Helping Girls Succeed

Even though girls have made progress, programs designed for girls still need support.

Denice A. Jobe

Most teachers, parents, and administrators agree that in the past girls lagged behind boys in mathematics, science, and technology. Consequently, the National Science Foundation, Girls Incorporated, GirlTECH, the Sally Ride Science Club, and other organizations and initiatives, as well as the American Association of University Woman Educational Foundation, have supported after-school technology clubs and summer math camps specifically designed to encourage girls in these subject areas.

Girls have made much progress. Many girls today excel in mathematics and most sciences. More girls than ever are enrolling in college. So is the crisis over? Some say yes. They say that we no longer need programs specifically designed for girls. In fact, they claim that such programs are unfair—girls are succeeding at the expense of boys. But the truth is that these enrichment programs for girls are needed more than ever.

Challenges Girls Still Face

Whereas girls' participation in mathematics and science has increased in the past decade, there has been no comparable rise in their involvement in high-tech activities. Today's female undergraduates slightly outnumber male undergraduates at U.S. colleges and universities. A closer look at who receives undergraduate degrees in high-tech fields, however, reveals alarming disparities between the sexes. Women receive 28 percent of the computer science bachelor's degrees and just 18 percent of the engineering bachelor's degrees (U.S. Department of Education, 2001). Only one-fifth of all bachelor's degrees in physics, and one-eighth of doctorates, go to women (Neuschatz & McFarling, 1999).

According to the U.S. Department of Labor Statistics, high-tech jobs will be among the fastest-growing occupations in the 21st century (Hecker, 2001). Programmers, designers, and systems managers will be in high demand, and those working in these fields will command high salaries. Girls are an untapped source of talent to lead the high-tech economy and culture, but we must encourage girls in these areas early. If we don't, opportunities to pursue careers in these fields may be lost.

Girls need special support for other reasons, too. Girls suffer from a well-documented decline in self-esteem during their adolescent years. Low self-esteem can lead to poor academic performance and diminished ambitions. Additional blocks to learning, which schools find difficult to address but at which girls-only programs have more success, include sexual harassment, substance abuse, pregnancy, violence, and eating disorders (American Association of University Women, 1992).

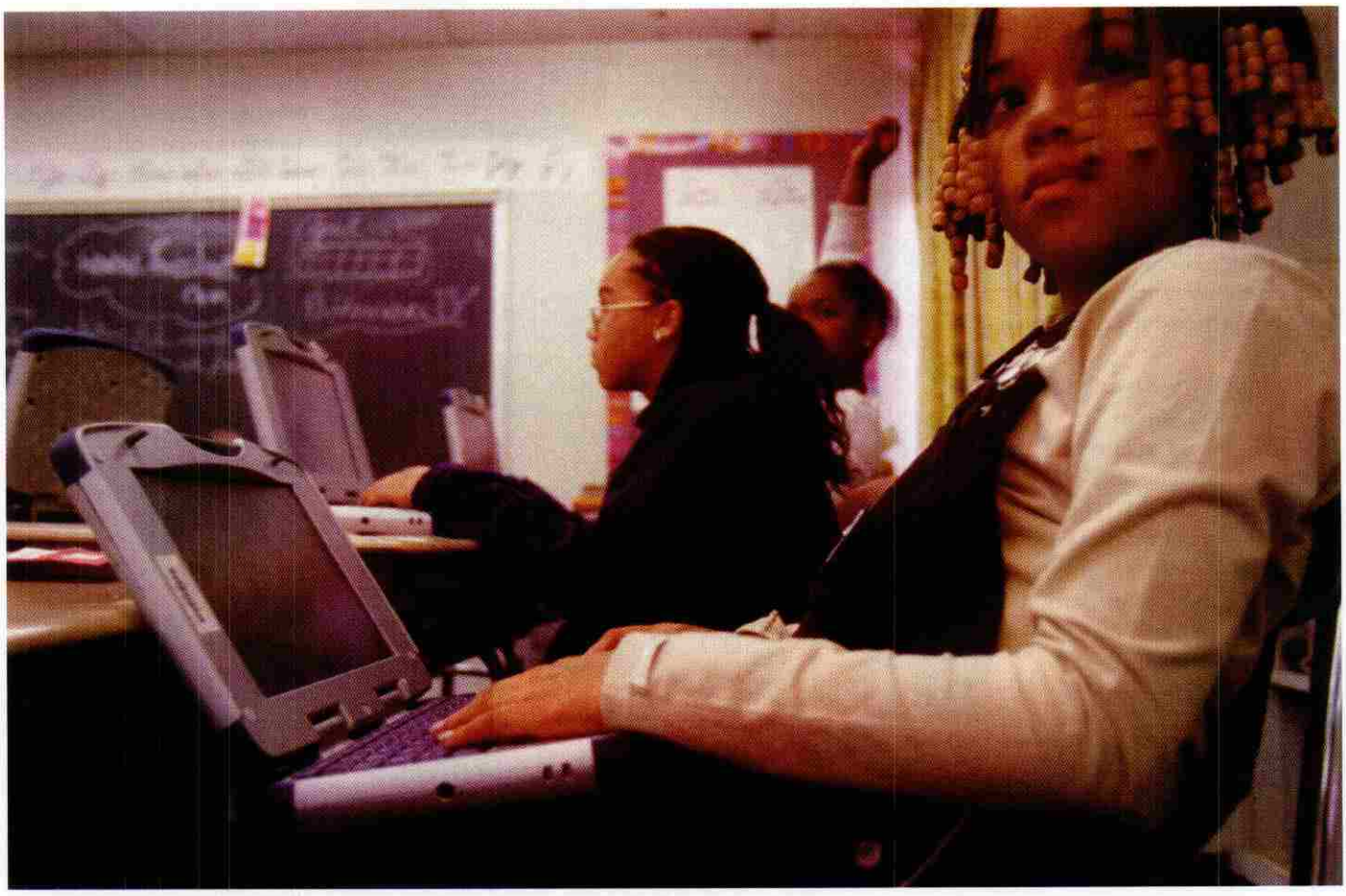
Aligning Teaching Approaches with Girls' Needs

But girl-focused does not always mean girls-only. Many educators design hands-on, collaborative science, math, and technology classroom activities that appeal to both girls and boys. For example, Denise Tabasco and Mary Barth, teachers of math and physics at Haddonfield Memorial High School in Haddonfield, New Jersey, used "reform" Advanced Placement calculus to develop a physics program that has become the favorite class of both girls and boys. Instead of calculating problems in the standard way, they coach their students in using verbal and visual methods of problem solving.

Tabasco says,

> The students had ownership of the material, real conceptual understanding. Their critical thinking was at a level I had never seen, and their test results proved that what I was experiencing in the classroom was really happening. For the first time in my career, class participation, test scores, and overall attitudes were consistent between the sexes.

Other strategies for reaching girls include infusing math, science, and technology concepts into subject areas ranging from music to history. Introducing computer use across disciplines gives girls many entry points for gaining competence and confidence in using technology. More than boys, girls see



© Carl Walsh/Aurora/Workbookstock

computers as tools and show more interest in computers for solving real-life problems (American Association of University Women, 2000). Also, all students—boys and girls—benefit from meeting and interviewing professional women working in high-tech or science fields.

Some teachers find it helpful to share with students findings of recent studies on gender and science, math, and technology. Educators may want to consult such programs as Generating Expectations for Student Achievement, which are designed to help teachers deliver gender-fair instruction. Teachers who participate in such programs observe one another's classes and record (by gender and ethnicity) their colleagues' interactions with students. They focus on disparities in five major areas: instructional contact, grouping and organization, classroom management and discipline, enhancing self-esteem, and assessing student performance. Through peer observation, feedback, and individual reflection, teachers in the Generating Expectations for Student Achievement program become more aware of their own hidden biases and boost the quality of their interactions (Grayson & Martin, 1997).

Girls suffer from a well-documented decline in self-esteem during their adolescent years.

Girls and Boys Learning Together

In September 2000, the American Association of University Women Educational Foundation held a forum called "Beyond the Gender Wars," which brought together a panel of scholars and researchers to focus on boys' and girls' issues. The panelists agreed that both boys and girls face significant hurdles in achieving success, often stemming from cultural ideas about masculinity and femininity—the ways in which we expect boys and girls to behave. The goal of gender equity is to build learning environments where neither boys nor girls feel confined by stereotypes and expectations about who they are. Generalizations about boys and girls do not take into account within-group differences, such as race, ethnicity, socioeconomic status, and other characteristics. We need to move beyond the notion of girls and boys as two generic groups.

The panelists also agreed that educating children differently is not a zero-sum game. The idea that one sex wins at the expense of the other is one of several distortions about gender and learning. In fact, studies show that an

increased classroom emphasis on teamwork and collaboration—reforms initially aimed at girls—benefits boys, too. While working together to complete assignments, students learn important interpersonal skills. They learn to cooperate, negotiate, resolve conflict, and listen to one another. They practice building relationships (Pryor, 1995).

A competitive classroom, on the other hand, forces students to work against one another. Although some students thrive in this type of environment, many others do not. It is vital that teachers make the classroom work for all students, and that means adopting multiple teaching methods to reach diverse learners.

Separated by Sex, a report released in 1998 by the American Association of University Women Educational Foundation, found inconclusive evidence that single-sex schools work for students. Although single-sex classes and schools do produce some positive results for some students, researchers have not fully examined the educational implications of single-sex education and its long-term impact on boys and girls.

Eliminating gender bias in the classroom and providing all students with an equitable education will benefit everyone, boys and girls alike. As William Pollack, director of the Center for Men and Young Men and assistant clinical professor of psychology at Harvard Medical School, said at the "Beyond the Gender Wars" forum, "We already know the safest schools are where boys and girls talk to and respect each other."

Photos courtesy of Denice A. Jobe

By flying "twirly copters," girls learned about flight direction and how variables affect flights (top). By creating a stream table, girls learned how rivers cut through terrain (above).

Eliminating Learning Barriers for Every Child

Pitting girls against boys only serves to distract us from creating truly equitable and effective schools that work for all students. Certainly, both boys and girls face serious problems that affect their education and success. Studies indicate that boys are more likely to be enrolled in special education classes. They are also more likely to drop out of school. Clearly, we need to attend to these issues.

Given the significant challenges boys face, do we still need programs specifically aimed at encouraging girls' achievement in school? The answer is yes. Do we also need programs for boys? Yes, we do. Different needs require different remedies. No one would argue that students with limited English proficiency need specialized instruction. Do other children lose out when we address the needs of these students? The fact is, all students need our attention.

Every child deserves access to opportunities. If barriers to success exist, we must try to eliminate them. It is our responsibility to address the unique learning needs of all students: girls and boys; the disabled; African American and white, Asian American and Hispanic; rich and poor. Only then can we ensure equity, academic success, and justice for all children. ■

References

American Association of University Women Educational Foundation. (1992). *How schools shortchange girls*. Washington, DC: Author.

American Association of University Women Educational Foundation. (1998). *Separated by sex: A critical look at single-sex education for girls*. Washington, DC: Author.

American Association of University Women Educational Foundation. (2000). *Tech-savvy: Educating girls in the new computer age*. Washington, DC: Author.

Grayson, D. A., & Martin, M. D. (1997). *Generating expectations for student achievement (GESA): An equitable approach to educational excellence—Teacher handbook*. Tehachapi, CA: Graymill.

Hecker, D. E. (2001). Occupational employment projections to 2010. *Monthly Labor Review, 124*(11), 58.

Neuschatz, M., & McFarling, M. (1999). *Maintaining momentum: High school physics for a new millennium*. College Park, MD: American Institute of Physics.

Pryor, J. (1995). Gender issues in group-work. *British Educational Research Journal, 21*(3), 286.

U.S. Department of Education, National Center for Education Statistics. (2001, May). *Digest of education statistics, 2001*. Washington, DC: Author.

Denice A. Jobe is a senior program officer for the American Association of University Women Educational Foundation; 1111 16th St. NW, Washington, DC 20036; jobed@aauw.org.