



# Personalized learning drives technology choices

In Cabarrus County schools, personalized learning experiences enhance outcomes, helped by Dell mobile platforms and managed services



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*Jason Van Heukelum, Deputy Superintendent for Curriculum and Instruction, Cabarrus County School District*

## Customer profile



<b>Company</b>	Cabarrus County School District
<b>Industry</b>	K-12 Education
<b>Country</b>	United States
<b>Employees</b>	3,770
<b>Students</b>	30,000
<b>Website</b>	<a href="http://cabarrus.k12.nc.us">cabarrus.k12.nc.us</a>

## Business need

After engaging teachers in a full rewrite of its curriculum, Cabarrus County Schools needed a low-cost, low-risk mobile platform for delivering personalized instruction.

## Solution

District teachers can now tap into the web’s vast digital contents while adapting to various classroom models using Dell Chromebooks and Latitude laptops, backed by a team of on-site Dell service experts.

## Benefits

- Personalizes instruction to improve learning outcomes
- Gives teachers more instructional flexibility
- Provides a durable, low-cost platform for wireless online access
- Reduces deployment and operational risks
- Simplifies IT operations, saving three weeks a year

## Solutions at a glance

- Client Solutions
- Endpoint Systems Management
- Managed Services
- Mobile Computing

Like many once-rural communities that border major cities, Cabarrus County in North Carolina has seen its population flourish alongside the fast growth of neighboring Charlotte. In fact, three-quarters of the county's residents arrived in the past two decades. That's pressured Cabarrus County School District to keep pace with a fast-growing student enrollment, which is now at 31,000 and rising by about 1,000 students a year.

"Providing for that many students is like having to build one new school every year," says Jason Van Heukelum, the district's deputy superintendent for curriculum and instruction. But opening a new school each year isn't quite so easy, given the millions in capital expenditures required and the careful deliberation such decisions require by the school board and community.

In addition, the district had to start addressing the emerging national curriculum standards. Van Heukelum took this as an opportunity to bring its teachers together to develop what he calls "a guaranteed curriculum for all grades and all kids." Until then, teachers taught their subjects as they thought best, with little consistency from classroom to classroom, school to school. As a result, student learning experiences varied widely across the district.

#### Time for a consistent curriculum

"It took us two years of focused curriculum writing to incorporate the new standards, but I want to emphasize that the result is entirely local — and something we're quite proud of," Van Heukelum says. "Our curriculum is rigorous and the foundation of everything we do. And the exercise helped our teachers improve their teaching. But to be clear, it had absolutely nothing to do with technology."

What led Van Heukelum and his team to embrace technology was the chance to personalize the curriculum for students much more than they ever thought possible. "Of course, teachers have

been trying for 100 years to tailor their teaching to meet the different needs of individual students," he concedes. "That's tough to do with 30 kids in your classroom, especially when each one comes to class at a different level, some more advanced than others who have learning gaps."

To help enable personalized learning, Van Heukelum sought to tap into rich sources of digital content on the web. Textbooks and other media-based content are not nearly as engaging to students nor enabling to teachers, who wanted flexibility in designing their instructional plans. The district now has three digital content partners: Discovery Education, Knovation and Defined STEM.

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*Kelly Propst, Assistant Superintendent, Technology, Child Nutrition and After-School Programs, Cabarrus County School District*

#### Products & Services

##### Services

Deployment Services

Managed Services

Support Services

- Dell ProSupport

##### Hardware

Dell Chromebook 11 laptop

Dell Latitude 13 Education Series laptops

##### Software

Dell KACE K1000 Systems Management Appliance



## Making blended learning come alive

Teachers have also started using computer-adaptive technology in classrooms, especially for math, to facilitate blended learning. In this rotational model, student class time is equally split three ways: engaging in interactive, online learning activities that dynamically adapt to their needs; taking part with other students in a mini-lesson led by their teacher; and working collaboratively in group problem-solving activities and tasks. For their online adaptive learning, students in kindergarten through fifth grade use Dreambox, and older students use ALEKS.

So students and teachers could access all this online digital content plus adaptive learning technology, the district's personalized learning curriculum needed a durable, low-cost client platform for students and teachers.

## Keeping priorities in order

The task of sourcing, deploying and supporting that platform fell to Kelly Propst, assistant superintendent for technology, child nutrition and after-school programs, and her team. "Despite having desktop PCs in every classroom, students and teachers needed a lighter, more mobile, wireless solution," she says. "It had to be one that could be easily shared among students and moved around the classroom or between classrooms."

It also had to be easily managed. That's because her team of just eight IT service technicians already had their hands full managing the district's 27,000 PCs. Most are Dell desktops in its middle and high schools, with another supplier's PCs in its elementary schools. Many thousands of the PCs are outdated, with hundreds up to seven years old. They're spread across the district's 43 sites — 39 schools and 4 other facilities — that span the county's 365 square miles. "It's not like the business world, where you refresh end-user PCs every three years," Propst says. "And we've got

competing priorities, like 6,000 district phones that are at end-of-life. The funding's just not there for regular renewal cycles."

## Envisioning the future

All the growing demands on the district's IT infrastructure and limited IT staff as well as their sizable budget implications meant the district needed a sharp focus on where classroom learning was headed.

At this point, Propst and Van Heukelum decided to take a step back to consider the big picture — and invite key stakeholders from across the district to help them. They convened a day-long workshop to help envision what instruction could look like in the 21st century with the help of technology. The workshop's 50 participants included the mayor, school board members, teachers and students.

As the primary provider of the district's IT infrastructure, Dell was asked to help facilitate the discussion. "The workshop was truly foundational for us," Propst says. "And Dell was a great help by providing an initial spark for our own conversation that generated lots of ideas. More than a year later, we still reference much of the thinking that came out of that day."

## Making the most of limited resources

One of the workshop's most important outcomes was a consensus that technology could and should play a critical role in enabling student learning — with the new curriculum driving its use. One priority was to decide on the new client platform to help make the curriculum's personalized learning come alive in district classrooms.

With initial cost and total cost of ownership as top criteria, Propst chose to deploy 2,000 Dell Chromebook 11 notebook computers for less than \$300 each. The device weighs under three pounds, has an 11.6-inch screen and

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is powered by an energy-efficient Intel fourth-generation dual-core processor for 10 hours of battery life. It comes with Google® Chrome OS™, which boots in seconds, plus the Google Chrome™ browser and built-in WiFi for accessing digital content and adaptive learning technology.

On average, each classroom has eight Chromebooks assigned to it, with students sharing the devices. "With our annual growth in student numbers yet limited funds, we can't afford the tens of millions of dollars it would cost to buy and assign each student their own laptop, like many other school districts are doing," says Van Heukelum. "But we believe the Dell Chromebooks support a learning model that is just as effective, if not even more so."

To store, charge and secure them when not in use, Propst ordered mobile computing carts from Dell. Each can hold up to 30 devices, so several classrooms share one cart. All device management, including updates and security, is handled via Google's easy-to-use, cloud-based Chromebook management console.

### **Simplicity and durability lower costs**

Dell Deployment Services assisted with several phases of the Chromebook rollout to district schools, saving IT staff time. Propst says that thanks to the simple Chrome browser, training was easy, with students teaching themselves in minutes and teachers taking not much longer. "Not only did our funds go much

further with the Dell Chromebooks," she adds, "but their simplicity and durability lowered our deployment risks and operating costs. If one does break, we figure it's cheaper to just replace it."

To complement the Dell Chromebooks, Propst has also deployed 200 Dell Latitude 13 Education Series laptops. These low-cost, purpose-built PCs are designed for rugged classroom use, such as having a sealed keyboard and touchpad to resist spills. The laptops feature a 13.3-inch screen, an Intel fourth-generation processor, and a 500GB hard drive. "Although the Chromebooks provide an ample platform for accessing digital content and adaptive learning tools, we also want to evaluate having a full PC in our lineup," Propst explains.

She also wants students to be comfortable using different devices, so she's purposefully agnostic about what client devices they use or bring to school. She uses the term "BYOT" — for Bring Your Own Technology — to describe her philosophy and the mixed environment. "It's all about the learning, not the technology the students are using."

### **Outsourcing help desk and IT chores to Dell**

Given the resource constraints that Propst and her team face in their day-to-day management of all the district's and various BYOT endpoints, she employs Dell Managed Services for its help desk and other IT chores, like the annual reimaging of all its PCs. Behind

these services are nine onsite Dell employees and contractors, who use the Dell KACE K1000 Systems Management Appliance to manage service tickets.

The Dell team backs up the district's Dell ProSupport, which provides rapid response to any technical issues with its back-office servers, switches or other equipment. "Dell's on-site team helps simplify our IT operations, saving us about three weeks a year in reimaging chores, so more of my team can focus on other priorities," Propst says.

### **Personalized learning gains traction, scores early wins**

According to Van Heukelum, teachers are already reporting dramatic success in implementing the district's personalized learning model. At the district's alternative high school for at-risk students, for example, those taking math are finding the subject relevant for the first time in their lives.

"For their entire lives, they've gone to math class and it's been a joke — they know they can't do it," he says. "But now when students come to class, they know exactly where they're at with the adaptive learning tools they access with the Dell Chromebooks. They can feel successful."

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