Students first:
Getting ready for 21st-century education

By Bob Moore

Digital content and collaboration technology in the Connected Classroom are reshaping the K–12 learning experience to help students compete successfully in the digital age. How does your school district measure up?

The digital age is here. Thanks to the Internet, every student on the planet now lives in the same global village. In just a few short years, many will be competing for jobs with the best and the brightest talent from around the world.

To succeed in the 21st-century workplace, children need cognitive and collaborative skills that will equip them to solve complex problems we can't even imagine today. Fortunately, our students have a head start. Technology has permeated every aspect of their lives since

Technologists
more efficient

Parents
more informed

Teachers
more interactive

Students
more engaged

Administrators
more successful

Community
more aware

Figure 1. The Dell Connected Learning environment helps school districts accelerate digital learning and collaboration initiatives

birth—and as a result, they are digital natives. They communicate, collaborate, and learn differently than previous generations. And they flourish in multidimensional educational experiences that reflect this new reality.

Of course, retooling education for the digital age involves much more than installing computers in the classroom or sending students home with e-book readers. It calls upon every member of the educational system to unite around the common goal of improving the quality and the relevance of instruction.

But while educators may agree on the necessity of developing a digital curriculum that is flexible enough to help individual students achieve their highest potential, many school districts face severe budgetary constraints, especially in communities heavily affected by the recent economic crisis. At the same time, increasing student populations make the traditional classroom model challenging to sustain in purely financial terms.

Pioneering school districts are already reaching far beyond traditional classroom boundaries. By building on how students interact with technology in their daily lives, the Dell Connected Learning environment helps educators and technologists work together to create the framework for a collaborative, digital content–based curriculum. This approach embraces different learning styles easily and cost-effectively on a wide range of personalized computing devices.

Thriving in a Connected Learning environment

Connected Learning starts by connecting people (see Figure 1). This comprehensive approach represents a fundamental shift in the way K–12 education is developed and delivered. It involves not only students and teachers but also administrators, technologists, parents, and even the community at large. Connected Learning environments focus on two principal areas:

- **Connected Classroom:** The Connected Classroom pairs personalized computing devices with dynamic digital content tailored to each student's learning style. The result is an engaging, highly interactive educational experience that enriches traditional teaching practices and facilitates student-centered learning. In addition, professional learning services help instructors and administrators explore how to effectively integrate technology into daily teaching practices, to heighten productivity, creativity, communication, and collaboration.
- **Connected Infrastructure:** Because technology forms the backbone of any Connected Learning environment, it's crucial for school districts to ensure that the supporting IT infrastructure is open, capable, and affordable. The Connected Infrastructure delivers an optimized technology framework that helps school districts keep the focus on advancing their educational agenda. By starting with a holistic assessment of the existing infrastructure and IT management practices that support the educational system as a whole, experienced educational consultants can help schools simplify technology management and guide technology investments to maximize efficiency and minimize costs.[1]

A Connected Learning environment also helps forge important new partnerships by facilitating communication between educators and IT staff. The resulting collaboration accelerates digital curriculum adoption and helps ensure that the supporting

Create your own Connected Classroom

The Dell Connected Classroom site helps teachers, administrators, and IT leaders envision and explore how to create a Connected Learning environment in their own schools. The site features an interactive product guide, and demonstrates various K–12 classroom experiences in which educational technology enriches the teaching and learning process. The site features interactive videos addressing:

- Overall classroom environment
- Students with special needs
- Math and science curriculum
- Students for whom English is a second language
- Professional learning for teachers and staff
- Underlying IT infrastructure supporting a Connected Learning environment

In addition to the videos, discover funding opportunities, educational research and reports, and case studies of schools that are already benefiting from the Connected Learning strategy. To learn more, visit **dell.com/connectedclassroom**.

Engage with Microsoft Partners in Learning

In addition to providing a comprehensive software suite that supports Connected Learning environments, Microsoft is investing resources—people, partnerships, services, philanthropy, and products—to stimulate positive change in education. For example, the Partners in Learning Network is a worldwide community of teachers sharing best practices, innovative ideas, and high-quality classroom content; and the Microsoft Institute offers three-day professional development courses.

Learn more about Microsoft initiatives to support 21st-century learning and prepare students for sustainable social and economic success at **microsoft.com/education**.

IT infrastructure is indeed aligned with overall educational objectives.

Enriching the learning experience to heighten educational outcomes

An infusion of technology sparks excitement in the classroom and helps teachers create surprising opportunities that inspire children to participate enthusiastically in their own education. A Connected Learning environment provides constant access to rich digital content, encompassing tools such as video editing and Web publishing software that give students imaginative outlets to express their creativity and demonstrate concept mastery. In addition, the Connected Learning framework allows children to collaborate on projects, explore the world around them, and learn in ways that are suited to their specific educational needs. And now, mobile access technologies make anytime, anywhere learning a reality.

A Connected Learning environment helps teachers tailor their lesson plans to accommodate different learning styles, enriching their instruction through easy access to worldwide educational resources. Extended professional development opportunities and online teaching communities also help educators continuously improve their expertise and swap fresh ideas. In the classroom, teacher-friendly dashboards show real-time student response. Moreover, evaluation tools enable teachers to assess student progress based on formative and summative data, adjusting lesson plans and instruction styles to enhance educational outcomes.

In addition, a Connected Learning environment helps teachers communicate efficiently with students, IT staff, administrators, and parents. By learning about student programs and achievements, community members and local business leaders can also contribute to the educational process by introducing outside perspectives, expertise, funding, and community resources. And it's a two-way street that also creates opportunities for students to get involved in the community.

Equipping administrators and IT staff to manage efficiently

For administrators, a Connected Learning environment provides a unified view of the educational system's efforts to prepare students for college and career. Administrators can use real-time, formative, and summative data to evaluate the success of digital curriculum initiatives based on teaching and learning outcomes, and to prioritize ongoing professional learning for teachers. By helping administrators identify which programs are generating the best results, a Connected Learning environment helps school districts focus technology budgets on productive educational initiatives. In addition, mobility and access technology allows administrators to manage instructional and staff resources anytime, from anywhere.

IT leaders can help address budgetary concerns and optimize educational investments by identifying ways to do more with less—delivering the right technology at the right time and managing the computing infrastructure as securely and efficiently as possible. Automated technology management tools and reduced

operational expenses also free IT resources to support digital curriculum development and educational outreach.

Aligning the technology strategy with educational objectives

Many schools now spend a majority of their IT budgets on routine systems maintenance rather than innovation in the classroom. In comparison, a Connected Infrastructure is designed to minimize day-to-day maintenance by increasing operational and cost efficiencies through standardization, simplification, and automation. Enhanced IT efficiency has a positive impact on educational outcomes because it frees technology resources to focus on digital learning programs that advance student achievement.

For example, by deploying hardware that is preinstalled with a school's unique system image, rich content, and educational software, an IT staff can execute technology rollouts quickly. In addition, powerful Dell™ servers together with virtualization and cloud computing technology boost performance and flexibility while helping to minimize space requirements and reduce energy costs in school data centers. Virtual desktop infrastructures allow IT staffs to manage student and teacher digital identities without tying them to any single physical device—which helps reduce support costs and protect confidential student information regardless of the end user's access point. In addition, consolidated storage systems on a converged network infrastructure streamline the process of scaling out, while enabling centralized, secure, high-speed access for students, teachers, and administrators.

The technologies that form the foundation of the Dell Connected Learning approach are designed to be open, so schools can avoid vendor lock-in by incorporating either new or existing devices. They are also designed to be capable—which means giving students and teachers the learning tools from Dell and Connected Learning partners that are best suited to their grade level and curriculum. For example,

familiarity with Windows® 7, Microsoft® Windows Live® Essentials software, and the Microsoft Office productivity suite helps prepare students to succeed in college and career because these tools are widely used throughout the educational and professional arena.

Moreover, Dell technologies are designed to make managing and delivering digital learning environments affordable. This helps school districts meet their educational goals while coping with deep budget cuts.

Realizing the benefits of digital learning initiatives

The digital age brings with it enormous opportunities for transforming the teaching and learning environment to improve the quality and relevance of K–12 education. Embracing the way children use technology in their daily lives benefits every member of the educational community as it prepares the next generation for successful life in the 21st century. Most importantly, investing in a Connected Learning environment today promises far-reaching results tomorrow—cultivating the essential critical-thinking, problem-solving, communication, and collaboration skills children will need to help build a better future for everyone. PS

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Learn more

Dell Connected Classroom:
dell.com/connectedclassroom

Dell Connected Learning:
dell.com/connectedlearning

Dell K–12 education:
dell.com/k12

Microsoft education initiatives:
microsoft.com/education

Bridging the digital divide

Through the Dell YouthConnect program, Dell is partnering with nongovernmental and nonprofit organizations to close the technology gap for underserved children—helping to develop student potential with breakthrough educational initiatives.

dell.com/youthconnect

Footing the bill for education technology

In addition to traditional sources such as state and local funding, many grant programs are available to help schools advance innovative teaching and learning initiatives—including needed technology to support the program.

dell.com/education/funding