The ABC’s of
Anytime, anywhere learning.

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“By updating the students’ hardware and investing in reliable technology, the school could begin a positive cycle of lower total cost of ownership.”

Zion-Benton Technology Director Jason Powell

A BIG OPPORTUNITY WITH ANYTIME, ANYWHERE LEARNING.

In San Lorenzo, California, students are engaged in learning in their classrooms, around the school, and even at home. San Lorenzo’s Superintendent Arnie Glassburg is a visionary who wants to create instructional change through the use of wireless technology. His top priority is to raise student achievement in the district and drive change throughout the system. The planning process included students who advised the district to “make learning real and active.” The district saw the Dell and Microsoft partnership for Anytime, Anywhere Learning (AAL) with wireless solutions as a vehicle to implement project-based learning with its potential to engage students, prepare them with 21st century skills, and increase achievement. Adds Glassburg, “Now students who didn’t want to come to school get excited about the projects and can’t wait to work on them.”

The Right Time and Place

When the time and place are right, chances are greater that learning will make sense and that students will learn better, learn more, and remember what they’ve learned. The key to making learning happen is having the right tools at students’ fingertips when they need them. And with Dell wireless notebooks and Microsoft software, you have the right combination of technology. The results: improved reading and writing ability, technology literacy, and 21st century skills.

Goals of Anytime, Anywhere Learning

Microsoft’s Anytime, Anywhere Learning powered by Dell has a goal—to improve student achievement. AAL encourages students to be responsible for their own learning and encourages teachers to facilitate and guide. It promotes challenging, authentic, and interdisciplinary tasks, collaborative projects, and student presentation of what they’ve learned. The partnership between Dell and Microsoft in AAL enables schools to have the best of everything—hardware, software, connectivity, and education solutions.

Research Results

Independent research shows that having a laptop program results in improvement in student learning and in teaching practices. Students with laptops were better writers and collaborators, improved their research and analytical skills, and became more confident learner better prepared for the future. Their teachers felt more empowered in their classrooms, did more constructivist teaching, and integrated more student-led inquiry and collaborative work into lessons.

Improved Student Performance

With AnytimeAnywhere Learning at the Technology Academy in Illinois’ Zion-Benton High School, student scores have skyrocketed. For seniors in this real-world technology initiative, science scores were 33% higher, math scores were 28% higher, and reading scores were 17% higher than their college-bound peers who had received traditional curriculum without technology integration. Built with Dell notebooks and Microsoft software, the interdisciplinary coursework and technology integration also resulted in students scoring significantly higher than their classmates in ACT math and science, and those were students who started out with just average test scores.

21st Century Learning

AAL unlocked the minds and imaginations of students and teachers at Zion-Benton. Students began to see their notebooks as their “educational life” and their primary learning device. Notebooks supplemented and often replaced traditional books and paper learning. Students in the Tech Academy worked in clusters and were engaged in real world tasks that used an interdisciplinary curriculum that was infused with technology.

Collaborative Learning and Technology

As the San Lorenzo school district discovered, collaborative learning that’s supported by technology makes a difference. Teachers provide guidance and students work together to use resources, feed and share information to create projects. Technology connects people and offers access to information anytime. All together, it enables student learning. Superintendent Glassburg says, “It’s not about technology. It’s about changing teachers’ instructional practice. That means moving from a teacher-empowered environment to a student-empowered learning environment.” The result, according to Janet Clayton, Principal at one San Lorenzo school, is that she sees students more excited about learning.

Curriculum Integration

In the fall of 2001, administrators in the Plano Independent School District in Texas turned to the partnership of Dell and Microsoft as their source for hardware, software, and wireless solutions so they could carry out their goal of integrating technology into their schools curriculum. The idea, Plano Superintendent Dr. Douglas Otto explains, “is to provide a range of teaching tools and allow students and teachers to choose the tool most appropriate for a given learning task.” Plano’s long-range plan integrates technology completely into the lives of teachers, students, and administrators. Plano’s students are thriving; the district awarded a record 147 scholarships in its Outstanding Students Scholarships Award Program in 2003.

Professional Development

Because the dynamics of classroom interactions change when students have anytime, anywhere access, teachers have to know how to adapt to new teaching methods that rely on technology. Helping teachers to use new instructional models and providing the information, training, and resources they need helps them integrate technology into the classroom. “It’s not enough to have the curriculum, the infrastructure, the hardware, and the applications,” says Plano’s Assistant Superintendent Jim Hirsch. “You also have to give teachers a professional reason for wanting to use the technology.” Teachers in Plano have received at least 120 hours of staff development and those efforts are ongoing as new curriculum, methodologies, and equipment are deployed.
Wireless Networking

Wireless is a liberating technology, and it can be revolutionary in the K-12 environment. It allows students and teachers access to ideas, information, and instruction from wherever they are and whenever they need them. According to a new survey**, educators believe that wireless and mobile computing provide freedom and mobility for them, for their students and for administrators. Wireless promotes flexible learning environments, brings resources to wherever they are needed, and extends the reach of a wired network. It improves teaching and learning, curriculum support, project-based learning, creativity, and it enables individualization. Dell delivers its wireless enabled hardware solutions with Windows XP Professional Operating System.

**Students don’t have to go to where the technology is—they can bring the technology to the classroom.” —Plano ISD Superintendent Dr. Douglas Otto

Wireless Glossary

- **Interoperability**: The capability of two or more technologies/devices to work together.
- **Scalability**: How much a system can be expanded.
- **Reliability**: The degree to which a system can be counted on to perform under certain conditions.
- **Bandwidth**: The transmission capacity of an electronic pathway.
- **Upliability**: The ease of replacing existing equipment with newer, improved equipment.

How To Get Started

Thinking of going wireless? First, consider a few technical details: dependability, scalability, upgrade-ability, bandwidth, and interoperability. (See Wireless Glossary.) Systems need to connect with existing local area networks (LANs) and wide area networks (WANs). But you can forget wiring problems and building space issues as you replace computer labs with mobile notebook computers that can go anywhere. You’ll be able to focus on the impact of technology on teaching and learning rather than worry about the technology itself. To roll this out smoothly, you should evaluate district needs and capacity, plan for long-term technology needs, budget carefully, and select for optimal performance. If teachers are going to feel confident in integrating technology into the classroom daily, they need to be certain that everything is going to run smoothly.

“We’ve sought partners who share our vision, who believe in it, and who are willing to support it. These partnerships are part of the reason Plano’s technology program has been so successful.” —Plano ISD Superintendent Dr. Douglas Otto

Mobile Computing

Schools can encourage students to learn anytime and anywhere by providing mobile technology. Mobility means flexibility and having integrated solutions on the go. With a wirelessly enabled computer, students can be empowered to learn from just about anywhere in school, at home, or on a field trip where wireless access is available. They can search the Web, consult experts, collaborate with other students on projects and experiments, access the school or district’s network in real time for assignments and deadlines, send and receive e-mail messages, use instant messaging and other Web-enabled applications, and search online databases.

The dynamics of classroom interactions change when students are involved in Anytime, Anywhere Learning. With notebook computers, wireless connectivity, and professional software at their fingertips, educators can adopt new teaching strategies and students can learn in new ways. One effective method is project-based learning, which encourages students to do online research, create presentations using Microsoft PowerPoint® presentation graphics software, and develop web-based multimedia reports. It promotes collaborative, interdisciplinary, interactive projects, hands-on learning, and it encourages individualized instruction. The result can be improved student engagement and increased understanding of subject matter, both of which can lead to greater achievement.

Focusing on learning

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Total Cost of Ownership

You can stop worrying about costs. Anytime, Anywhere Learning is cost-effective because computers are used when and where they’re needed instead of sitting unused in classrooms or overbooked in computer labs. Wireless networking drives down network installation costs, by helping to avoid the costly job of laying wire, and is smart for tough-to-network environments such as temporary or portable buildings. Students can get right to work without administrators worrying about the hassle of wires, network cables or inconvenient power sources.

BETTER TEACHING THROUGH MOBILE TECHNOLOGY

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**Note:** The text above is a snapshot of a page from a document, which seems to be about the benefits of wireless technology in education. The page includes quotes, statistics, and technical terms related to wireless networking, mobile computing, and the total cost of ownership. It emphasizes the flexibility and mobility that wireless technology brings to education, including the ability to conduct research, create presentations, collaborate with peers, and work on assignments from anywhere. The page also highlights the economic benefits of wireless technology, such as reduced costs and installation expenses.
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WIRELESS GLOSSARY

**Dependability:** Reliability, confidence that the system will keep working well.
**Scalability:** How much a system can be expanded to serve more people.
**Upgrade-ability:** The ease of replacing existing software with a newer version.
**Bandwidth:** The transmission capacity of an electronic pathway.
**Interoperability:** The capability of two or more hardware devices to work together.

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