- Margolis, J., & Fisher, A. (2002). *Unlocking the clubhouse: Women in computing*. Cambridge, MA: MIT Press.
- McKenzie, K. (2007). Digital divide: The implications for social inclusion. *Learning Disability Practice*, 10(6), 16-21.
- McLaren, P. L. (1995). White terror and oppositional agency: Towards a critical multiculturalism. In C. E. Sleeter & P. L. McLaren (Eds.), *Multicultural education, critical pedagogy, and the politics of difference* (pp. 33-70). Albany: State University of New York Press.
- Mossberger, K., Tolbert, C. J., & Gilbert, M. (2006). Race, place, and information technology. *Urban Affairs Review*, 41(5), 583-620.
- Mossberger, K., Tolbert, C. J., & Stansbury, M. (2003). *Virtual inequality: Beyond the digital divide*. Washington, DC: Georgetown University Press.
- National Center for Educational Statistics. (1999). *Higher education degrees*. Washington, DC: U.S. Department of Education.
- National Center for Educational Statistics. (2002). *Beyond school-level Internet access: Support for instructional use of technology*. Washington, DC: U.S. Department of Education.
- National Center for Educational Statistics. (2006). *Internet access in U.S. public schools and classrooms: 1995-2005*. Washington, DC: U.S. Department of Education.
- National Commission on Teaching and America's Future. (2004). *Fifty years after Brown v. Board of Education: A two-tiered education system*. Washington, DC: Author.
- National Science Board. (2006). *Science and Engineering Indicators 2006*. Arlington, VA: Author.
- National Telecommunications and Information Administration. (2000). *A nation online: How Americans are expanding their use of the Internet*. Washington, DC: U.S. Department of Commerce.
- National Telecommunications and Information Administration. (2004). *A nation online: Entering the broadband age*. Washington, DC: U.S. Department of Commerce.
- Nieto, S. (2000). *Affirming diversity: The sociopolitical context of multicultural education*. New York: Longman.

- Nieto, S. (1995). From brown heroes and holidays to assimilationist agendas. In C. Sleeter & P. L. McLaren (Eds.), *Multicultural education, critical pedagogy, and the politics of difference* (pp. 191-220). Albany: State University of New York Press.
- Pinkard, N. (2005). How the perceived masculinity and/or femininity of software applications influences students' software preferences. *Journal of Educational Computing Research*, 32(1), 57-78.
- Resta, P., & McLaughlin, R. (2003). Policy implications of moving toward digital equity. In G. Solomon, N. Allen, & P. Resta (Eds.), *Toward digital equity: Bridging the digital divide in education* (pp. 211-228). Boston: Allyn & Bacon.
- Royse, P., Lee, J., Undrahbuyan, B., Hopson, M., & Consalvio, M. (2007). Women and games: Technologies of the gendered self. *New Media & Society*, 9(4), 555-576.
- Sadker, D., & Sadker, M. (2005). Gender bias: From colonial America to today's classrooms. In J. A. Banks & C. A. McGree Banks (Eds.), *Multicultural education: Issues and perspectives* (pp. 135-163). Hoboken, NJ: Wiley.
- Saunders, C. (2002). *Latinos outpace other groups' online growth*. Available from http://cyberatlas.internet.com/big_picture/demographics/print/0,,5901_1428231,00.html
- Scheckelhoff, T. H. (2006). Girls & technology: How can we support girls in integrating technologies more fully in their learning. *Library Media Connection*, 25(1), 52-55.
- Sheldon, J. P. (2004). Gender stereotypes in educational software for young children. *Sex Roles*, 51(7), 433-444.
- Sleeter, C. (2003). Teaching globalization. *Multicultural Education*, 5(2), 3-9.
- Sleeter, C. (1996). *Multicultural education as social activism*. Albany: State University of New York Press.
- Smith, M. L. (1994). Recourse of empire: Landscapes of progress in technological America. In M. R. Smith & L. Marx (Eds.), *Does technology drive history? The dilemma of technological determinism* (pp. 37-52). Cambridge, MA: MIT Press.
- Solomon, G., & Allen, N. (2003). Introduction: Educational technology and equity. In G. Solomon, N. Allen, & P. Resta (Eds.), *Toward digital equity: Bridging the divide in education* (pp. xxvi-xxiv). Boston: Allyn & Bacon.
- Spoooner, T., & Rainie, L. (2000). *African-Americans and the Internet*. Washington, DC: The Pew Internet & American Life Project.
- Twist, K. (2002). *A nation online, but where are the Indians?* Available from <http://www.digitaldividenetwork.org/content/stories/index.cfm?key=215>
- Valadez, J. R., & Duran, R. (2007). Redefining the digital divide: Beyond access to computers and the Internet. *The High School Journal*, 90(3), 31-44.
- Warschauer, M. (2002). Reconceptualizing the digital divide. *First Monday*, 7(7). Retrieved March 7, 2008, from http://www.firstmonday.org/issues/issue7_7/warschauer
- Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. Cambridge, MA: MIT Press.
- Whitacre, B. E., & Mills, B. F. (2007). Infrastructure and the rural-urban divide in high-speed residential Internet access. *International Regional Science Review*, 30(3), 249-273.

Paul C. Gorski, founder of EdChange and assistant professor at George Mason University, consults internationally, conducting workshops for educators committed to social justice. He is President-Elect of the National Association for Multicultural Education and a member of the board of directors of the International Association for Intercultural Education. Gorski has published three books and more than 25 essays on educational equity.