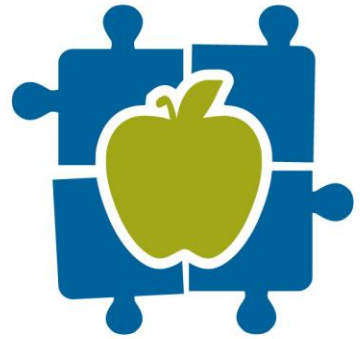


Worcester Education Collaborative



**Now Is the Time to
Address the Digital Divide**

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Worcester Education Collaborative
484 Main Street, Suite 300
Worcester, MA 01609
www.wecollaborative.org

Authors: Clara O'Rourke
Worcester Education Collaborative
Joshua Croke
Action! By Design

Overview

The COVID-19 pandemic has thrown into relief the need for us to reassess the use of technology in education, public access to digital devices, and robust, reliable broadband as we make the shift from face-to-face to remote solutions for teaching and learning. In the months since the pandemic forced school closures, we have accelerated what had been an evolutionary approach to increased opportunities for student-centered, project-based learning with online features, to an immediate implementation of remote engagement as a foundation for all education.

Inequities in the education sector have never been more obvious as our students with the greatest need are most affected by a lack of access to technology and devices. This report outlines the issues of technology inequity and looks to an optimistic future in which we have used this pivot to ensure Worcester Public Schools have captured technology-informed curriculum and innovative opportunities for teaching and learning.

Technology as an Equity Issue

Two scenarios serve as examples of access to technology as an equity issue:

Imagine you are a twelve-year-old learning science according to the state standards and frameworks. Your interest has been piqued to explore further computer science and robotics, but there are no formal opportunities for that in your school. You might wish to watch YouTube videos about constructing robots or programming. For those options you will need a stable internet connection and an up-to-date device.

Now imagine you are a sixteen-year-old high school student. You just got out of a meeting with your guidance counselor about college and what might be next for you as you approach graduation in a few years. She encourages you to start doing some research on where you may want to go and what you might like to study. For your research you might visit the College Board website for more resources or visit college websites for a virtual tour or to listen to testimonies from current students. Again, to do either you will need a stable internet connection and an up-to-date device.

In 2020, technology is a critical tool to provide people access to the information and opportunities that allow them to explore interests and develop the skills to thrive personally and contribute to economic and civic life. As we continue the shift to a knowledge- and technology-based economy, emerging sectors are expected to yield new jobs in data and artificial intelligence, the green economy, engineering, and cloud computing, with growth rates exceeding 30 percent each year.¹ While that is encouraging news for some, many in our country and here in Worcester have limited access to engaging with this bright new future. Low-income families continue to be limited by a lack of affordable access to tools and resources that support economic mobility in this new environment.

Devices

Many families of modest means rely solely on smartphones for internet access, while most online platforms for learning, productivity and services are designed for a larger screen. Further, according to research by the Pew Research Center, about 30 percent of those in households

with incomes below \$30,000 a year don't own a smartphone or have internet in their home.ⁱⁱ Low-income students are burdened by a lack of affordable access to the tools and resources that support learning and the economic mobility that accompanies it.

A survey of more than 1,500 parents conducted by ParentsTogether Action, a parent-led nonprofit, revealed that children from families with a household income of less than \$25,000 per year are 10 times less likely to participate in remote learning than children from families earning more than \$100,000. Students from low-income homes also were three times more likely to lack consistent access to a device.ⁱⁱⁱ

Internet Access

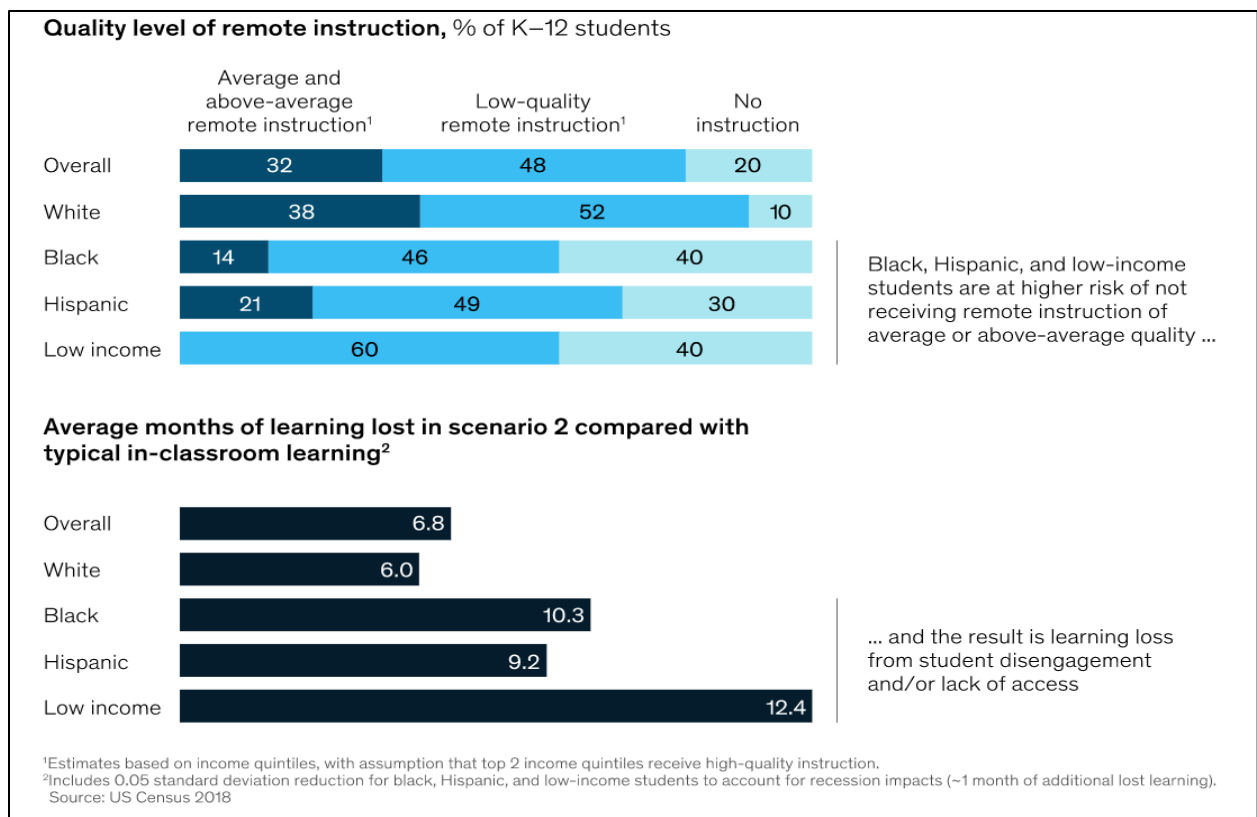
Having a device, such as a Chromebook, is essential, but does not solve issues of access. Not having access to high-speed broadband is akin to having a car without a smoothly paved road to drive it on.

According to the study, *Broadening Broadband*, produced by the Worcester Regional Research Bureau, only 67 percent of city households had a broadband internet subscription, and 18 percent had no internet access.^{iv} In addition, for many with a subscription, functional speeds did not consistently approach those necessary to be considered broadband, the speed needed for engaging in remote learning. This lack of access has disproportionately affected residents of low-income areas and communities of color.

Anecdotal data reports kids sitting with parents in parking lots trying to capture a signal to participate in remote instruction, complete assignments, or otherwise engage with the schools. Since March, many outside the education system have felt the annoyance of signal buffering or screen freezing in remote meetings. It is not difficult to imagine the frustration of a young person trying to hear and understand a teacher or classmate, master skills or content with an insufficient internet connection. It is therefore not surprising that data from the Worcester Public Schools District indicates that only 45 percent of students participated consistently in remote learning. The district's tardiness in distributing Chromebooks and hotspots, coupled with spotty and inadequate broadband, meant that many Worcester students spent more than two months unable to access any digital instruction.

Learning Loss

The stakes are high for our students and for our city. According to research by McKinsey & Company, the average student could fall as many as seven months behind academically as a result of remote learning transitions in the spring of 2020. The study anticipates a loss of twelve to fourteen months of learning by students who had no instruction, with low-income students falling behind by more than a year, black students by 10.3 months and Latinx students by 9.2 months. McKinsey estimates that this will exacerbate existing achievement gaps by 15 to 20 percent.^v Since Worcester, like its sister Gateway Cities, trails its suburban peers in education achievement, this is not an outcome we can afford.



(Table 1: McKinsey & Company, June 2020 "[COVID-19 and student learning in the United States: The hurt could last a lifetime](#)")

Given the hastiness of the transition, many teachers lack the depth of skills to construct a remote curriculum to meet the diversity of learning needs, whether those of advanced students, English learners, or atypical learners, among their students. While the changes wrought as a result of the pandemic have been disruptive, if we are thoughtful in capturing this moment by enhancing professional development as well as assuring access to devices and high-speed internet, we can provide new, individualized opportunities for student learning that meet common standards and allow students to pursue their interests and master skills through new digital pedagogies.

Reimagining Our Future

The issues that we face with respect to remote learning and internet can be addressed. They stem, not from nature, but from a failure of human imagination to recognize the effects of inadequate infrastructure, deep equity gaps, and the potential and promise of digital learning. To assure that our children have access to the tools necessary for learning, we must not delay in addressing these matters. Earlier this year, the Massachusetts Education Equity Partnership produced a report that offered recommendations to ensure equitable access to learning resources in this time of transition. Their recommendations in relation to technology were as follows:

- *Create and regularly distribute multilingual toolkits in digital and paper form for every grade level and major subject area to families, at least until remote learning structures are up and*

running, so that families can continue to support their child's learning at home and have evidence-informed rigorous activities on hand to help them do so.

- *Develop a text-message/phone-based multilingual survey to assess families' technological resources and needs – including devices available to students, internet access, as well as students' other responsibilities and available adult supports in the home – to ensure equitable distance learning.*
- *Partner with businesses and internet providers to provide laptops/tablets and expanded internet service to students who do not currently have them, so all students can access remote learning opportunities.^{vi}*

The Worcester Regional Research Bureau's July report, *Broadening Broadband*, offers a series of recommendations to assure high-quality internet access, a service crucial to guaranteeing opportunities for high-quality remote learning.

To fully capture the opportunities inherent in this moment we must:

- ➔ Assure that each student, regardless of income, has access to an up-to-date device and the skills to learn from both the device and educational apps effectively.
- ➔ Invest in the infrastructure to assure that all residents have access to consistent and robust broadband.

As a community, we must identify a vision and roadmap to not only ensure the use of technology enhances and supports effective instruction, but also prepares Worcester students for success in the careers emerging in our evolving world.

End Notes

ⁱ World Economic Forum, January 2020, "[Jobs of Tomorrow: Mapping Opportunity in the New Economy](#)"

ⁱⁱ Pew Research Center, June 2019, "[Mobile Technology and Home Broadband 2019](#)"

ⁱⁱⁱ ParentsTogether Action, May 2020, "[New ParentsTogether Survey Finds More Families Struggling Now Than In March and April](#)"

^{iv} Worcester Regional Research Bureau, July 2020, "[Broadening Broadband: Considering Municipal Ownership as a Solution to Worcester's Internet Challenges](#)"

^v McKinsey & Company, June 2020, "[COVID-19 and student learning in the United States: The hurt could last a lifetime](#)"

^{vi} Massachusetts Education Equity Partnership, August 2020, "[Keeping Equity at the Forefront During the COVID-19 School Closures](#)"

About the Worcester Education Collaborative

WEC is an independent organization working to ensure that students in the Worcester Public Schools are given the opportunity to succeed at the highest possible level and to acquire the skills and knowledge to master the challenges of the 21st century. WEC is committed to supporting, facilitating, and developing a wide variety of partnerships among families, schools, organizations, and businesses that will both enhance the quality of public education in Worcester and the quality of our common life. As a non-profit education fund, WEC's independent voice speaks for the children and for the community to create a system of effective schools in which every child is prepared for success in college, career, and life.

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