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Not Enough Girls

BY JOHN GEHRING

Ashley Weagraff doesn't worry about the boys anymore. She is the exception.

One of the few girls taking technology-related classes at G. Ray Bodley High School in Fulton, N.Y., the 15-year-old fought back her initial anxiety and now works well with male students in a computer-enhanced technical drawing, design, and production class.

But she still knows well the fear that keeps many girls from taking similar courses that feature a heavy dose of technology. "A lot of the time, girls steer clear of technology classes because they are intimidated by the majority of males in the classes," she says.

The gender divide in technology classes at Weagraff's school is not an anomaly. Across the country, the vast majority of girls shy away from technology-related classes. Last year, for instance, only 15 percent of those taking the Advanced Placement exam for computer science were girls, according to the College Board, which sponsors the exams.

Results from a national survey released in January by the University of California, Los Angeles, in conjunction with the American Council on Education, showed that male college students were twice as likely as their female peers to rate their computer skills as above average, and five times more likely to pursue careers in computer programming.

The U.S. Department of Education reports that in 1998 women received 27 percent of undergraduate degrees in computer science, down from a high of 37 percent in 1984—a gender divide in technology education that is contributing to an already acute shortage of skilled technology workers.

While overt discrimination against girls in schools appears to be rare, students, teachers, and advocacy groups say that work remains to be done in lifting the subtle barriers that still limit young women from having the information and opportunities to explore technology-rich classes.

Those roadblocks range from teachers who grew up in an era when careers were often starkly delineated along gender lines to outdated school counseling material. Experts also suggest that because most school districts are occupied with the demands of standards-based reform and high-stakes testing, trying to get schools to think more critically about gender stereotyping and increasing the number of girls in technology-related courses can be difficult.

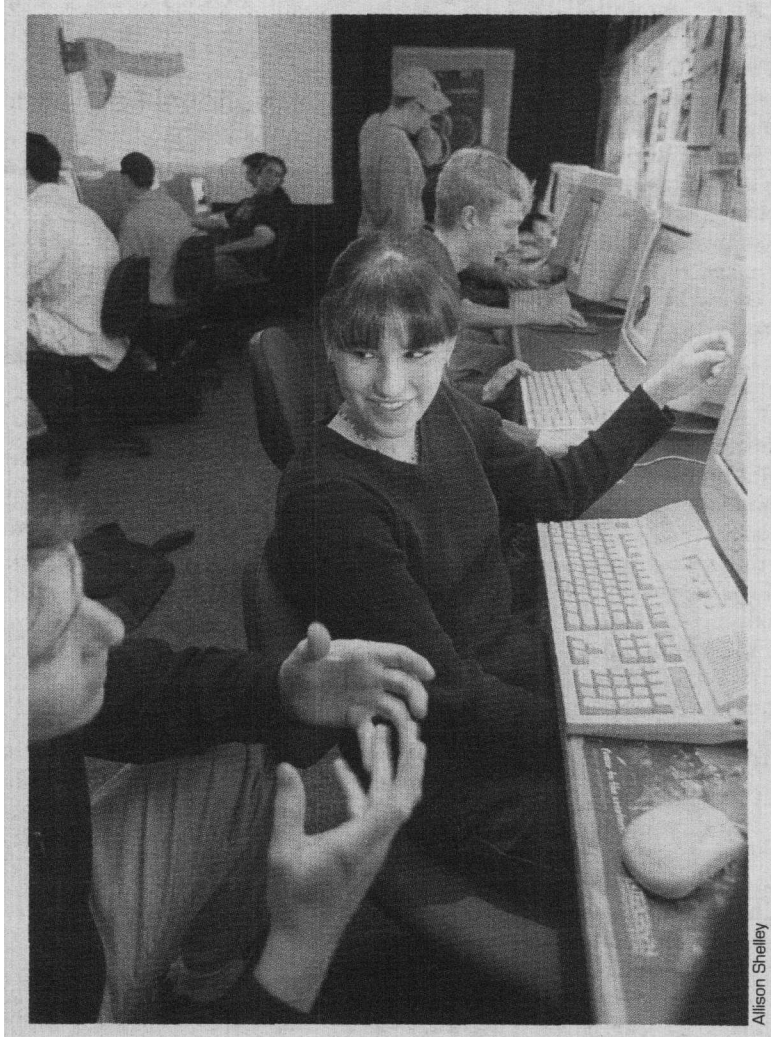
Donna Matteson, a teacher in the technology department at Bodley High, says the challenge of attracting more girls to classes that involve the use of technology is not unique to her school or state.

"This is an issue for people who I have talked to all over the country," she says. "It is one of those constant struggles to make sure you produce a program that is gender-fair. You are battling so many societal issues."

Fifteen years ago, Matteson was among only a handful of women enrolled as technology education majors at the State University of New York at Oswego. "It wasn't much better when my daughter graduated three years ago," Matteson says. "Things haven't improved a whole lot."

Marcia Greenberger, a co-president of the National Women's Law Center, a Washington-based advocacy organization, says that school systems have lagged behind the business world when it comes to creating an equal-opportunity environment. The law center, which works to advance girls in school and women in the workplace, has started a public-information campaign that takes aim at gender stereotyping and discrimination in career and technical programs.

"Women and girls are not getting the education they need to prepare them for high-wage careers in areas such as computers and engineering," Greenberger contends. "Even with all the advancements for women, many job-training and career programs are still segregated by sex, with female students in classes such as cosmetology and typing, that lead to traditionally female, low-wage careers."


Allison Shelley

Across the country, technology-related classes, such as this one at South Burlington High School in Vermont, serve mostly boys. Last year, only 15 percent of those taking the Advanced Placement exam for computer science were girls. Between 1984 and 1998, the percentage of women receiving undergraduate degrees in computer science dropped from 37 percent to 27 percent.

'Subtle Biases'

Other groups are pushing a high-tech agenda for girls, too.

Last year, the Washington-based American Association of University Women released a report, "Tech-Savvy: Educating Girls in the New Computer Age," that says schools need to do a better job of teaching and applying information technology, particularly as it relates to girls.

"Girls are an untapped source of talent to lead the high-tech economy and culture," the report argues. Teachers and those who write curricula, it continues, "need to cultivate girls' interest by infusing technology concepts and uses into subject areas ranging from music to history to the sciences in order to interest a broader array of learners."

And women's groups say efforts need to be made to get girls interested in technical careers while they're in high school.

The Cisco Networking Academy Program—which

teaches students to design, build, and maintain computer systems and is taught in schools across the country—has made recruiting and retaining women for its program a high priority. Among other projects, Cisco has asked the Institute for Women in Trades, Technology, and Science, an organization that works to encourage women to enter fields such as technology, to review Cisco programs to find better ways to attract girls and women into technology.

An informal survey conducted by Cisco officials found a ratio of roughly 5-to-1 of males to females in its academy programs.

"We believe there is a real need to encourage young women," says Erin Walsh, the manager for international strategies and partnerships at Cisco. "Technology is a terrific career choice."

Gender Equity Loses Steam

A 1998 update of the federal law that helps pay for state vocational education programs eliminated a separate funding source that the initial law had earmarked for nontraditional populations and efforts to eliminate sex bias and stereotypes in vocational education, the curriculum umbrella that covers many school technology classes. Under the old version of the law, states were required to have gender-equity coordinators to make sure relatively equal numbers of girls and boys were benefiting from such classes.

But today, although states still have the option of funding such positions, they are not required to do so. Congress also set a cap on how much set-aside money states can spend on programs for special populations, such as clubs for girls interested in technology.

"This is a touchy issue, and a lot of states don't want to deal with it," says Mimi Lufkin, the executive director of the Cochranville, Pa.–based National Alliance for Partnerships in Equity, Inc., or NAPE, which promotes gender equity in education. "Teachers can be defensive if someone comes in and says, 'You are not doing this right.' "

Training teachers and guidance counselors to be sensitive to gender issues, Lufkin argues, is critical in improving the environment for vocational and technology education programs. Currently, only four states out of 36 that responded to a NAPE survey reported that they had a full-time employee devoted to gender equity.

'Different Preferences'

Other experts, meanwhile, question the premises of much of the discussion of girls and technology.

Judith S. Kleinfeld, a professor of psychology at the University of Alaska, Fairbanks, argues that what many advocates and teachers see as a disturbing "gender gap" in technology is really a natural process of students choosing to pursue different interests.

In general, she says, research shows that women prefer activities that involve working with other people, and men have more of an interest in working with "things"— including computers. Talking about a gender gap, she says, makes it seem that girls somehow aren't doing as well as boys.

Encouraging girls to pursue courses oriented toward technology can be positive, but pressuring girls into technology-related careers when their interest lies with teaching or nursing, she cautions, is wrong and makes young women feel that such careers are less worthy.

"As long as we have a society in which males and females are free to make choices, they are going to make choices," Kleinfeld says. "Males and females have different preferences." ■