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Money Matters

BY ROBERT C. JOHNSTON

America's digital divide no longer appears to be the metaphorical canyon it once was, lined on opposite sides by technology haves and have-nots. Today's divide acts more like a balloon: As the gap in computer access is squeezed in one place, bulging disparities, based on wealth, appear elsewhere.

Between 1984 and 2000, the number of students per computer in public schools dropped from 125 to just five—and the ratio was nearly the same when poverty was factored in.

At the same time, data reveal that needy students are the most likely to lack Internet access, and the most likely to use computers for simple tasks, such as repetitive drills, in school and at home.

"At first, we said, 'Oh my God, look at the numbers [of computers],'" says Norris E. Dickard, a senior associate with the Washington-based Benton Foundation, which promotes the use of technology to address social issues. "Now, we're probing below the surface. We're asking how much are students using them, and can students go to places where they can turn them on and do reports."

Limited access to high-speed connections also continues to hinder technology use in poor urban and rural communities.

Access Numbers

Last year, high-poverty schools had 5.3 students per computer, just slightly more than the 4.7 students for each computer in lower-poverty schools, according to Market Data Retrieval, a Shelton, Conn., firm that does educational-marketing research. MDR also found that 92 percent of needy schools had Internet access, just a little less than the 96 percent of all others.

That's the good news.

A more detailed breakdown by the U.S. Department of Education by degree of poverty found large gaps between the wealthiest and the poorest public schools.

In schools where fewer than 11 percent of students qualified for subsidized lunches, the percentage of classrooms with Internet access skyrocketed from 4 percent to 74 percent between 1994 and 1999. Where at least 71 percent of students qualified for subsidized lunches, classroom Internet access rose from 2 percent to 39 percent in that time.

Such disparities are even greater in the nation's households.

The U.S. Department of Commerce reports that 19 percent of households with incomes below $15,000 a year owned computers last year—up from 15 percent in December 1998. Meanwhile, 86 percent of households earning $75,000 or more a year had a computer at home in 2000.

About 11 percent of households in rural areas and 14 percent in central cities that earned below $15,000 a year could go online in 2000, compared with nearly eight in 10 households earning at least $75,000 a year.

Before each student received a free computer at one New York City school, it was easy to see how those inequities played out. "Some students would make beautiful diagrams to add to their work, while others would use tracing paper and pens," said Michelle Zernone, the director of the Manhattan Institute of Academics and Visual Arts. "I have pretty caring and dedicated teachers, so no one would hold it against students. But the shame was that you could see which children were disadvantaged."

Hope and Frustration

As a computer tutor at the same Los Angeles community center where he honed his own technology skills, Martin Lozano looks beyond the numbers to see a more complex picture of the digital divide.

The son of first-generation immigrants from Mexico, Lozano was 13 when he started going to a community center sponsored by the Bresee Foundation, a local nonprofit group that promotes computer literacy and job training.

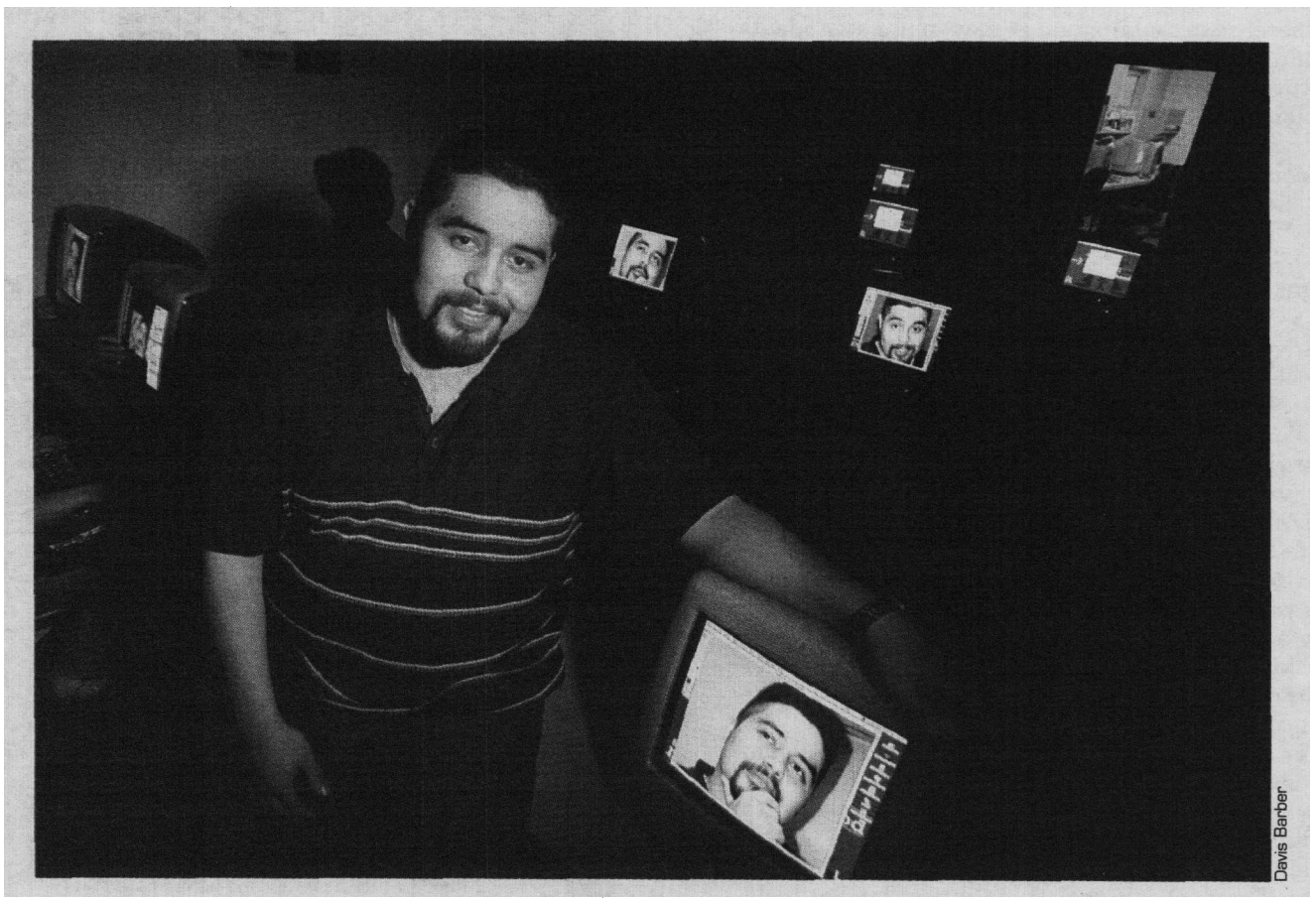
Now a 22-year-old computer science major who has crossed the digital divide, he imparts similar skills to dozens of students at the same center.

But he says problems persist, and they are based largely on family income.

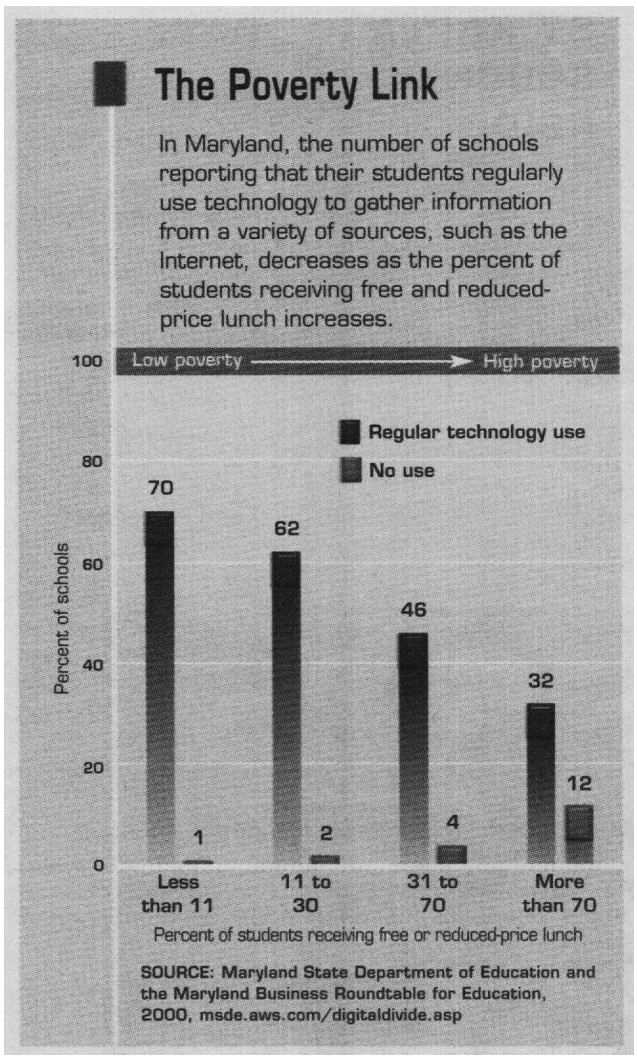
For example, he tells the story of a single mother who had no money left for software after spending $3,000 on a computer for her son. "The salesman told her everything she needed was on the computer," Lozano says. "She didn't know they could get a computer and the software for a lot less."

Danielle Walters, who works with the Stateway Gardens public-housing project in Chicago, says there are other obstacles to technology access that get little attention.

Roughly 40 percent of the complex's 700 families lack telephone service, she points out. When she conducted a


Davis Barber

As a computer tutor at a Los Angeles community center, Martin Lozano, 22, sees how far behind some people are in developing technology skills.



survey to find out why more residents didn't use phone lines, she was amazed to learn a common reason was that they couldn't afford the service calls to repair lines damaged by rats.

Gaps in Use

Even when access to technology is abundant, the well-to-do and the poor use it differently.

A report released in January by Henry J. Becker, a professor of education at the University of California, Irvine, found that half the children from high socioeconomic backgrounds who had computers at home used them for word processing, compared with only 24 percent of children from low socioeconomic backgrounds.

He found similar differences for school assignments, e-mail, graphics, and educational programs, with the better-off youngsters again more likely to use the home computers for those purposes.

Becker argues that computer use by all students falls short of potential, but he expresses particular concern that students from poor families "are far less likely to use computers at home for what many middle-class children experience as common, ordinary activities" such as using the Internet to do research. On the other hand, students from poor homes tended to use computers more to play games than anything else.

The Maryland Department of Education and the Maryland Business Roundtable for Education released a report in January that had similar findings for schools. According to the report, 72 percent of the state's classrooms are connected to the Internet, up from 58 percent in 1999.

But Maryland students at schools in wealthier areas are more than twice as likely as their peers in poorer communities to use technology to gather, organize, and store information. They are also three times more likely to use technology to perform measurements and collect data. ■