

# Testing a Thesis

## Internet in Schools: A National Crusade Backed by Scant Data

In Old-Economy Wyoming,  
Wiring Classrooms Has  
Minimal Impact So Far

The Ranch Holds More Allure

AI

By BOB DAVIS

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VALE RANCH, Wyo. — Thanks to the federal government and the state of Wyoming, the Cozy Hollow School is now online. Inside the trailer that serves as a schoolhouse, there are six new Apple iMac computers for the school's six students. Outside, a \$40,000 satellite dish links the computers to the wide world of the Web. Are the kids happy to be online?

"We'd rather go out and do something on the ranch," says 12-year-old Holly Kennedy. Nearby, her 13-year-old brother, Nik, searches Winchester rifle Web sites for good deals. "We try to clean up the prairie dogs," he explains.

Wiring schools for the Internet has become a national crusade and an election-year issue embraced on all sides. Al Gore and George W. Bush bicker over almost everything, but both agree the government must spend money to close the "digital divide" and assure that rich and poor, rural and urban, black and white all have access to the wired world.

Gov. Bush's state, Texas, has put together a \$1.5 billion Telecommunications Infrastructure Fund to spread Internet service. Vice President Gore has championed a \$2.25 billion-a-year program that now federally subsidizes school computer and Internet purchases. His boss, President Clinton, calls information technologies "the greatest equalizers our society has ever known."

### Reality Check

The reasons for the push are obvious: Half of new jobs that employ workers without college degrees require daily use of computers, often including use of the Internet, and the income gap between those who use computers on the job and those who don't continues to widen.

But from the political rhetoric, one might suppose that Internet access would be a transforming experience in schools once limited to pen-and-pencil-era technology, setting their students up to do much better in the work force someday. So far, though, despite the huge national commitment to wiring the nation's schools, there isn't much hard evidence that either computers or the Internet actually have helped close gaps in scholastic achievement.

Harold Wenglinsky of the Educational Testing Service has studied standardized-test scores for 13,373 fourth- and eighth-grade students. Surprisingly, he found that those who used computers at least once a week in school fared worse on tests than those who didn't use them that frequently. The only eighth-grade computer users who boosted their test scores were those who used the machines to work out complex problems, but most teachers didn't offer challenging assignments.

### Other Needs

Does this suggest that huge sums of money poured into technology for schools could be better spent otherwise? Some education critics say so, arguing that wiring the schools became such a top priority because it was relatively easy to accomplish, unlike most school reforms.

Diane Ravitch, an education scholar at

New York University, says that computer technology can devour school-district budgets and reinforce the culture's emphasis on gimmicks and quick fixes. Rather than pay for kids to go online, she thinks, schools should buy musical instruments and require that students learn to play them. "You have to practice, and you need concentration," Ms. Ravitch says. "That's what American kids don't get enough of."

But thanks to government subsidies, nearly every school in poverty-ridden neighborhoods now has Internet access. A Clinton administration goal of connecting every classroom to the Internet by the end of 2000 is within range, at a cost of some \$5 billion a year in federal, state and local funds.

### Prairie Laboratory

If any state should be benefiting from wired schools, it's Wyoming. With its bucking-bronco state symbol, the state is as Old Economy as America gets. It's No. 1 in the nation in the percentage of workers employed in mining, and 50th in the percentage who work in services. Wyoming gains when oil and gas prices rise, while much of the rest of the U.S. loses.

Wyoming is on the wrong side of the digital divide. With fewer than 500,000 people spread over 100,000 square miles of prairie and mountains, the state is very costly to wire for high-speed communications. But Wyoming also has a governor with a technological bent—plus the prod of an adverse court ruling. In 1995, Wyoming's Supreme Court ruled that the state's educational funding was unconstitutional because it didn't provide equal opportunities for all students.

To close the gap, the state connected all its schools by 1999 with high-speed data lines. By the end of next year, Wyoming expects to have two-way video conferencing installed in every high school, so teachers can beam classes to students in isolated schools.

Gov. Jim Geringer, a Republican, is hoping for economic ripple effects from this effort. He figures that once Wyoming's schoolchildren get hooked on the Internet, many of their parents will, too, building the state a more tech-savvy work force. Internet companies that hook up schools, either by optical fiber or satellite links, can also sell Internet service to local businesses. A wired Wyoming, he believes, can eventually become a high-tech magnet. "We see the New Economy and technology as a way to broaden our economic base," the governor says.

That's still a long way from happening at Cozy Hollow School northwest of Cheyenne, about as isolated a school as exists in the U.S. Three ranch families live at the end of a 10-mile gravel road and send their children to school in a trailer nearby. Part of the trailer also serves as a weekday home for the school's 48-year-old teacher, Dan Brecht, and his son.

The Internet offers the school's six children the world beyond their rocky vistas. But so far, they aren't clamoring to use it. Research? Cozy Hollow kids mostly use CD-ROM encyclopedias and a paper version of the World Book. E-mail? "I can use the phone," says 12-year-old Zach Brecht, son of the teacher.

Nine-year-old Joe Kennedy says he helped a kid elsewhere in Wyoming complete a science project by e-mailing daily weather reports. But as for how he uses the Internet himself, he says, "I look up Legos and Hot Wheels online."

Says the teacher, Mr. Brecht, who has taken a single course in using the Internet: "We're not necessarily enthralled by being bumped into the 21st century."

About 30 miles away, Internet access is having notably more effect in Wheatland High School. Wheatland, too, could use an economic boost. One-third of the families in the tidy town of 3,271, next to ranches and a power plant, are poor enough to qualify for free or subsidized school lunches. To find a job when they graduate, students often move to Colorado or Utah.

But computers have begun to change the way the school and the town operate. Some of the teachers have taken International Business Machines Corp. education-technology courses and now help train their colleagues. Ninth-graders must take a year-long computer-literacy course, which the school plans to cancel as soon as junior-high kids are required to learn the skills.

Jeff Wilhelm, who teaches ninth-grade English, says he records test and homework grades on the school's computer network so parents can follow their children's progress via the Internet. One parent quickly noticed that her son's grades were plummeting to a D average from a B and contacted his teachers to try to head off further problems. "It keeps the kids on their toes," he says.

Teachers have to be savvy, though. Another student waited for a secretary to leave her computer unattended and changed his grades online. Mr. Wilhelm caught the cheater because he kept separate written records.

Wayne Hicks, a biology teacher at Wheatland, is using the school's computer system to help community groups, such as Gov. Geringer hoped would happen. He teaches computerized mapping and asks students to form partnerships with adults. One student worked with her father, a county weed-control agent, to map the parts of weed-infested areas. Other students teamed with a pheasant-protection group to map the banks of trees that pheasants use for shelter during winter.

Social-studies teacher Maureen Ryff has perhaps the most elaborate program. Her students e-mail adults around the country about their assignments, so they can gain perspective and hone their letter-writing skills. Students send her their e-mails first, and she e-mails back suggestions for improvements.

For a World War II assignment, 15-year-old Shane Woods e-mailed an 83-year-old Army Air Corps veteran. The veteran told of seeing a Japanese envoy land on a Pacific island and transfer to Gen. Douglas MacArthur's plane, on the way to negotiate terms of Japan's surrender.

Does the technology actually boost school performance? Teachers find that good students often do well with technology, but it's hard to know whether the technology made the difference. Ms. Ryff says the three students in the class who didn't send out e-mails did much worse on their social-studies assignments than the 15 who did. But those three were weaker students anyway. Three others who were slunking turned into top students. Ms. Ryff says they turned around because they took the e-mail project seriously.

Across the country, scholars have tried to evaluate technology investments more scientifically, but their results are also ambiguous. One place that has been studied is Union City, N.J., a crowded city rife with poverty. Nearly all of its students are Latino, many with parents who don't speak English at home. With grants from New Jersey and Bell Atlantic Corp., Union City's schools were elaborately wired and outfitted with computers from 1993 to 1996.

At Christopher Columbus Middle School, some students were given computers to take home and could use computers at school, too. Others in the district had to rely solely on school computers. Math scores improved for the Columbus students, compared with other students in the city, but the reason wasn't technology. Rather, some of the Columbus students took algebra in eighth grade, boosted their skills and pulled up the whole group's test-score average.

The technology investment did make the students feel special and raise teacher expectations, concluded a study by the Center for Children and Technology, a New York City research group. "Technology has facilitated" improvements in the school, the Center reported. It wasn't much of a boast, given the scope of the technology project.

Back at Wheatland, Ms. Ryff listens to the Union City story and nods her head. "My gut feeling is that it [technology] works," she says. "But we have to get beyond gut feelings."

## A Hard Question: Should Church Pews Be a Comfort Zone?

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Tradition: Unpadded Wood;  
But Some Devoutly Desire  
A Softer Seat of Worship

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By ROBERT JOHNSON

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PALM CITY, Fla. — The Rev. Dexter Kessler watches worshipers at Sunday services slide into shiny wooden pews that he loves but they don't.

Accustomed to a more cushy life outside church, parishioners here and elsewhere are deciding in increasing numbers that there's no sin in being comfortable in a house of worship.

At the newly built Episcopal Church of the Advent here, Father Kessler's church, the beautiful oak pews will soon be topped by thick mauve cushions. That will add \$5,000-plus to the \$50,000 cost of the pews, but it's money well spent to many of the church's 375 members, especially some of the oldsters.

"For a lot of people, the padded pews will be more inviting," says Phil Leber, a retired Army engineer.

### Believer in Austerity

Still, the change troubles Father Kessler. "I'm a traditionalist," he says. "I think a church should be austere."

An elderly anonymous benefactor, a member of Episcopal Advent, put his money where he sits by donating funds for the new cushions, which will be delivered any day now. Says Father Kessler, reluctantly, "It's pretty hard to turn down a large donation even when it's for something that I personally don't want."

The market for restoring or replacing church pews has doubled to about \$200 million annually in the U.S. since 1990. Some affluent members are pushing for creature comforts over custom.

At Hagerstown Bible Church, 50 miles west of Baltimore, leaders recently decided to install cushions on newly renovated pews. "When we noticed that some people bring their own cushions to church, that alerted us to the need," says William Lowry, a board member.

The Rev. David Miller, whose Faith Presbyterian Church in St. Petersburg just spent \$70,000 on new upholstered pews, says, "I love the Lord, but there's no reason to hurt for an hour while doing so."

Church suppliers and renovators say that at least 50% of their orders are for cushioned seating today, compared with 20% five years ago. And cushions can cost as much as the pews themselves.

"I think it's a sin to cover up beautiful wood with upholstery," says Fredrick Taggart, who owns a church remodeling company in Mount Joy, Pa. Mr. Taggart, who concedes that cushion demand is good for his bottom line, is forgiving: "I understand that the baby boomers are starting to feel a lot of aches and pains — and they're the ones moving into church leadership now."

Theater seats now account for about 15% of all new church seating, up from about 3% in 1990. That, too, is controversial. Those chairs, some think, detract from the communal worship experience, and they keep kids from resting their heads in parents' laps.

"A lot of churches are agonizing about this," says Douglas Graber, a salesman at Sauder Manufacturing Co., a pew maker in Archbold, Ohio. The conversion to cushions certainly wasn't easy last year for the Rev. George "Sparky" Pritchard at Immanuel Baptist Church in Richmond, Va. "We had a battle," he says.

His 1,000-member church was built in the 1950s. The pews are made of rich manogany. Most of them were in relatively good shape, he says, "except for some carving on the back rows: 'I was here,' and that type of thing."

Still, some members pressed for padded pews during a \$330,000 renovation that included ventilation improvements, a new sound system and a remodeled choir loft. Whenever vendors get a whiff of big spending plans, some inevitably tempt the congregation with cushions.

Salesmen offered Immanuel Baptist the option of full padding, three inches thick, on both the seats and backs. One concern, says Mr. Pritchard: "Would you be sitting up so high that your feet wouldn't touch the floor?" Immanuel Baptist's leaders settled on blue removable cushions. They rejected back pads.

Padded church seating was almost unheard of 50 years ago. And historically, many churches didn't even offer seating, except to the sick and elderly, until the 1500s. Before that, most people stood and knelt on the floor at worship services. While Roman Catholicism and the early Anglican churches embraced magnificent edifices and stained glass, they didn't believe in making congregations too comfy, and some of their churches today still have unpadded kneeling rails. American Puritanism tended to reject the soft life in church even more, partly to emphasize its break with Catholicism.

Debe Tighe, office administrator at Grace Presbyterian Church in Lanham, Md., which is unpadded, sings in the choir and also plays in the chime group. "One of the reasons not to have cushions is they absorb sound," she says.

At Palm City's Episcopal Church of the Advent, where the decision in favor of cushions is a done deal, the debate lingers on. Jane Rose, the church's volunteer office manager and former president of the Episcopal Church Women, says older members may actually have "a harder time sliding in and out of pews with cushions" than on smooth wood.

As an alternative, one Advent teenager suggested in an essay that the church return to the ancient religious practice of worshipping outdoors—sitting on rocks. "That sounds very wonderful and idyllic," says Valerie Graham, Advent's director of youth and education. "But I think most of our kids are looking forward to sitting on padded seats, not stones."

Father Kessler, who came to the ministry 13 years ago after a career in accounting, says his objection to padded seats has a practical side. "They have to be cleaned and repaired when they get torn." And, he continues, "Wood reminds me of old churches, of old-time religion."

But as in so many debates, where you stand on this one depends on where you sit. Father Kessler himself regularly takes a seat in a throne-style, high-backed chair behind the altar. "What do I know?" he says. "My chair is a beautiful antique someone donated years ago, and it's quite well-padded."

### ADVANCED MICRO DEVICES INC.

Advanced Micro Devices Inc. today will unveil its new line of low-end microprocessors, which have speeds of 600 megahertz, 650 megahertz and 700 megahertz. The new processors, dubbed Duron, are designed specifically to compete with Intel Corp.'s low-end Celeron line. Duron broadens AMD's product lineup, which since last year has been carried by its high-end Athlon processor. AMD claims that Duron chips run far faster than equivalent Celeron chips in benchmark tests. Indeed, the 700-megahertz Duron runs at a faster speed than Intel's fastest Celeron, which runs at 600 megahertz. Intel, however, has pledged to strike back with a 700-megahertz Celeron by the end of the month.