



Dell Connected Learning for Schools

Transforming Education for the Digital Age

This document was created to provide Dell’s point of view for primary and secondary schools and contains the following sections:

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Executive Summary

Our students are growing up in the digital age. They communicate, collaborate, and learn differently than previous generations. As a result, schools are utilizing technology to enhance the teaching and learning experience and transform education. Yet many education leaders are under pressure to improve the quality of education while experiencing severe budgetary constraints. Simply adding computers to the classroom is not enough to impact student achievement. To truly transform education for the digital age, we must help schools focus their vision on student learning and unite the entire school community to prepare our students for success.

At Dell, we believe technology can help every student reach their highest potential. Dell Connected Learning for Schools is a strategy that brings together every member of the education system so each is empowered to play a key role in its success. We help school systems address the needs of teachers interested in understanding how technology can be infused in the classroom to enhance their own teaching methods, transform learning, and help increase student achievement. We work with school and district leaders to help them redefine learning, modernize the computing infrastructure to maximize operational and cost efficiencies, and find practical ways to steer more of their technology budget toward the classroom.

For more than 25 years, educators have viewed Dell as a long-term technology partner who understands the needs of their local schools. Dell's broad portfolio of customized products and services specially designed for education easily integrate into existing environments, including the classroom, the data center, and the home.

Dell Connected Learning for Schools

Transforming Education for the Digital Age

Background

Today, more than ever before, students are part of a “connected generation” that uses technology to communicate and collaborate with friends, family members, and the world around them. In some communities, students are asked to disconnect their digital devices upon entering the classroom, while in others, students are becoming more connected as a result of technology introduced in the classroom. In either case, the technology of the digital age brings opportunity to new generations of students by opening a window to the world of knowledge beyond the classroom and helping them develop the skills necessary to prepare and qualify for the competitive nature of college and career.

Yet, many schools are experiencing repercussions from real-world budgetary constraints, especially in those communities most heavily impacted by the recent economic crisis. At the same time, student populations are increasing. In pure financial terms, this model is unsustainable, placing pressure on school systems to fundamentally rethink the manner in which the quality of education can be improved despite limited resources.

Transforming Education for the Digital Age

Educators tell us that computers alone are not enough to transform schools. Instead, an entire learning environment is needed in which students, teachers, administrators, and parents can easily communicate and collaborate with each other, share secure information around the clock, and, ultimately, access a world of knowledge beyond classroom walls.

While technology is a tool used by educators, it is not a replacement for the influence that people have on student achievement. To truly transform education in the digital age, technology must be used to connect every member of the education system so that each can play a vital role in reshaping education:

- **Students** must have access to technology that helps them develop the skills needed to prepare and qualify for college and career
- **Teachers** must feel comfortable with new technologies and how to use them successfully in the classroom and curriculum
- **Administrators** must focus on improving the quality of education outcomes while effectively allocating limited budgets
- **Technologists** must facilitate access to a technology-enhanced education environment while preparing for growing demands
- **Parents** must have clearer insight into their children’s education and opportunities to participate in their success
- **Communities** must have the means of staying informed and involved in the education of its future employees and leaders

Introducing Dell Connected Learning for Schools

Dell Connected Learning is a strategy to help schools transform education for the digital age by addressing needs across the entire school system—from the classroom to the data center and into the home. Our approach provides the right technology needed to connect each member of the school system together to positively impact the teaching and learning environment.



Dell Connected Learning for Schools addresses the needs of the entire school system

Dell Connected Learning for Schools addresses the needs of all members of the education system: students and teachers who thrive in the classroom environment, parents who instill good learning ethics in the home, administrators and technologists who ensure the education system as a whole runs efficiently and cost-effectively, and the community that brings an outside perspective into the classroom and supports the continuous improvement of the education enterprise.

- **Students are More Engaged**

Technology empowers students to become more enthusiastic and focused on the activities of learning, giving them an active interest in their personal education. By integrating technology in the classroom and curriculum, educators give students a more constructive way to collaborate on key projects, explore the world around them, and learn in a way that's best suited to their needs. Dell designs products that

provide students with anytime, anywhere access to rich content and tools to encourage learning both inside the classroom and in the home.

The Connected Student:

- Is better prepared for the competitive aspects of college and career
- Accesses learning resources anytime, anywhere
- Receives customized and personalized instruction
- Collaborates with students inside their classroom – and from around the world
- Leverages community and global instructional resources
- Engages with teachers, parents, students and the community effectively and efficiently

▪ Teachers are More Interactive

Teachers are the driving force in making positive changes in the teaching and learning environment, and technology can play a critical role in helping educators improve their own effectiveness. Technology enables teachers to differentiate instruction to accommodate multiple learning styles and dynamically tailor lessons to fit the specific needs of individual students. Dell helps teachers become familiar with new teaching tools, continuously improve their expertise, and comfortably infuse technology into the classroom. And Dell's custom support services can effectively eliminate burdensome troubleshooting, enabling teachers to focus on their lessons, not their technology.

The Connected Teacher:

- Uses all resources to transform education and prepare students for the challenges of the 21st century
- Accesses and shares teaching resources anytime, anywhere
- Easily provides customized and personalized instruction for every student
- Uses formative and summative data to adjust and improve instruction
- Leverages teaching and learning communities to strengthen daily practices
- Brings local and worldwide resources into a student's classroom experience
- Takes advantage of professional development opportunities
- Communicates easily with students, parents, administrators and the community

▪ Administrators are More Successful

School leaders are pioneering change, inspiring greater education outcomes through technology that successfully prepares our teachers and students for the skills needed in the digital age. Yet they are also facing the challenges of increasing budgetary constraints. By working closely with technologists and curriculum leadership, administrators can more effectively allocate technology budgets where they will have the greatest impact on student learning. By reducing IT operational expenses, the Connected Infrastructure approach frees up resources so administrators can more

successfully prepare students and teachers for the skills of the digital age and transform the school system to inspire greater education outcomes.

The Connected Administrator:

- Oversees the education system's effectiveness in preparing students for college and career
- Leverages efficient use of technologies across the school/district, ensuring optimal total cost of ownership (TCO)
- Empowers effective communication and decision-making across the school/district
- Easily manages all instructional and personnel resources anytime, anywhere
- Uses real-time data to improve district-wide teaching and learning outcomes
- Facilitates community engagement
- Leads transformation by prioritizing ongoing professional learning designed to help teachers change daily teaching practices
- Effectively allocates technology budgets for maximum impact on student learning

▪ **Technologists are More Efficient**

More and more, schools systems are turning to IT to help transform education inside and outside of the classroom. IT leaders play a critical role equipping schools with technologies that not only positively impact the teaching and learning environment but also drive operational and cost efficiencies as a whole. Dell education specialists help technology leaders identify ways to do more with less, deliver the right technology at the right time, manage a secure infrastructure more efficiently, and proactively prepare schools for future requirements. Dell enables technologists to more effectively manage the infrastructure so more time and resources can be placed on bringing technology into the classroom environment. This enables technologists to play a critical role in the transformation of education while also addressing budgetary concerns.

The Connected Technologist:

- Ensures that student learning can happen anytime, anywhere, and on any device
- Utilizes automated management tools and specialized equipment to ensure IT efficiency across the educational environment
- Helps students, teachers and administrators understand the connection between technology and 21st century skills proficiency
- Assists teachers with IT adoption
- Enables robust data collection and user-friendly teacher dashboards to enable personalized and customized instruction for every student
- Facilitates the use of technology-enhanced assessments to support 21st century education
- Guarantees deep level of IT security throughout the educational system

- **Parents are More Informed**

Parents play a vital role in the development and education of their children, as well as contributing to the success of their local schools. Technology opens the door for parents to become a more integral part of their child's education, particularly when the home increasingly becomes a virtual extension of the classroom. Dell products give parents access to school-based tools and information that help streamline communication with their children's teachers, monitor student performance, and become more actively informed about their children's achievements.

The Connected Parent:

- Communicates and engages easily to support teachers and administrators
- Accesses their child's academic record anytime, anywhere
- Understands their child's customized and personalized learning path
- Serves as a resource to students, teachers and the greater community
- Feels confident that their child's online learning environment is safe and secure

- **Communities are More Aware**

Today's students are our future entrepreneurs, employees, doctors, teachers, and more. Community involvement and support of education is critical to its success. Information and communication technology encourages ongoing support, keeping communities well-informed of school programs and student achievement. After all, transforming education today helps communities flourish in the future.

The Connected Community:

- Engages with every level of the education system to support continuous improvement
- Accesses information about school programs and student achievement
- Brings an outside perspective into the classroom to share expertise upon request
- Integrates community resources into education

Dell Connected Learning for Schools—Two Solution Categories

Dell Connected Learning for Schools encompasses two key areas:

- **The Connected Classroom**—addresses the various environments in which teaching and learning take place
- **The Connected Infrastructure**—addresses the IT infrastructure and strategy for the education system as a whole

The Connected Classroom

By infusing technology into the classroom environment, teachers have an opportunity to engage students in new ways and enhance the learning process. Dell's Connected Classroom empowers teachers with the latest tools and professional skills necessary to

create a rich, interactive learning environment. With innovative technology in the classroom, students can more effectively prepare for success in the digital age. They can express themselves creatively, problem-solve, and communicate their learning. They also have more opportunities to extend learning beyond traditional classroom walls to other environments, including the home.

Technology can impact the Connected Classroom in the following ways:

- **Meaningfully interact and promote collaboration**
Ensure technology is used in a way that improves learning outcomes. Use Dell standard or interactive projectors, interactive or electronic whiteboards, audio systems, laptops, notebooks, netbooks, and tablets to differentiate instruction for multiple learning styles, individualize lessons for each student's needs, and encourage students to collaborate and communicate their ideas through technology.
- **Regularly assess student progress**
Find out in real-time if students understand the subject matter with student response systems and software. These tools can also be used to encourage critical thinking and problem-solving by enabling students to create questions as part of the learning process, focusing student attention and involving them in the lesson. In addition, teachers can better know when to move between whole class, small group, and individual learning in a lesson.
- **Inspire creativity and innovation**
Provide students the tools they need to express and share their creativity. Cross-curricular education software provides many of the resources needed for photo, video, and audio editing, as well as web publishing. These software applications enable students to improve learning, problem solving, critical thinking, and 21st century skills.
- **Engage students with robust digital content**
Give students the opportunity to learn the core subjects in ways that interest them. Dell works in partnership with content providers to deliver rich lesson plans that enhance the learning experience for all grade levels. In addition, Web 2.0 tools—including streaming video, IP telephony, video conferencing, and more—make it possible for students to share their work and get feedback with students in their classroom, community, and even around the world.
- **Further teaching through professional learning**
Engage in Dell Professional Learning courses, workshops, and coaching to learn how to use new hardware, software, and web tools and impact both instruction and student learning by seamlessly integrating these technologies into the classroom and teaching practice. As a result, educators have the confidence to quickly learn and use

technology to manage the classroom more effectively and keep students more engaged.

- **Extend learning beyond classroom walls and school hours**

Open up the learning possibilities beyond the classroom so that students, teachers, and parents can access secure school information on a variety of computing devices. Mobile devices equipped with the latest broadband networking capabilities provide anytime, anywhere access to rich content so that students can learn both in and out of the classroom whenever they are most engaged and attentive to learning.

- **Make the home a virtual learning environment**

In the home, parents can create a continuous learning environment that extends beyond classroom walls. Innovative technology from Dell opens a window to the world of knowledge by connecting students to schools-based portals, tools, and information around the clock. Additionally, parents can more actively monitor student progress and communicate with teachers to inspire good learning ethics and emphasize the importance of academic excellence.

- **Communicate effectively to parents and the community**

Network equipment and Web 2.0 tools—such as blogs, wikis, and centralized portals—enable parents and the community to keep up-to-date. Parents can stay informed of class projects, curriculum, and student progress. The community can access information about their local schools at anytime, supporting continuous improvement in the education system as a whole.

The Connected Infrastructure

School leaders are tasked with overseeing and leading the entire education system by connecting all constituents in ways that help transform and enhance the learning environment for the digital age—an important and often difficult undertaking. Administrators are held accountable by their communities for the quality of their outcomes and levels of student achievement, while under pressure to spend money wisely for maximum impact.

To educate students with the skills needed to succeed in the 21st century, it is critical that school leaders work to steer an appropriate level of the technology budget toward the classroom where it significantly impacts student achievement. Yet, up to 80% of a school's IT budget is spent on day-to-day maintenance of outdated computers, servers, and storage systems that perform slowly and consume excessive amounts of energy. That leaves only 20% left to spend on new, innovative classroom technologies that positively impact the teaching environment and learning experience.

The Connected Infrastructure for schools offers a pragmatic approach to drive greater operational and cost efficiencies through standardization, simplification and automation to maximize budget effectiveness. Dell products and services are based on open standards so that they can easily integrate into existing campus data center environments to facilitate

information sharing and collaboration—securely and effectively. By transforming the data center, IT leaders and administrators are able to reduce costs attributed to maintenance, which frees up capital and other resources for technology to be used in the classroom that teachers and students can interface with directly.

Technology can impact the Connected Infrastructure in the following ways:

- **Get needed technology into the classroom faster**
It can take a considerable amount of time to roll out computers to students and teachers or deploy servers in the data center. Rather than configure systems manually with limited IT resources, order systems pre-installed with the schools unique system image, rich content and educational software. In addition, automated tools and services reduce the labor time and cost to put systems into production.
- **Empower success through IT simplification**
Continuous innovation is needed in order to transform student learning for the 21st century. Yet, IT administrators often spend too much time on custodial maintenance tasks and not enough on strategic projects. By using automated management tools and specialized equipment to easily push patches and secure student systems, IT administrators can free up resources to steer a greater percentage of the IT budget toward strategic teaching and learning initiatives.
- **Gain greater IT efficiency using the latest infrastructure technology**
IT plays a significant role in educating students for 21st century skills. Maximize IT efficiency with new generations of servers and virtualization technology to dramatically improve space and reduce energy costs, while providing enhanced levels of performance and flexibility.
- **Simplify the responsibility of supporting a growing number of devices**
Today, IT leaders can simplify and streamline support for the growing number of devices that come available each year. By combining the latest networking technology and virtual desktop infrastructures, IT administrators have an opportunity to manage digital identities that are not tied to any single physical device. As a result, support costs are reduced, enhancing centralized management and enabling low-touch deployment—all while providing secure access to school information on a variety of computing devices.
- **Prepare for storage as student portfolios increase and digital content grows**
School storage requirements are rapidly growing as student populations increase and a growing amount of student's notes, work assignments, and research projects, are stored online. A consolidated storage system on a converged IT/network infrastructure simplifies data scalability and provides centralized, secure, high-speed access for all students, as well as educators.

- **Protect digital assets to keep critical teaching and learning information available continuously**
In the digital age, teaching and learning increasingly happens beyond the four walls of the classroom. As a result, shared information for students, teachers and parents must be made available whenever and wherever needed. A centralized, secure storage system combined with replication technologies aids in keeping data continuously available and mitigates risk of downtime.
- **Effectively support students, teachers, and staff with minimal IT impact**
As technology reaches further into the classroom, it is essential to minimize or prevent classroom disruptions that a technology issue may cause. A customized set of support services for IT administrators and end-users (students, teachers, and staff), as well as proactive systems management administered remotely by Dell, reduces the burden on stretched IT resources and lessens impact to the quality of learning in the classroom.

The Advantages of Dell Connected Learning

When budget limitations put pressure on school systems to do more with less, it can be a challenge to fund a technology-rich academic environment that prepares students for the digital age. Dell Connected Learning for schools is a pragmatic way for administrators and technologists to optimize expenses by making IT more efficient, which enables a greater percentage of the IT budget to be steered toward the classroom where technology can positively impact student learning.

For more than 25 years, our dedicated education specialists have listened to our customers and we have learned about the unique set of challenges and opportunities they face in their local communities. As a result of our dialogues, we've established a process for defining and delivering customized products and services geared for education, not only to enhance the learning experience for students, but also to maximize operational and cost efficiencies across the school system as a whole.

Our experienced teams offer proven methods to simplify IT infrastructures and free up additional capital for enhancing technical capabilities in the classroom. Our approach streamlines deployment, reduces maintenance costs, and enables technology to be scaled in flexible ways with fewer restrictions. Our highly reliable products are based on industry standards so that they easily fit into existing environments. Our modular pay-as-you go approach enables schools to easily grow when, where, and however needed. Our flexible, customizable support and training services can be specially configured to satisfy the diverse needs of students, teachers, administrators, and technologists. More importantly, our sales representatives are ready to connect new customers with local schools and school leaders who have achieved success working with Dell.