



Ensuring Digital Equity in Schools Beyond the Pandemic

During the COVID-19 pandemic, the “digital divide” (the gaps in internet access among different regions and groups of students) became a chasm. As students return to physical buildings, this challenge will continue, forcing schools and districts to explore new hybrid models and, in some cases, struggle with connectivity on their own campuses. That’s why leaders in education must look at new partnerships and learning models to ensure all students have more equitable access to learning, whether at home or in school.

“Leadership needs to be willing to take that bold step,” says Mary Schlegelmilch, MEd, Cisco business development manager for state, local, and education.

According to the Pew Research Center, more than **one in three lower-income households with school-aged children don’t have a broadband internet connection at home.**

The **lack of adequate internet at home was a top pain point for schools and districts during the pandemic.**

The challenge

The lack of adequate internet at home was the top pain point for schools and districts during the pandemic, according to a survey of educators conducted by the Center for Digital Education (CDE). The scope of the challenge, however, extends far beyond the boundaries of any one school or district.

More than one in three (35 percent) lower-income households with school-aged children don't have a broadband internet connection at home, according to the Pew Research Center.¹ Nearly half (41 percent) of adults with household incomes under \$30,000 don't have desktop and laptop computers. This limits access to many tasks, including digital learning, which are designed for larger screens and not smartphones. And despite the increase in learning and working remotely, overall access to home broadband barely budged between 2019 and 2021.

Schools and districts made heroic efforts to address these gaps, distributing devices and partnering with local internet service providers to offer free or low-cost internet access and hotspots. But in many cases, these agreements were not robust enough to offer daylong access to live video and other online learning tools.

A return to physical learning environments rather than virtual is unlikely to solve the problem. Ongoing and emerging hybrid models will require greater use of 1:1 devices within school buildings as well as at home.

"That really fell short because there was not enough bandwidth and the amount of data they were allowed to use was insufficient," says Brad Saffer, global education lead for Cisco's education industry solutions group.

In other districts, schools or community partners set up dedicated WiFi access points in parking lots so parents and students could work outside of school hours. That, however, had its own challenges: "How many of us can work in the front or back seat of a car?" Saffer asks. And still other districts fell back on paper packets of worksheets and activities to fill the gap when access solutions weren't readily available.

The impact will be felt for years to come. "We're going to see a huge need for learning remediation for students who weren't engaged or left behind," says Renee Patton, Cisco global director of education industries.



A return to physical learning environments rather than virtual is unlikely to solve the problem. Ongoing and emerging hybrid models will require greater use of 1:1 devices within school buildings as well as at home. And while virtually all school districts have met the FCC's original goal of 100kbps of internet connectivity per student, new learning modalities and technology upped the ante to 1 Mbps per student in 2018. Only 38 percent of districts nationwide – and fewer than one in four (23 percent) of the nation's largest districts – are meeting that goal, suggesting that equity issues persist.²

In fact, internet connectivity solutions were the top technology infrastructure need cited by CDE survey respondents exploring hybrid, HyFlex and online models going forward. Only four percent of survey respondents reported not needing any new technology infrastructure to support these new models of learning or to fully support in-person learning.

New solutions

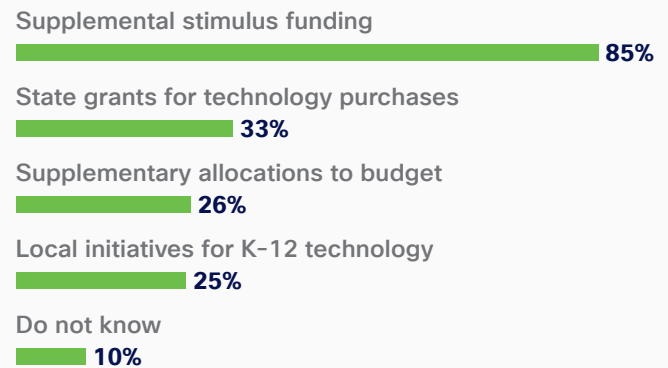
Growing numbers of districts and community leaders are recognizing the importance of coordinated efforts to confront the shared challenge of equitable broadband access.

To address a lack of broadband connectivity in some of its more than 600 school buildings, Chicago Public Schools found a partner to build a dedicated 350-mile dual access fiber ring connecting all facilities. It was then leased back to the district. School and city officials are now considering how the network could expand access beyond the walls of their physical school buildings.³

"As we look at these kinds of systems, we have to think about the benefit to the community as a whole," Schlegelmilch says. "It's more than the school piece and the home piece. It's an economic boost to the whole community."

Funding sources for these efforts have expanded in recent years and exploded during the pandemic. As much as \$130 billion has been made available to K-12 schools in the past 18 months through multiple funding streams, including ones that make it easier to provide connectivity to students off campus. It's no surprise, then, that nearly two-thirds (64 percent) of CDE survey respondents across all school and district sizes said their IT department received additional funding to meet technology needs during the pandemic. Most (85 percent) cited stimulus funding as a source, but

From which sources did your IT department receive additional funding?



Source: Return to School: New Models for Teaching and Learning

one in four received additional funding from state grants, supplementary budget allocations or local K-12 initiatives (see chart, above).

Beyond stimulus funding and stopgap measures, many states and municipalities are partnering to expand broadband access beyond the short-term needs of the pandemic. In suburban Longmont, Colorado, St. Vrain Valley Schools partnered with the city to expand the municipal public fiber optic network to underserved neighborhoods. This involved using a mesh network to provide targeted wireless access for students.

"It is not just about homework or remote learning during COVID, it is about giving students the tools to explore, to learn, to develop their passions and interests, and to connect with the world outside of school as they prepare for their future," says Michelle Bourgeois, the district's chief technology officer.⁴

And while municipalities have considered building similar public networks for years, more are moving forward. This summer, Knoxville, Tennessee, announced plans to build the state's largest municipal fiber network that will ultimately serve more than 200,000 households.⁵ States are also stepping up efforts to address broadband gaps. This spring, Nebraska Gov. Pete Ricketts approved \$20 million in annual matching grants to expand broadband access to 30,000 households.⁶

To move forward, schools and districts should consider opportunities to collaborate with other community partners to solve shared access problems. This must include municipal governments, as well as families, business partners and libraries.

To move forward, schools and districts should consider opportunities to collaborate with other community partners to solve shared access problems. This must include municipal governments, as well as families, business partners and libraries. It should be noted that libraries are emerging as community connectors to broadband in their own right (and, like schools, are also eligible for funding through the federal E-Rate program). Strategic planning should include broadband access as an essential component of learning. As part of the process, school leaders should engage with community partners to identify needs and opportunities, according to Patton.

“One of the best things they can be doing as part of a strategic plan is community engagement to find what kind of broadband experience they want to offer for students and then build those bridges and partnerships,” she says.

Conclusion

It’s important to recognize that limited broadband access in physical school buildings and beyond is no longer predominately a pandemic-related challenge – it’s an impediment to the more engaged and personalized models of learning that are evolving in the wake of the pandemic. If schools and their communities don’t solve this issue, they run the risk of leaving behind the students who will benefit most from these new models.

Broader partnerships to expand access also reflect the growing recognition that connectivity is essential to ensure the economic well-being of the entire community. “Just like individuals need water and electricity and gas, communities need to provide that fourth utility,” says Saffer.

This piece was developed and written by the Center for Digital Education Content Studio, with information and input from Cisco.

Endnotes

1. <https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/>
2. <https://stateofthestates.educationsuperhighway.org>
3. <https://www.chicagobusiness.com/education/how-broadband-network-linking-chicago-schools-could-narrow-digital-divide>
4. <https://www.svvsd.org/2021/02/03/st-vrain-valley-schools-awarded-1-3-million-grant-in-partnership-with-the-city-of-longmonts-nextlight-program-to-expand-quality-internet-access-for-low-income-students/>
5. <https://muninetworks.org/content/knoxville-utilities-board-set-build-largest-municipal-fiber-network-nation>
6. <https://governor.nebraska.gov/press/gov-ricketts-signs-legislation-expand-broadband-internet-access-nebraska>



Produced by:

The Center for Digital Education is a national research and advisory institute specializing in K-12 and higher education technology trends, policy and funding. The Center provides education and industry leaders with decision support and actionable insight to help effectively incorporate new technologies in the 21st century. www.centerdigitaled.com



For:

At Cisco, we’re delivering solutions that expand access to education, enhance student experience, improve engagement, and ignite innovation. With our broad portfolio and unmatched experience in networking, security, cloud, and collaboration, we’re creating a world where learning never stops. Join us in reimagining education.