iPADS EXPAND TIME AND SPACE

More schools using tablets to break down traditional learning barriers.

By Monica Rhor

Visit the classrooms of Burlington High School in the Burlington (Mass.) Public School District and you'll see the school's two-year-old 1-to-1 iPad initiative in action. Some students might be taking notes using Evernote, rather than pen and paper. Others may be translating and recording first-aid terms for a Spanish lesson. A music class could be rehearsing with the Garage Band app.

The iPads, used by the school's teachers and 1,100 students, have replaced traditional foreign language labs and

allowed the school to reduce the number of computer labs. They are used to create video lectures and class projects. The school even received approval from the College Board to use iPads for the spring 2013 advanced placement Spanish exam.

After two full academic years in use, the devices have become part of the fabric of the school, says Andy Marcinek, an instructional technologist at Burlington High, which is just outside Boston. "It's really starting to bear fruit. Our students are excited about class. They can look and find information at their fingertips."

But the program has not been without bumps and setbacks. On the day students received their iPads, the school's server crashed when it was overloaded by the influx of new users. At first, many students were not familiar with basic functions, such as syncing to the cloud and managing data. Students also were distracted by their new toys, and grades took a temporary dip. A browser function meant to block inappropriate sites inadvertently prevented students from accessing sites they needed for assignments, such as class websites.

National example

In many ways, Burlington High's experience parallels the trajectory of iPad programs in classrooms around the country. According to Apple, more than 8 million iPads have been sold to schools and educational institutions worldwide. About half of those were sold to U.S. schools.

K12 use of non-Apple devices like Google Chromebooks and Android tablets is also growing, and the lessons learned from two or more years of iPad use are applicable to the other devices as well.

But in schools, as in the consumer market, the iPad is still the leader of the pack among the new breed of personal computing devices. And the number of districts using the devices in the classroom is continuing to grow. An October 2012 *Forbes* magazine list tracked programs in U.S. schools from the country's poorest districts, such as Coachella Valley (Calif.) USD—where administrators have purchased 4,000 iPads—to some of the wealthiest, like Prince George's County (Md.) Public Schools, which has 10,000 iPads.

In one of the largest rollouts, San Diego USD purchased 26,000 iPads for fifth and sixth graders, and some high school classrooms, for $15 million. In a $20 million initiative, McAllen (Texas) ISD gave 6,800 iPads and iPod Touches to students last fall and eventually equipped all 25,000 students in the district with a device.

Yet, even as more schools add iPads, the technology's impact on learning and student achievement is still unclear. A few studies point to an increase in student engagement and literacy scores. For example, a February 2012 study of kindergarten classes in Auburn, Maine, showed that students using iPads performed higher in literacy measures.

A study of 8th grade math classes at KIPP Academy Charter School in Houston, conducted last summer found that the percentage of students rated proficient or advanced on a math assessment test was 49 percent higher among those who used iPads in a "flipped" classroom approach. The study, conducted by YourTeacher, a digital publisher, and Kipp, also found that the percent of iPad students scoring advanced was 150 percent higher than in classes where students did not have access to iPads.

Test scores just part of it

Still, educators in schools that have created iPad programs caution against viewing test scores as the sole arbiter of success.

For instance, at Burlington High School, administrators think it is too early to determine whether the 1-to-1 iPad initiative will result in higher test scores. "We didn't get iPads to improve test scores," says Marcinek, the instructional technologist. "We think that's beneath our kids' levels. We're more impressed when students go outside standardized thinking."

And at Mansfield (Texas) ISD outside Dallas, where 10,000 high school

students and teachers began using iPads last fall, test scores are just one thing that administrators will look at as they assess the initiative. "A lot of things go into test scores," says Doug Brubaker, the district's assistant superintendent for technology and information services. "It's difficult to parse out one intervention or one specific piece that can be attributed to a certain gain."

According to Brubaker, a student survey conducted last January showed increases in student engagement. Also, more students created electronic presentations, animations, or artwork. At the same time, the survey showed that the distraction level, which had gone up in the first weeks of the program, had dropped off by 9 percent by January.

"I don't see iPads as a way to raise test scores," says Brubaker. "What I think they can offer is to help eliminate traditional barriers on time and space and on what kids can accomplish. There are greater resources at kids' fingertips."

Changing culture
Mansfield ISD has also given teachers

Elementary school students from Pulaski Community School District in Wisconsin learn about photography with iPads during summer school.

professional development help with their new iPads. There are online training sessions, and teachers already adept at using iPads are mentoring their less tech-savvy colleagues, Brubaker says.

And teacher training is key to the success of iPad programs, say educators and researchers. "Technology alone is not the answer," says Ulrich Boser, a senior fellow at the Center for American Progress and author of the report, "Are Schools Getting a Big Enough Bang for Their Education Technology Buck?". He adds, "Unless we are changing the culture and changing the support for teachers, we're not likely to dramatically change how we school kids."

Too often, Boser explains, schools use technology for basic drill-and-skill assignments that don't sharpen critical thinking skills or make the best use of the devices. "Paper, pencil, and a worksheet is a far more cost-effective way to drill and skill," says Boser.

In addition, not enough schools are crunching data on how the devices are impacting student achievement. "It's time to ask what we are getting for the money," says Boser. "Is student achievement going up? Are we allowing teachers to operate in new ways? Are we looking at changing policies such as seat time?"

Incubator for digital tools
The Pulaski Community School District, just northwest of Green Bay, Wis.,

is addressing those concerns by rolling out iPads and other devices through a unique, two-pronged approach. The district has a shared device program in K12, with elementary students sharing four to five iPads per classroom; middle schools sharing a cart of 30 iPads between three to five teachers and about 100 students; and high schools sharing a cart between 15 teachers in core subjects, including math, English, social studies and science. At the high school level, one classroom of about 30 students usually gets a cart for the day.

Eventually, every student between grades five and 12 will have a device, says Amy Uelmen, the district's IT coordinator.

Pulaski schools also created seven "model" classrooms, designed to mirror 21st-century learning. Those classrooms, equipped with iPads, eBooks, digital curriculum, and other technological tools, serve as an incubator for digital teaching techniques.

Other teachers in the district can observe the classrooms to learn the best ways to use iPads and other devices as teaching tools. The district is also comparing achievement for students in the model classrooms and those in regular classrooms, says Uelmen.

The approach has already reaped results. For example, the district discovered that iPads work best with children in the K3 level, but Chromebooks seem to be more effective and cost-efficient for fourth grade and higher, Uelmen says.

Surveys of students in the model classroom also show that most students believe tablets make learning more fun, improve the quality of homework, and help them understand the material better. Students in the model classrooms also show more academic growth over time. "Our goal is that in the end, every classroom will look like the model classroom," says Uelmen.

In those classrooms, teachers incorporate a wide range of tools: interactive whiteboards, webcams, class blogs, Google Apps for Education, iPod touches, and netbooks, as well as iPads.

Mansfield ISD hosted its first iPad Summit last February, after starting a 1-to-1 iPad initiative a year ago. The summit shared information about the initiative with regional district officials interested in the program.
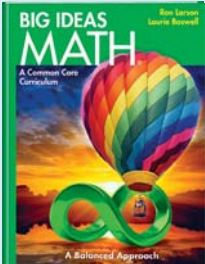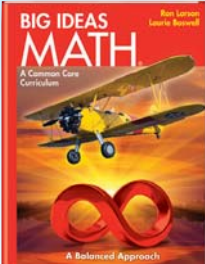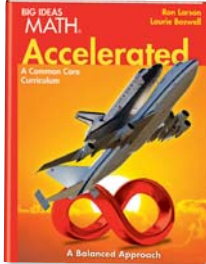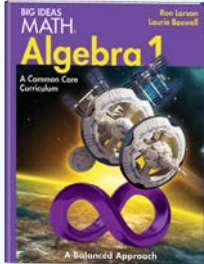
But, in the end, Uelmen says, the success of any piece of technology hinges on how it is used in the classroom. "It's about what you do with the device," she says, "not the device itself." **DA**

Monica Rhor is a freelance writer based in Houston.