Take an inside look at two one-to-one deployments

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One district, one secondary school explore the ins and outs of sustaining a one-to-one initiative

One-to-one initiatives dominate today's headlines, and the hype is both good and bad. On one hand, one-to-one rollouts can help increase student engagement and achievement as they take ownership of their learning. On the other hand, however, poorly-planned one-to-one initiatives can result in massive failures and bad publicity.

But when they're done right, ed-tech advocates say, one-to-one programs can have a major impact on teaching and learning in schools and districts. Research shows that students with access to mobile devices during the school day, or on an in-school and take-home basis, are more engaged in their learning.

A California school district is in the middle of a long-term plan to equip all students and teachers with tablets, while at the same time ensuring proper implementation to truly impact teaching and learning.

Fresno's Central Unified School District partnered with AT&T to connect its 900 teachers and staff and 15,000 students to the internet and give them tablet devices. About 40 percent of Central USD's families are without internet access.

(*Next page: How the district planned its initiative*)

At the beginning of this school year, all of the district's teachers and students received an Asus tablet. Teachers will spend a year working with their tablets in preparation for the fall of 2014, when students will receive theirs. Students will take their tablets home, use them instead of textbooks, and will also take state tests on the devices.

District leaders identified an experiential gap throughout the district, said Central USD Superintendent Mike Berg.

"That's defined as the life experiences that kids have before they enter school," he said. "Having or not having technology at home is a very significant impediment to kids who are trying to compete with other kids who have had that.

"We want to close that experiential gap for kids, and it's a way to better engage kids—it's a tool," Berg said. "The truth is that some teachers struggle significantly to deliver differentiated

instruction for students with different learning abilities and different learning levels. This is a tool with adaptive software that allows the technology to assist the teacher and reach various levels of student learning."

This year, every teacher and instructional support staff member, including administrators and coaches, have an Asus tablet in hand and are going through a full year of professional development. Next year, the district's 15,000 students will receive their own tablets.

Central USD is working to abandon printed textbooks, and eventually digital textbooks, in favor of giving students the skills and resources necessary to locate information that supports learning goals.

To enable that, the district partnered with AT&T to offer 4G and Wi-Fi connectivity to ensure universal access throughout the district. The company is auditing school communities to ensure that signals are strong enough to provide adequate support and speeds for devices. Every device has 4G connectivity and operates on AT&T's 3G/4G network.

And although students do not yet have their devices, the district has updated buildings with fiber optics running to buildings and wireless access points in every classroom, with multiple access points in larger communal areas.

"We've calculated that we have enough to carry the load," Berg said. "We have that 4G parallel system, so that in the event our Wi-Fi isn't as strong as need be, the devices can default to 4G, or from 4G to Wi-Fi."

"Preparing for this type of transition is a lot of work" said Kevin Carman, AT&T's Education Segment Marketing director. "The way Central is doing it is a great model—they have a vision and they have buy-in. It's a multi-year plan that encompasses the technology side and the instructional side, and it's bringing traditionally separate groups together."

Approaching the initiative with a plan, and not focusing on a device, is key, Carman said.

(*Next page: A Canadian secondary school rolls out Samsung School*)

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"Initially, when tablets hit the market, there was excitement around what we could do with them in education," he said. "You have the 'bright and shiny' effect—but then you had to deal with

how you make it work for education. Now, we're examining how we change instruction, and we start there, and then focus on the impact that the technology will have on the instruction and how the technology can support the plan—not the way the plan can support a specific piece of technology."

One of the most important steps in the entire initiative, Berg said, was the first step: Defining the district's desired outcome or goal.

"Learning doesn't stop when the school day ends," Berg said. "We expect them to be able to do homework, research, and interact with one another after hours and in the evening as part of the learning process—that's what the Common Core call for, this interactive, collaborative learning."

Samsung School

The Riverside Secondary School in British Columbia began a PC-based one-to-one digital immersion program about five years ago, and last year partnered with Samsung through its Samsung School initiative to pilot 31 Samsung Galaxy Note mobile devices.

"It gave us our first opportunity to work in a mobile world with students using tablets—that was different for us," said Anthony Ciolfitto, the school's principal. "It gave us a whole host of different challenges and excitement."

A physics class piloted the program, in part because that particular teacher embraces technology and is not afraid to try new things, Ciolfitto said. But Ciolfitto also wanted to see how the tablets might impact learning when used for something other than word processing and basic functions.

"It's different in a physics environment," he said. "For the most part they're writing and graphing and we wanted to see how those devices would work in that kind of environment."

This past fall, Riverside used Samsung School in its science co-op program, which is a cohort of students taking chemistry, physics, math, and a work experience as a group.

"We wanted to pilot this because our goal is to become a school that's really a one-to-one school," Ciolfitto said. "We needed to look at how our infrastructure would work in a mobile world and see if this would support our teaching and learning goals."

Next, the school will scale up the pilot, and also will begin a bring-your-own-device program for its ninth grade students. Planning for both of these next steps is critical.

(*Next page: Important one-to-one considerations*)

"Lots of things are difficult to anticipate," Ciolfitto said. "We have 25 wireless access points in our building. When you add 300 tablets on the network, how does it operate? On the infrastructure end, we have to be thoughtful about that." So far, he said, the school's access points work well, and the network is able to move traffic efficiently.

Ensuring that the tablets serve a purpose, and that they aren't present purely for the sake of being tablets, is perhaps most important.

"We're looking at what we're asking students to do with the device," he said. "Does it support our learning goals? The mobile world is app-based; do students buy their own apps?"

Teachers can't be overlooked. "Unless there's a model put in place to build staff capacity, they're going to fall apart," Ciolfitto said. "We've seen that around the globe, whether it's the government or a school district."

Riverside teachers went through professional development with Samsung, and the school also offered it to out-of-district teachers who wanted to learn more about the program, Ciolfitto said. The school also tapped into existing building resources, including staff who already had embraced a technology-rich environment.

"We were fortunate because technology has been a big focus in the school," Ciolfitto said. "This was just another dimension for us."