

Equitable Access | August 2012 Digital Edition

Page 3 of 5

For Underserved Students, Districts Bring Broadband Home

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To provide internet access to its student community, Kent (WA) School District installed kiosks with wireless access in public places around town.

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Christine Coleman thought she had made a good start in the [City School District of New Rochelle](#) (NY). The district technology director had talked Verizon, the local telecom provider, into helping her purchase 500 Droids for middle school and elementary school students at a reasonable price. The principal of New Rochelle High School had already diverted some textbook funds he had available into 200 netbooks for some of his students.

That, Coleman believed, would put a dent in the "digital divide" she saw in her suburban school district with a large immigrant community where nearly 40 percent of its 11,000 students are English language learners. Although she had not yet created a districtwide 1-to-1 computing program (she still hasn't), she was on her way.

But she kept driving by the local Home Depot in the evenings and on the weekends and seeing fifth-graders she recognized, bundled up in their parkas and seated out in front with their laptops open. Coleman noticed their parents in their parked cars and vans, waiting for them. When she asked, she learned the students were doing their homework, taking advantage of the hardware store's wireless access that they didn't have in their homes.

"It just broke my heart," Coleman says. "I thought, 'I have to do something.'"

America's schools and their students are becoming increasingly digitized. Thanks to developments like the Federal Communications Commission's E-Rate program, philosophical shifts on the part of school boards and administrators, and the rapid proliferation of devices in schools and households, more campuses are wired and more students have access to mobile devices, laptops, and tablets.

But not every student has the same access to the internet and the same ability to use those devices as learning tools when they're away from school. Although the perception of many is that internet access is now nearly ubiquitous, the reality, according to the [National Telecommunications and Information Administration](#), is that somewhere around 30 percent of American homes still do not have it. The NTIA also reports that, while 80 percent of the households in which family income is more than 185 percent above the official poverty line have internet access, less than 50 percent of households below 135 percent of the poverty level have the same access.

Despite an economic recession that has made millions of more students eligible for free and reduced lunches and forced thousands of school districts to rethink their long-term funding priorities, enterprising technology directors and superintendents all over the country are finding work-arounds to the access dilemma--often with the help of public and for-profit partners.

Some are learning ways to make sure terms like "anytime-anywhere" learning, which are tossed around so freely today, apply to every student, regardless of their families' economic status.

"School leaders who want things to happen find a way to make them happen," says Lucy Gray, project director for the [Consortium for School Networking \(CoSN\)'s Leadership for Mobile Learning](#) initiative. "Creative leadership always knows how to rob Peter to pay Paul."

Fortunately, Coleman didn't need to rob anybody. All she needed was the notice from the FCC seeking applicants for its Learning On-the-Go pilot program. As a component of its much larger E-Rate program, the FCC would pick 20 schools or districts that had plans to provide wireless broadband connections beyond the school campus so that students--primarily from low-income families with limited internet service at home--would have access to their homework assignments, study guides, and digital textbooks outside of regular school hours.

E-Rate to the Rescue

The funding for this first year of Learning On-the-Go (2011-2012) was minuscule--\$9 million--compared with the enormous amount of money distributed each year to provide broadband access to school buildings (\$2.25 billion this year). But it was a start, and an opportunity that Coleman took advantage of when New Rochelle was one of the 20 districts and schools (out of 94 applicants) selected for the pilot.

Partly because all E-Rate funding (including Learning On-the-Go) is targeted at schools and districts with higher percentages of students who qualify for free and reduced lunch, New Rochelle limited its program to three schools. Those were also schools where improving literacy skills was particularly important, Coleman says.

"That's our goal," she says, "reading and writing."

As a result, the families of 1,300 students paid absolutely nothing for internet service, enabling the students to use devices they had gotten from school to do their homework at home.

"We met with the parents," Coleman says. "We discussed the agreement, what they were responsible for, what their children were responsible for, and the response was overwhelming. Once we taught them how to do it, we now have parents e-mailing the teachers to ask questions. These are people who said before, 'I can't afford cable at home.'"

Although Learning On-the-Go funding was nominally available for the 2011-12 school year, the program was slow to get off the ground, so districts are able to roll over some of the funding to the 2012-13 year as well, which some districts, like New Rochelle, are doing. The FCC will pay about half the cost of subsidizing internet service for families in the coming school year and the school district will pick up the remainder.

The FCC is expected to evaluate the success of the one-year pilot program beginning this fall and, if all goes well, tech directors like Coleman hope the agency will make more funding available for Learning On-the-Go beginning in 2013. "If that happens, I'm golden," she says.

Although it is probably too early to quantify academic achievement because of the expanded broadband access in New Rochelle, "preliminary data is very, very positive," Coleman says. She can look at usage patterns, "and I can tell you, these kids are on 24/7. Teachers can already see that reading comprehension is very strong, and these were low achievers." Students have more than four dozen apps available to them, which include everything from Merriam-Webster to Scholastic Expert Space and Vocabulary Train.

Since its founding in 1998, the primary purpose of the FCC's E-Rate program has been to see that broadband access was provided across America's educational landscape in a fair and equitable way. That's why the formula for distribution relies so heavily on the percentage of free and reduced lunches provided in a school or district. And up until recently, the idea to enhance broadband access has been limited to school properties.

"But the FCC gets the idea that this isn't just for the media lab anymore," says John Harrington, CEO of [Funds for Learning](#), an E-Rate consultancy firm. "They get the idea that they need to meet the students where they are."

When the FCC begins its review of the Learning On-the-Go pilot Oct. 1, there will be the same pressure that was there even before it was initiated: that the demand for broadband access *on* school grounds cannot be met with current funding, let alone the demand *off* school grounds.

Harrington points out that traditional E-Rate funding requests for the 2012-13 school year will likely be about three times the amount available. That gap has been proportionally consistent throughout the life of the program "and we don't expect it to go down," he says.

So it is an open question now as to whether the federal government will decide broadband access in students' homes is as important as in their classrooms--and, if so, to what extent. "That is the question they are going to have to ask themselves," Harrington says.

The suburban [Katy Independent School District](#) west of Houston was the only Texas district involved in the Learning On-the-Go pilot program. With 62,000 students and 52 campuses, the district itself is much bigger than New Rochelle and, in turn, so is its mobile learning initiative. Still, it started small too.

In 2009, it gave 140 fifth-graders smartphones that provided them access to data, although not texting or voice capabilities. The program has been expanded each year and now involves 2,700 students on 18 elementary school campuses. The district pays for the data plans for all 2,700 students, using its Learning-on-the-Go pilot program funding to help.

"It's now moved beyond the pilot stage," says Lenny Schad, Katy's CIO, "and we're waiting for funding for the coming year." Regardless, he adds, the district's mobile learning program won't be interrupted; the district will find the money to continue it.

At the end of the fifth-grade year, students return the smartphones and then are encouraged to bring their own devices to school. "Parents saw the value in that," says Schad. "Eighty to 90 percent said they would purchase them for their children."

No Great Master Plan

The [Quakertown Community School District](#) in rural Upper Bucks County, PA, is much smaller than either New Rochelle or Katy with 5,400 students in six schools. An argument can be made it is on an even tighter budget than its urban brethren: Nearly 21 percent of its students qualify for free and reduced lunch; it had seven campuses before the 2011-12 school year, with one having to close before the year began.

Still, as CoSN's Gray would have put it, Quakertown's school leaders found a way to make it--widespread internet access--happen. The district started with economic stimulus funding that came its way from the federal government in 2008.

"We used that to get wireless access in all our buildings. That was our first step," says Thomas C. Murray, Quakertown director of technology and cyber education. "Then our school board made an investment in 1-to-1," buying netbooks for 450 ninth-graders in 2010-11.

The netbooks went back to the district at the end of the school year, but the students could retrieve them at the beginning of their 10th-grade year, at which time the new shift of ninth-graders got theirs as well. Tenth-graders could also bring their own devices. "We want them to learn in their own environment," Murray says. In the end, despite economic conditions in the community, the district needed to supply devices to only about 25 10th-graders.

At the same time, the district started its cyber school that now offers 60 online courses taught by Quakertown teachers. It allows a number of combinations of online and traditional learning, giving students opportunities for both remediation and acceleration. "Every possible schedule you can think of, that's what we do," Murray says.

Cost-wise, the online course option has helped the district recoup more than \$800,000 over the past three years. "When the economy started to go south, for different reasons a lot of students were dropping out or going somewhere else," Murray explains.

Because of the cyber school, which made it easier for previously lost students to keep up with their classes, 23 students returned to the district in 2009-10 via either cyber or alternative schools, allowing the district to avoid

missing out on \$275,000 in state funding because of the lower head count. That recouped state funding has added up to more than \$800,000 over the past three years, roughly the cost of the district's 1-to-1 laptop program over the same amount of time.

"I'm not going to lie to you," Murray says. "That wasn't part of our great master plan, but we were able to do it."

And, although Quakertown was not part of the Learning On-the-Go program, its students' families have been able to take advantage of the equivalent program called Internet Essentials made available by the local telecom provider, Comcast.

As a requirement of the merger between NBC and Universal, which was finally approved in January 2011, FCC Chairman Julius Genachowski insisted the new company's telecom division help provide broadband access to more people in a three-pronged effort that was to include:

- Discount internet access to lower-income households with children
- Discounts on computer purchases
- A digital literacy program that would help those without previous broadband access become familiar with how to take advantage of it.

Its Internet Essentials program provides access for \$9.95 a month to those whose children qualify for the free and reduced lunch programs. Comcast's initiative is now being matched by another one called Connect2Compete that is being organized by a consortium of many of the nation's largest telecom providers, in conjunction with a number of other private-sector players, all with the intention of providing broadband access to that 30 percent of American households that still don't have it.

Internet Essentials and Connect2Compete are the vehicles by which much of Learning On-the-Go's pilot program is connecting students' families. "They were not looking for newbies," Harrington says, meaning one of the FCC's goals was to avoid creating any new bureaucracies to administer Learning On-the-Go. As a result, there has been growing participation by the private sector.

"There definitely seems to be a consensus in the private space," he says. "They see the trend, the FCC sees it, the schools see it. And, from my perspective, that's exciting."

In the Public Interest

Internet Essentials' discounts to families are also part of the [Kent School District](#)'s effort to make a 1-to-1 program that will put laptops in the hands of 10,000 students this year, but technology experts in the suburban Seattle community found it wasn't enough.

"We had to find another way to skin that cat," says Thuan Nguyen, Kent's CIO. "We have a very transient population. The free and reduced lunch route didn't work out for us."

For a number of reasons, including the rough economy, people move in and out of the area quickly. Also, flooding has been an issue in recent years and the district is an area that many refugees move to when they first come to the US before transitioning to other parts of the country. Many families that would otherwise qualify sometimes aren't in their homes or apartments long enough to have cable and internet service installed.

That didn't stop Nguyen and Greg Whiteman, the district's director of technology integration. Thanks to what

they consider a generous community that has approved three major property tax levies since 2000 to implement a substantial technology program in its schools, they are on their way to a 1-to-1 laptop program that eventually could involve most of the 27,000 students in 40 schools.

Finding they were getting a relatively low penetration rate with the discounted internet service program, Whiteman, Nguyen, and their district colleagues began talks in September 2011 with a number of businesses and governmental entities around the community to help them provide access in public places.

The Kent School District is now making its wireless system available in kiosks at local coffee shops and restaurants, shopping malls, libraries, and the public areas of some apartment complexes. They are in talks to do the same now with national chains in the area such as Starbucks, AMC Theatres, and Safeway.

"The areas we're targeting are those with common areas where kids can gather and not be a nuisance," Whiteman says. All of the same filters in place on school campuses are also in place in the kiosks, limiting the possibility that nonstudents might be interested in using the network as well.

Although occasionally rainy, the weather in Washington is somewhat milder than in New York, so unlike Coleman in New Rochelle, they are happy to have students gather in the evening on their campuses to do their homework.

"We've intentionally wired our system to bleed access out" to areas surrounding the school buildings, Nguyen says, "and we realized we should probably keep the lights on a little later too."

Broadband on the House

Flipping a well-worn adage, in Piedmont, AL, they've learned it might take a few children to raise a village. The [Piedmont City School District](#), which serves the students in a small city of about 5,000 and the surrounding areas, also was a recipient of a Learning On-the-Go pilot grant. Only it did something completely different from all the others.

"We built a wireless network over the entire community," says Piedmont Superintendent Matt Akin.

This fall, Piedmont will begin the third year of a 1-to-1 initiative that gives a laptop to every fourth- through 12th-grader. "And we'll have 2-to-1 in grades 2 and 3," Akin says.

He has accomplished all that simply by working the district's technology needs into its regular budget. This is a district where 65 percent of its 1,250 students qualify for free or reduced lunch.

"I do believe funding is a matter of priorities," Akin says. "We just didn't come into a bunch of money and buy a whole lot of laptops. You have to decide it's a priority."

The next obvious step after passing out so many laptops was to make sure students could use them. Akin and his school board decided to include everybody else in town too. That's why they negotiated with a local telecom provider to build a wireless network that would be available to everybody in the town that stretches about four miles from one end to the other. Those students who live outside the city limits are given Verizon wireless access cards.

"Our ultimate goal was to transform this community," Akin says.

For decades Piedmont's economy was based on small-scale textile manufacturing and agriculture, industries that have lost their luster--at least for young people--in recent years. Akin and other community leaders hope and believe technology can help not only provide their children with quality educations, but transform their town's economy as well.

"If our school system changes, our whole community outlook will change as well," he says.

Piedmont also has a computer science program that involves a remote-learning partnership with Stanford University. And this past summer it initiated a Summer Virtual Academy that has 500 students (representing about half of those involved in the 1-to-1 program) taking some form of online classes during their vacation.

Last spring, Akin was pondering the perennial summer learning loss problem when, he says, "It just hit me: Maybe we could use technology to help solve this problem."

While the district typically has asked students to return their laptops during the summer vacation, this year they learned they could keep them if they took a virtual academy class. They're not all taking calculus and third-year Latin, of course. Course topics include things like Wilderness Survival Skills and Classic Films.

That, according to Akin, is not the point. "If you just have kids engaged, they'll take advantage," he says. "No matter what the results are, we have kept them involved with learning."

About the Author

Michael Hart is the executive editor of *THE Journal*.