



Personalized learning for high school students

High school freshmen in Roanoke County Public Schools are assigned take-home laptops to use through senior year for enhanced, more personalized learning experiences

Eleven years ago, Roanoke County Public Schools started issuing laptops to students as a pilot program in one high school. Since then its 1:1 Laptop Initiative has evolved to become the core of the Virginia school district's technology program, which provides continuous access for all high school students. This includes take-home laptops for all high school students.

In fact, the district's educational technology model is nationally recognized, selected by the Center for Digital Education and National School Boards Association as the 2013 top "digital school system" in the U.S. among large school districts with more than 12,000 students.

But according to Lorraine S. Lange, Ed.D., superintendent for the district, the way technology empowers the learning of all students is what is important, not the accolades. "We are committed to empowering our students through technology and 21st century skills" she says. "Dell is helping us create this learning

environment for all students."

Since 2004, the school district has experienced a significant increase in the percentage of disadvantaged students. Lange believes that all students, regardless of socioeconomic circumstances, deserve the level playing field for personalized learning that access to technology can provide. "The key factor in how the laptop initiative has helped close the socioeconomic gap is that all this comes at little cost to the student," she reports. "Students pay only a nominal insurance fee, and even that is significantly reduced for students with demonstrated need."

Personalization: Making a difference in how students learn

Ensuring that all Roanoke County high school students benefit instructionally from the 1:1 Laptop Initiative requires a team effort and is facilitated by Ken Nicely, Ed.D., director of secondary instruction and technology. Nicely says that the district issues freshmen students new Dell Latitude laptops to help personalize their

Customer profile



Company	Roanoke County Public Schools
Industry	Education
Country	United States
Employees	2,300
Students	14,000
Website	www.rcs.k12.va.us

Business need

Roanoke County Public Schools wanted its high school students to have more personalized learning experiences to help them achieve a balance of 21st-century skills and content knowledge.

Solution

Freshmen get new Dell laptops, preloaded with learning and productivity applications, to use through graduation for developing critical thinking, collaboration, creativity and communication skills.

Benefits

- Increases students' responsibility for their work and flexibility in doing it
- Improves how teachers can tailor their support of student learning
- Supports an on-time graduation rate of 93.8%, compared to a 78% national average
- Saves teachers travel time and expense for meetings and training
- K2000 drastically reduces time needed for system re-imaging
- Leasing helps us to spread the costs over a 4 year period and continue a refresh program

Solutions featured

- [Mobile computing](#)
- [Systems management](#)

"We are committed to empowering our students through technology and 21st century skills. Our long relationship with Dell is helping us create this learning environment for all students."

Dr. Lorraine S. Lange, Superintendent, Roanoke County Public Schools

learning experiences and take greater responsibility for their work. Simply by allowing students to take the laptops home helps them stay on top of their assignments, he explains. "Students are taking greater ownership of their work. For example, many teachers are using a flipped classroom model that allows students to complete work at their own pace and frees the teacher to provide individualized instruction."

Teachers, too, can use their laptops to quickly analyze their students' online test scores and tailor individual interventions before students get too far behind. By using video conferencing software, teachers are able to take part in monthly district department meetings, but avoid the time and expense of driving to district offices that for many are 30 miles away.

In other examples, the laptops enable students to take courses via the district's Virtual High School. Students in the district's engineering specialty center work together to program LEGO® robotics, while others in the arts and technology center use their laptops to design computer games. "Some science teachers have students use their laptops to tap into and analyze data from national sources as part of virtual science projects in coordination with regional institutes of higher education," Nicely says.

New freshman classes bring new laptop deployments

Coordinating the 1:1 Laptop Initiative's implementation is Jeff Terry, manager of information systems for the district. As a 20-year school system veteran who still embraces innovation, he helps coordinate the activities of 17 IT professionals and 14 instructional resource teachers across the district's 27 schools.

He explains that incoming freshman students at the district's five high schools — about 1,200 in all — get their own new Dell Latitude laptops with Windows 7 that are theirs to use until they graduate. A district committee chose Dell through a competitive RFP process. Two models have been deployed: the Dell Latitude E5420 and the Dell Latitude 3330. Each student's laptop comes with Dell ProSupport, which provides comprehensive support services. In previous years, the district bought the laptops, but for the first time it recently leased them with the help of Dell Financial Services. This helped to spread the cost over four years and continue a refresh program under difficult budgetary times.

Each laptop comes preloaded with Microsoft Office 2010. The laptops also have a number of learning applications that include Blackboard Learn™ and Blackboard Collaborate™ for distance learning and video conferencing; they are both part of an industry-leading learning management system. In addition, they feature the ActivInspire client for the Promethean™ ActivBoard™ interactive whiteboard, which Dell helped arrange for many district classrooms. With ActivBoard, remote students can use their laptops to follow along with whatever a teacher writes on the whiteboard. High school students can access most of their textbooks in a digital form on their laptops, too.

Saving time and energy in managing more than 13,000 end-user devices

Including the freshman laptops, the district has approximately 6,000 laptops out of more than 13,000 total end-user devices. In addition to student laptops, the district issues laptops to 1,600 instructional staff members. It also

supports a growing number of tablets that are used for various purposes. Every summer, the 6,000 student laptops get a fresh image via the district's Dell KACE K2000 Systems Deployment Appliance, which also helps provide system and application updates throughout the year. This saves IT a lot of time, Terry says. A typical laptop reimaging takes 45 minutes, but the K2000 appliance enables 30 laptops to be reimaged at once. He says, "We've drastically reduced the time it takes to re-image all 6,000 laptops by using the KACE K1000 Management appliance and the K2000 Deployment appliance."

Technology at work

Services

Dell Financial Services

Support Services

- Dell ProSupport

Hardware

Dell Latitude E5420

Dell Latitude 3330

Software

KACE K1000 systems management appliance

KACE K2000 systems deployment appliance

Blackboard Collaborate™

Blackboard Learn™

Microsoft Office 2010

Promethean™ ActivBoard™

Promethean ActivInspire™

Windows 7

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