Moving Beyond "Digital Divide": Three Steps for An Anti-racist Approach to Equitable Participation in K12 Schools

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Abstract

While many school districts now issue devices to all students and feel they have addressed the "digital divide," it is time to move beyond one-to-one access and take an anti-racist approach to technology integration. Superintendents must start asking if instructional technology is being used to replicate inequitable instructional practices or to transform student learning via student-centered, culturally responsive practices. Schools must stop analyzing data that repeatedly shows academic gaps without also finding promising practices that shrink those gaps. Instead of having a global approach to the digital divide and a microfocus for instruction, school divisions must provide a clear and compelling instructional vision for equity and then zoom in to determine if the use of devices are supporting that vision.

During the move to remote learning during the COVID-19 pandemic, the issue of the "digital divide" got prominent attention from the national media. As students were asked to log into school from home, it was clear that not all students had the same access to digital tools for learning and that inequities fell along income and racial lines (Halderin et al., 2021).

Schools worked hard to get devices to more students and to increase the availability of high-speed internet for all learners (Reynolds et al., 2022). This work was critical to keep children connected and learning during an unprecedented time. However, with the return to pre-pandemic operations, we need to rethink how schools conceive of solutions to the "digital divide."

We need a new call to action that goes beyond solely providing devices and instead addresses systemic solutions that can provide students equitable participation in K12 schools.

We cannot operate under the assumption that passing out laptops alone without adequate access to support, resources, and expertise on using the digital tools to support learning, will address systemic inequities in our schools.

Instead, we must take on an anti-racist approach to educational technology in K12 schools.

In this article, we propose specific steps that can serve as a beginning for that work. We believe that schools should: 1) examine existing instruction to ensure students from minoritized groups are receiving high quality instruction using approaches, such as project-based learning; 2) move away from testing data to find stories of promising practices; 3) move beyond device access to include support and resources on how to use the devices.

Below we expand on each of these steps by grounding it in existing research and providing concrete examples.

1. Start by looking at the kind of instruction happening in classrooms.

Are students building a website with videos from the oral histories they've collected about the Civil Rights movement? Or are they playing review games that measure superficial knowledge?

Decades of research has shown that in schools with lower socioeconomic statuses (SES) and classrooms with higher percentages of students of color, technology is used for recall of facts and procedures while in higher SES classrooms, with higher percentages of White students, technology is used for higher-order thinking and application of concepts (Warschauer, 2000; Margolis et al., 2008).

This persistent problem, that the quality of the experiences students are having with technology is vastly different from classroom to classroom, needs to be addressed through an instructional equity lens. Specifically, it is important that technologies are being used in ways that engage students by putting them in charge of their learning rather than rote memorization (Reich, 2020).

Authentic, meaningful work increases achievement and engagement for traditionally marginalized groups

Instructional approaches such as project-based learning have been shown to increase student achievement and engagement for students from traditionally marginalized groups such as students from low SES groups and students of color (Halvorsen et al., 2012; Parker et al., 2013).

Furthermore, increasing the use of project-based learning in classrooms is a

promising practice to engage all students with higher-order thinking experiences (Han et al., 2015; Liu & Hsiao, 2002; Marx et al., 2004). Given that technology is now widely available for student use (Bushweller, 2022), its classroom use could allow teachers to bring project-based learning into their core instruction.

Technology enriches these learning approaches by offering tools for research, documentation, collaboration, and sharing of results. For example, students investigating the problem of plastics in their local watershed can use online databases to learn about how plastics end up in the water.

After using the research to brainstorm solutions, the students can make videos about reducing plastic water bottles. These videos can then be shared on social media (CivicTREK ACPS, n.d.). Using technology for these authentic purposes is what schools should be striving for. Technology to support instruction for equity would have students using their devices for these types of real-world, engaging tasks. However, for this to come to fruition, schools need to provide teachers with professional learning opportunities as well as reduce the pressures associated with testing, which limits teachers' use of project-based learning (Dunbar & Yadav, 2022).

Use technology for culturally sustaining practices

Furthermore, to be anti-racist in our work, it is important to use technology in ways that center students' lived experiences, cultures, and identities in the classroom learning environment.

This culturally sustaining approach engages students in problem-solving and would also be doing so recognizing the social and political factors at play in the school and community (Ladson-Billings, 1995; Hammond,

2014). For example, students would be doing more than just making a video recalling the names and "accomplishments" of famous explorers, but evaluating the impact these men had on the lives of indigenous people and creating a video that expresses an opinion and could be used in a celebration of Indigenous People's Day.

Kimberly Scott's work with CompuGirls, a program in which girls identify community issues of importance to them and then use digital tools to analyze the issue and present results, is an excellent example of how technology can be positioned for social justice (Scott et al., 2015).

Similarly, the Digital Youth Divas use technology to address local histories of injustice and build sustainable, computational capacity in communities (Erete et al., 2019). By marrying project-based learning, culturally sustaining practices, and technology integration, schools can connect students' interests, cultures, and communities while challenging inequities and injustices (Mills et al., 2021). Programs like these can be models for schools.

With an investment in professional learning and partnerships with culturally sustaining, project-based learning organizations, schools can develop programs modeled on CompuGirls and Digital Youth Divas that ensure that traditionally marginalized students are using technology for deeper learning not for regurgitation.

2. **Spend less time looking at testing data that show results that repeat past patterns and instead find stories of promising practices.**
In many school divisions, a great deal of time is spent analyzing school-wide and district-wide testing data. In many cases the results of data repeat patterns from prior years

in predictable ways and do not enable new, solution-oriented thinking. These meetings instead could be focused on developing and uncovering instruction and school climates in which all students are finding engagement, belonging, and academic success in schools.

With the advent of online standardized testing and one-to-one devices, students spend a great deal of their school time taking a test on a device (Hart et al., 2015). Similarly, teachers and school leaders also spend a great deal of time analyzing and communicating the results of these tests (Vinovskis, 2019). The ease with which students can take online exams and the magic of spreadsheet pivot tables mean that these test results are ever-present in conversations at the classroom, school, and division level (Shelton & Brooks, 2019).

In many cases, the data tell the story of systemic racism in schools and society, reflecting lower achievement scores for students of color in comparison to their White peers (Bennett et al., 2007). This "gap gazing," repeated exposure to lower scores of traditionally marginalized students, brings its own set of problems. Mainly, "gap gazing" results in troubling thinking that a solution can be found in narrow, specific approaches such as a new reading or math program and that learning can be represented in the discrete tasks that are measured on these tests (Gutierrez, 2008).

These discussions lead to "pressure for teachers to teach a 'stripped down' and narrowed curriculum … that places greater importance on test scores than on real learning" (Margolis et al., 2008, p 125).

"Gap gazing" sustains deficit-based thinking

Furthermore, and perhaps more dangerously, by constantly reviewing data that show the same results for our students of color, we may be reinforcing a deficit-based approach to

teaching these students. By focusing on students that are not "measuring up" we may be reinforcing a mindset in teachers that not all students can succeed (Kuchirko & Nayfeld, 2021).

While it is important to have data that demonstrate the ways that schools are not serving traditionally marginalized students, continually meeting and looking at the same data in the same way may be doing its own damage. Research has shown that when students belonging to a particular group - such as women or minorities - are told that their group has traditionally performed poorly on a standardized test, those students perform more poorly on that test than when not told of this gap (Steele, 2010).

By repeated exposure to the current difference in testing results, schools may be creating stereotype threat and sending students incorrect messages about their ability to succeed.

Use technology to identify, capture, and share promising practices

Instead, consider looking for within-group differences and finding stories of success. Drill down past the district- and school-wide data to find students and teachers that are successful (Gutierrez, 2008).

What is it that they are doing that is leading to this success? Can these strategies be scaled up? An anti-racist approach to data-driven instruction will look at data that are complex, ambiguous, and not easily captured by spreadsheets. Technology can be used to collect student artifacts, writing samples, video reflections, and lesson exemplars, not just multiple-choice answers.

EPortfolios that capture this rich variety of student learning, are student-centered, and are student-driven have been shown to increase

student GPAs, graduation rates, and persistence rates (Watson et al., 2016). Bennett and Gitomer (2009) called for an integrated assessment model that uses technology to probe for deeper learning, aligning more closely with what we know about student learning and growth. Advances in technology could be used to do more than create computer-adapted assessments; instead, it could broaden how we assess our students by creating EPortfolios or other integrated assessments for each student.

Consider taking the hours it currently takes to assemble test score data and use that time instead to document examples of student learning. You may still find that your division is falling short in instructional practices for marginalized students, but you will find yourself asking new questions that are more grounded in the types of instruction that you want to see (Tuck, 2009).

3. **After considering these, then take a deeper look at access. It is still critical to make sure that all students truly have access to the tools they need to be successful.**
Many schools now have 1:1 device programs for students in grades 4-12 (Bushweller, 2022) which is significant. We know that many students will not have access to technology for learning without these 1:1 programs. But the goal of equity does not end there.

School divisions must do an assessment of what happens with the devices after the initial roll-out. For instance, when you walk into any given classroom, what percentage of students have fully operational devices? Who are the students that don't have working devices?

What barriers may exist for some students to get their devices repaired? An anti-racist approach to 1:1 device programs would include starting with the traditionally marginalized

students in your school division and finding out what barriers they are continuing to experience with technology. From there your district may need to plan to hire technicians who speak languages other than English, ensure that there is a student help desk that has hours before or after school, or set up pop-up locations in student neighborhoods.

In Alexandria, Virginia, employees partnered with community centers to have hours at the community center where students could come for assistance with their school computer and personal WiFi devices (personal communication, January 14, 2021). By working with a trusted community partner, students could get support in their preferred language at a location and time that worked for them and their families.

Offering technology that families can't use isn't closing the "digital divide"
There has long been attention to the homework gap that exists. Students from lower SES have fewer resources and opportunities to complete homework which then puts them at a further disadvantage in the classroom. Technology has only increased this problem (Anderson & Perrin, 2018).

If homework requires use of the internet, students that don't have easy access continue to be at a disadvantage. Many school divisions are working hard to address this by offering lists of free WiFi in the town, creating hotspots, advertising low-cost internet programs, or even issuing individual WiFi devices (Howard et at., 2018). This is an initial step.

However, if schools take an anti-racist approach, they need to go past passing out flyers about low-cost internet. Often these low-cost programs have barriers that will make it challenging for many families to overcome (Education Superhighway, n.d.).

For instance, they may require a social security number, which undocumented families do not have. They may also reject any applications in which the family has defaulted on a prior payment. Without investigating these programs, offering them is not actually addressing equity issues in your school division.

Engage families to identify how technology can help them navigate school

Parent engagement must be a part of any technology equity plan. Many schools have moved to online student information systems and learning management systems.

A technology for equity assessment would ask which parents are accessing these systems and how often. If there is an inequity found, schools should consider how the school can reach out to families that may need support understanding how the systems work.

Working with community partnerships is a good way to address this challenge. McIntosh and Curry (2020) found that a partnership between a public high school and a church minimized inequities at the school by fostering relationship-building and resource-sharing among the staff, students, and church members.

Schools can learn from this work and reach out to churches, shelters, and community centers, which often have parenting groups. School staff could work with these parenting groups to review how parents can use student information systems and learning management systems to monitor student attendance, assignments, and grades for more successful school experiences.

In addition, schools should create instructions and tutorials in many languages that can be distributed at these meetings in ways that are easily accessed by families.

Critically examine the technology your system uses for implicit or explicit bias or racism

Finally, any technology for equity assessment needs to critically examine technology used by schools for implicit or explicit racism. Many schools use Google as their platform for collaboration and communication tools in addition as the default search engine.

Google algorithms can contain racist results. In 2016, when searching the phrase "three Black teenagers" users were presented with mugshots (Benjamin, 2019). Similarly, WeVideo, a video-editing platform that many schools subscribe to, has struggled to keep their crowdsourced stock footage free of racist language and images.

When searching "Mexico," a middle school teacher came across an image labeled "drunk Mexican" (personal communication, January 21, 2021). While WeVideo has a mechanism for users to report offensive images and labels, a program that schools are paying for should not rely on its users to filter out labels and images like this.

Internet filters have also been found to filter out content about LGBTQ+ issues (Harris, 2019). By blocking content that can be life saving for LGBTQ+ students, schools are discriminating against this vulnerable group of students. Part of the process for procuring technology tools should be an assessment of the extent to which that tool works to be free of bias and to evaluate any potential intended and unintended racism or homophobia.

Provide a clear and compelling instructional vision for equity and then zoom in to determine if the use of devices are supporting that vision

In this paper, we have presented specific steps schools can take for an anti-racist approach to technology integration.

The main takeaway that we want to highlight is that being neutral in educational technology is not an option (Selwyn, 2010). How we purchase, implement, and assess technology in schools will always fall somewhere along the anti-racist/racist continuum.

Passing out devices to end the "digital divide" equates to a "color blind" approach to racial inequities in schools. "The singular focus on access creates the sense that if children fail to learn when they ostensibly have all the tools they need for success, it is nobody's fault but their own" (Ames, 2021, para. 20).

Instead of promising an end to inequities via more devices, to truly address systemic barriers to high quality education, educational technology policies must be firmly anti-racist. To engage in an anti-racist approach to the digital divide, schools must start asking different questions. Instead of asking, "*Do all our students have a device?*" we must ask "*What type of instruction is technology being used for?*"

We must stop noting and dissecting performance gaps on standardized tests and instead look for classrooms where all students are achieving and develop strategies to scale up those practices. And we must look past one device per student and look at how students can use those devices to effectively advance their education and stem racism and homophobia.

We've been using a global approach to digital divide—give all kids a computer, all classrooms an interactive whiteboard, and provide universal WiFi access.

What we need is a zoomed-in approach, supporting lessons that promote instructional equity, finding classrooms where students are successful, and examining the details of implementation with an anti-racist lens. Instead of having a global approach to the digital divide and a microfocus for instruction, school divisions must provide a clear and compelling instructional vision for equity and then zoom in to determine if the use of devices are supporting that vision.

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