The new divides
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Education Week; May 10, 2001; 20, 35; Research Library
pg. 10

The New Divides

To fully understand today's digital inequities, educators and policymakers must look beyond the machines.

There was a time, not long ago, when the so-called digital divide was perceived and illustrated as a huge canyon or a miles-wide river. On the one side stood the technology-rich, happy because they had access to computers at school and home. On the other stood the technology-poor, unhappy because they had no access at all.

But using such metaphors to illustrate the digital divide in the 21st century would be largely inaccurate. To be sure, inequities in the availability of computer technology and Internet access still exist. But rather than one single, gaping divide, what the nation's schools are grappling with is more a set of divides, cutting in different directions like the tributaries of a river. And, increasingly, those inequities involve not so much access to computers, but the way computers are used to educate children.

"Everybody is still struggling" with the complexity of the problem, says Christopher J. Dede, co-director of the Technology in Education Program at Harvard University. "You're not going to find any district that says, 'We've solved this.' "

What has improved rapidly is the deployment of computers in schools, even in poor communities. Student-to-computer ratios for students attending the country's poorest schools are not far from the national average. Internet access—although far from ubiquitous—is no longer reserved just for schools in middle-class or wealthy communities.

Beyond that, more than 20,000 digital-divide services are spread across the nation, providing everything from special computer training for school-age children to low-interest loans to help some financially strapped families of public school students buy home computers.

With evidence of so much progress, some public policy officials are questioning whether the digital divide is really as serious as some say it is. At a press conference this past winter, the new chairman of the Federal Communications Commission, Michael K. Powell, suggested that the digital divide is more of a "Mercedes divide." In other words, everyone would like to have one, but you can still get to where you need to go with a less expensive machine.

Others—especially those who are questioning the large sums of money schools are investing in technology—argue that the digital divide is capturing too much attention and stealing limited resources from more important priorities: improving teachers' salaries, lowering pupil-teacher ratios, and repairing or replacing aging school buildings.

But advocates of a central role for technology in learning counter that the problems of the digital divide are far from solved.

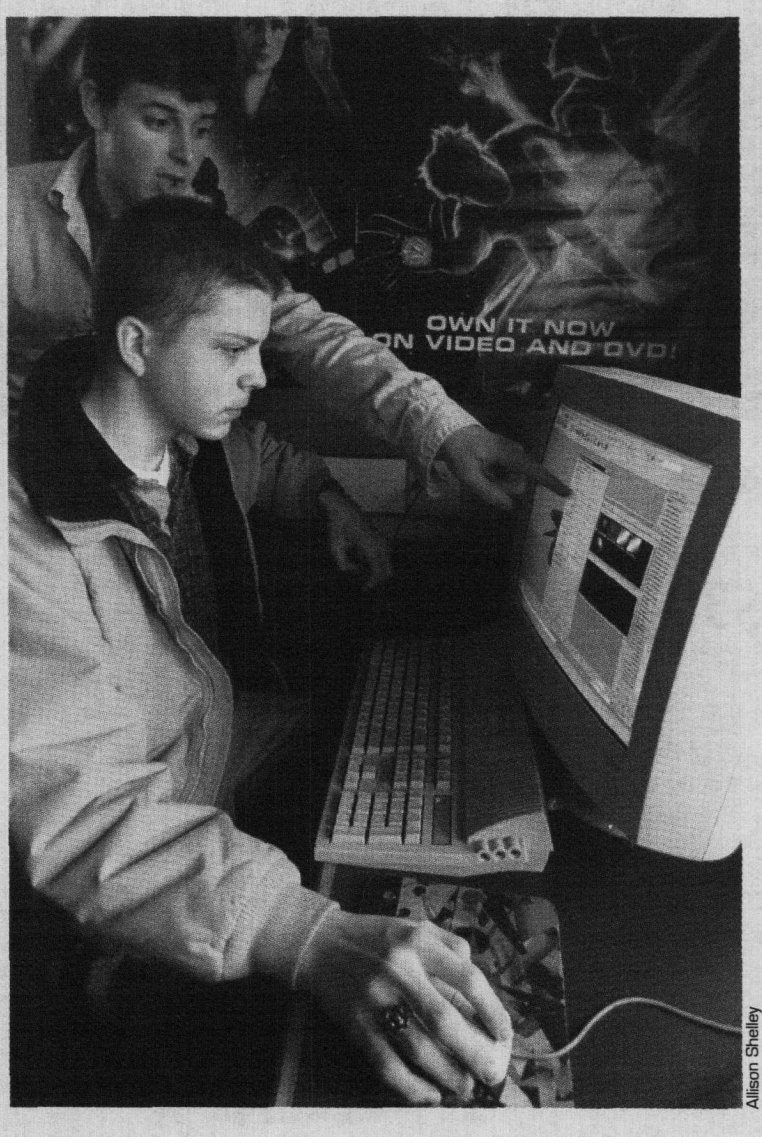
They say many questions remain to be answered. How often are students using the Internet and other computer resources to learn, and for what purposes? Are youngsters using school computers that can handle large amounts of data and employ sophisticated communication tools? Or are they working with obsolete machines that belong in a junkyard rather than a 21st-century classroom?

Other questions add to the complexity of the issue: Do some schools have the technical support necessary to keep machines running while others do not? Are teachers in one district getting better training to understand how to use technology to enhance learning, while teachers in another district are left to themselves to figure it out?

And, lastly, do all kinds of students—low achievers and high achievers, minority and white children, girls and boys, well-to-do and poor youngsters—benefit equally from the technology available in schools?

Margaret Honey, the director of the Center for Children and Technology in New York City, says the answers to those questions depend, in large part, on how much thought schools have put into the role technology should play in learning. Unfortunately, she says, many schools—although they have plenty of computers available—are using them in ways that will do little to close the digital divide or enhance student learning.

Says Honey: "The bottom line is, you don't just put technology into schools or into homes and expect mira-



Alison Shelley

The rapid infusion of computers into the nation's schools is closing the so-called digital divide, but education technology advocates say inequities persist beneath the surface. Certain types of students, some researchers argue, are not getting the high-quality technology experiences they need. And some schools are far less sophisticated technology users than others.

cles to happen. The technology is only as good as the program that surrounds it."

To help educators better understand the complexities of the digital divide and establish programs to help close the gaps that exist, *Technology Counts 2001* examines the issue from several angles, beginning with a section titled "Dividing Lines," which identifies the kinds of students who appear to be losing out when it comes to technology. For a variety of reasons, those students include poor children, minority students, girls, low achievers, students learning to speak English, children with disabilities, and youngsters who live in rural areas.

To show how district-level decisions are closely linked to closing the digital divide, the realities of one urban district's technology efforts are illustrated in "Beyond Machines," a story about the Pittsburgh city schools' growing awareness that it is human factors, as much as hardware and software improvements, that will enhance the use of technology for all students. As one district technology expert puts it: "Without focusing on human beings, we've lost some ground."

Still, there is a growing consensus that closing the digital divide in any community will require efforts that go beyond school programs. Technology experts say businesses, local government agencies, and community organizations must also pitch in. "Closing the Digital Divide" is a comprehensive look at the nation's efforts to put technology into the hands of those who are least likely to have access to it—and to help them learn to use it in ways that will enable them to improve their lives. A Web site that links to a directory of more than 20,000 digital-divide services is included in the story, which is followed by six snapshots of such programs.

This year's *Technology Counts* also includes results from a new survey of 500 middle and high school students. *Education Week* sponsored the poll in partnership with Harris Interactive and Market Data Retrieval. Among other findings, the results suggest that schools may not be harnessing the powers of technology as effectively as they could. For instance, 92 percent of the students surveyed said they believed that having good computer skills improves the quality of a person's life "a great deal" or "somewhat," but only 40 percent said they believed that knowing about computers is "extremely" or "very" important to how well they perform in school.

Indeed, technology experts say that schools still have much work to do. To understand better the breadth and depth of what lies ahead, "New Challenges" presents a host of statistics and analyses about technological access, capacity, and use. Some of the numbers and conclusions are heartening; others are not.

"We've definitely seen evidence that the digital divide exists, but [we've also seen] trends that it is improving," says Kathleen Brantley, the director of product development at Market Data Retrieval, a Shelton, Conn., market research firm that tracks technology trends in schools.

As with other equity issues in education, state legislatures and departments of education are leading players because they make funding and policy decisions that can help bridge whatever divides exist between local districts. "Across the Nation" takes a look at the progress states are making on this front. When viewed collectively, state-by-state approaches to equalizing access to technological resources—and the results gained from those efforts—are far from uniform.

Brief analyses of what each state has done, or failed to do, to try to close the digital divide are also included, as are data tables with state-by-state statistics on technology use in schools.

The goal of *Technology Counts 2001* is to advance understanding of just what the digital divide means for America's schools and communities. The editors of *Technology Counts* hope you'll find information here that will help you improve student achievement and meet the challenges of the digital age. —THE EDITORS