

Schools Where Technology

Works for Learning

Video script

September 6, 2002

Lemon Grove Middle School

When Lemon Grove Middle School in Southern California established a sophisticated information infrastructure, it was to achieve a very specific goal – to boost student achievement using technology.

Of the 800 students – in grades 6-8 – who attend Lemon Grove, seventy-five percent are eligible for free or reduced price lunch. Like students in many lower income communities, most Lemon Grove students would not ordinarily have access to a computer or the Internet. To bridge the digital divide, the school district and community created LemonLink – a project to use technology to improve instruction. Working together, they used microwave and fiber-optic technologies to connect all schools and the community. The LemonLink infrastructure focuses on high-speed connectivity, adequate access to resources, development of web-based instructional tools and ongoing professional development for teachers.

School administrators understood that technology is effective in the classroom only when teachers and students have adequate access to computers. In order to reduce hardware costs and make technology support more sustainable, the district decided to implement server-based computing and thin clients. Thin clients cost less than regular PCs, so the district could afford more of them. They purchased 12 for each classroom.

Thin clients are essentially terminals for servers. Students do their work on thin clients but the actual processing occurs on servers centrally located in the district office. The central location simplifies tech support. Often, a technical problem can be resolved within minutes of calling for help. Thin clients only operate when plugged into the network. There are no disk drives and you can't load anything into it. For that reason, each classroom also has four regular desktop, multi-media computers.

And what we are really proud of, is that we do have eight schools, we do have 3000 devices on the network, either computer or thin clients. We do have 300 homes on line, we do have 22 sites that we maintain. How many people are in our tech department? Five.... Believe it or not, we are using less band width on the thin clients than we are on the fat clients. Because all we are moving is keyboard, mouse and screen shots. We are not dumping programs across the network down to a PC. Our traditional PCs were dumping applications across the band width.

-- D. LaGrace, District Technology Coordinator

The software used at Lemon Grove was selected for its ability to impact student achievement.

They use a combination of practice software and tool software.

An example of practice software is the CCC program, a skill development program that is used in math and reading. It lets teachers diagnose problems, assists them in planning remedial work and provides students with self-paced individualized instruction. Because the CCC program allows students to work independently, it provides teachers with more flexibility. While some students are completing skill-based practice drills, the teacher can work with other students individually or in a small group.

Tool software is used to enrich and extend the teaching and learning process. Teachers and students use a variety of software including PowerPoint, word processors, spreadsheets and E-mail. In fact, E-mail is now the primary means of communication throughout the school. As a sixth grade teacher commented, "Technology is no longer a center you go to. It really became a central part of the classroom."

Today, teachers at Lemon Grove are likely to develop their own curriculum and put it on a web site. For instance, a teacher might prepare a lesson by organizing a group of Internet sites and providing instructions to guide students through them. The web page can be used to explain assignments, post daily agendas and provide students with other useful information.

Since LemonLink began, there's been significant improvement in student performance. Teachers point to CCC printouts that illustrate the progress students are making in reading and math. It's not uncommon for students to have raised their scores one or two grade levels.

As students have become increasingly adept at using technology, there's been an overall rise in state test scores as well. For instance, there's a big difference in the year 2000 SAT9 reading and math scores of sixth graders who participated in LemonLINK compared with those who did not.

Graphic:

	Percentile point gain on SAT 9 Reading Subtests	Percentile point gain on SAT 9 Math Subtests
LemonLink Participants	5	19
Non Participants	2	11

At Lemon Grove Middle school, the way technology is used in the classroom is continuing to evolve. They're finding new ways to use technology to impact student achievement and to generally add value to teaching and learning.

The other thing that was very strong at that site that I think led them to choose to participate at this accelerated rate was that they talked a lot as a group. They had a lot of instructional sharing, and discussion about instruction, and discussion about student achievement, which is a hallmark of professional community at a school. We witnessed this at a staff meeting where one of the teachers shared some of his technology practices. And it was clear to us from that observing and talking to the principal and the staff that this was a regular recurrence---this discussion about instruction, this discussion about student learning. I think it was the result that being a regular way that the staff came together that led them to choose to make sure that they participated in the technology offerings in the timeframe that they did.

-- Sara Dexter, Project co-Director

Video Credits

The research for this video series was part of the project “U.S.A. Exemplary Technology-Supported Schooling Case Studies,” co-directed by Ronald E. Anderson and Sara Dexter, at the University of Minnesota.

Funding for the research was received from the U. S. Department of Education, Office of Educational Research and Improvement (OERI). The production of the video series was supported by the U. S. Department of Education’s Preparing Tomorrow’s Teachers to Use Technology Program (PT3) program.

The views and conclusions in the video are those of the project co-directors and are not necessarily those of the U. S. Department of Education.

Special Thanks to the Staff and Students at
Lemon Grove Middle School: Where Technology Works for Learning

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