**D**uring the move to remote learning during the COVID-

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 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

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

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

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

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 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 resourcesharing 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 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.

### References

MIT Technology Review.

https://www.technologyreview.com/2021/10/27/1037173/laptop-per-child-digital-divide/

Anderson, M., & Perrin, A. (2018, October 28). Nearly one-inhomework because of the digital divide. *Pew Research Center*. https://internet.psych.wisc.edu/wp-content/uploads/532-Master/532-UnitPages/Unit-11/Anderson\_Pew\_2018.pdf

Benjamin, R. (2019). Race after technology: Abolitionist tools for the new jim code. Polity Press.

- Bennett, A., Bridglall, B., Cauce, A. M., Everson, H., Gordon, E. W., Lee, C. D., Mendoza-Denton, R., Renzulli, J. S. & Stewart, J. K. (2007). All students reaching the top: Strategies for closing academic achievement gaps. In Gordon, E. W. & Bridglall, B. (Eds.), *Affirmative development: Cultivating academic ability* (pp. 239-275). Rowman & Littlefield.
- Bennett, R. E., & Gitomer, D. H. (2009). Transforming K 12 assessment: Integrating accountability testing, formative assessment and professional support. In C. Wyatt-Smith & J. Joy Cumming (Eds.), *Educational assessment in the 21st century: Connecting theory and practice*, (pp. 43-61). Springer.
- Bushweller, K. (2022, May 17). What the massive shift to 1-to-1 computing means for schools, in charts. *Education Week*. https://www.edweek.org/technology/what-the-massive-shift-to-1-to-1-computing-means-for-schools-in-charts/2022/05
- CivicTREK ACPS: Service Learning: Tackling real-world experiences for knowledge. (n.d.). *Ditch single-use water bottles*. https://blogs.acpsk12.org/civictrek/2020-2021-cohort-members-andprojects/ditch-single-use-water-bottles/
- Dunbar, K., & Yadav, A. (2022). Shifting to student-centered learning: Influences of teaching a summer service learning program. *Teaching and Teacher Education*, 110, 103578. https://doi.org/10.1016/j.tate.2021.103578
- Education superhighway. (n.d.). *No home left offline report*. https://www.educationsuperhighway.org/wp-content/uploads/No-Home-Left-Offline-Report\_EducationSuperHighway2021.pdf
- Erete, S., Thomas, K., Nacu, D., Dickinson, J., Thompson, N., & Pinkard, N. (2021). Applying a transformative justice approach to encourage the participation of Black and Latina girls in computing. ACM Transactions on Computing Education (TOCE), 21(4), 1-24. https://doi.org/10.1145/3451345

achievement gap. *Journal for Research in Mathematics Education*, 39(4), 357-364. https://doi.org/10.5951/jresematheduc.39.4.0357 Haderlein, S. K., Saavedra, A. R., Polikoff, M. S., Silver, D., Rapaport, A., & Garland, M. (2021). Disparities in educational access in the time of COVID: Evidence from a nationally representative panel of American families. *AERA Open*, 7(1), 1-21, https://doi.org/10.1177/23328584211041350.