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# Computer and Internet access lead to success in college

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Home computers and Internet access are helping high school students stay enrolled, graduate and prepare for college at higher rates than students without these facilities, according to a series of studies by the Center for Justice, Tolerance and Community at UC Santa Cruz.

The 2003 study, "The Effects of Home Computers on School Enrollment," discovered that for every 100 teenagers age 16 to 18 without home computer access, 14 were not enrolled in high school. For households with computers, the study found for every 100 teenagers, four were not enrolled in high school.

A similar 2004 study by the center found that nearly half of high school graduates age 16 to 19 with home computers were enrolled in college, while the college enrollment rate for high school graduates without computers was one in four.

The results of the latest study, "A Nation Offline: Research into the Digital Divide," are preliminary, but they do show a small gain in enrollment rates among high school students without computers. The study also found high school graduation rates to be higher for students with home computers even when controlling for income and family education.

These results present a surprising opportunity, said lead researcher Robert W. Fairlie, associate professor of economics at UC Santa Cruz.

"I was very skeptical that computers made much of a difference in education," Fairlie said. "Obviously, computers can have an effect in the labor market and society in general, but now I am finding that there might be a role for home computers in keeping kids engaged in school and out of trouble.

"It might actually raise the rate of high school graduation," he said.

In addition to overall student success, in the latest study Fairlie surveyed five community technology centers in the United States and found that computers and Internet access are "keeping kids off the streets," he said. The study looked at centers in Seattle, Harlem, Lowell, Los Angeles and the California Central Valley.

Having a home computer and Internet access creates an academic advantage for high school students, said Henry Gutierrez, associate professor and acting chair of the social sciences department at San Jose State University.

Homework turned in by students with home computers is more organized, attractive and "creates a more favorable impression," Gutierrez said, reflecting on his experience as a student teacher supervisor.

"Clearly students with computers and Internet access are going to do better because they have access to more information," he said.

This access is essential to a student's academic toolbox and could be increased through special educational tax breaks, laptop loaner programs, computer donations and refurbishing programs, Fairlie of UCSC said.

Computers for Classrooms is a nonprofit that has been trying to bridge the digital divide by refurbishing computers for classrooms. After seeing the results of Fairlie's studies, however, company director Pat Furr decided to focusing on bringing computers into low-income households.

"What Robert Fairlie did was document the need, and get the message out, that we need to place more computers in student's homes," Furr said. "Children are twice as likely to go to college if they have a computer at home.

"The digital divide is not getting smaller. In fact, it is getting bigger," she said.

Furr started the Chico-based company 14 years ago with a focus on serving the schools of Butte County. It was motivation enough that at one computer per six students, California K-12 schools have the worst student to computer ratio in the country, she said. But now students with disabilities or who qualify for the free or discount lunch program are eligible for a $150 computer through Furr's program. Other low-income groups may qualify as well, she said.

This price includes a Pentium II machine with two hard drives, a 17-inch monitor, an inkjet computer and a licensed Microsoft operating system, she said.

"We use what we can and what we don't use we recycle," Furr said. "Any group having trouble accessing technology, we will help them. It's good for the environment, good for the donor and good for everyone."

Although Fairlie's recent research has been focused primarily on high school students, he has also studied the wider racial and socioeconomic details of what researchers refer to as "the Digital Divide."

In his 2003 study, "Is There a Digital Divide?" Fairlie found that less than one half of all black and Latino school-age children have computer access and one in four use the Internet at home. This compares to more than eight out of 10 white school-age children with computer access and more than half that use the Internet at home.

Asians have the highest computer ownership and Internet usage among all groups measured, more than seven out of 10 and more than half, respectively, according to the study.

The study also found that income is not entirely responsible for the divide. Among families with an income of at least $60,000, blacks and Latinos are "substantially less likely" to own a computer or use the Internet than are whites and Asians. Among adults with an income of less than $20,000, whites are twice as likely to own computers and use the Internet than blacks and Latinos, the study found.

In 2003, six out of 10 households had a home computer with more than half of households subscribing to and Internet service, according to the study. California has the highest numbers in the nation with seven out of 10 households owning a computer and six out of 10 subscribing to the Internet, the study found.