

Career and Technical Education

Females Breaking Ground in Construction Industry

San Diego Business Journal, January 2007

Female Electrician Enjoys Challenges of a Demanding Job

St. Louis Post-Dispatch, July 2006

Where are all the Women Plumbers?

St. Louis Post-Dispatch, June 2006

When the media profiles pioneering women who have shattered barriers to enter male dominated fields, it is easy to forget that these articles, while important and inspiring, portray the rare exceptions. The reality is that even though women have made significant gains in professional jobs traditionally dominated by men, in the last 35 years they have made relatively little progress in the trades or in technology.

This problem starts well before women enter the workforce. In the United States, career and technical education (or vocational education as it has been widely known) in high schools and community and technical colleges is the primary source of training for careers in technology and the skilled trades. Thirty-five years after Title IX outlawed sex discrimination in career and technical education classrooms as part of its general ban on sex discrimination in schools, however, male students continue to predominate in courses that lead to high-skill, high-wage jobs, while female students are the majority of students in the low-wage, low-skill tracks. These enrollment patterns reflect, at least in part, the persistence of sex stereotyping and sex discrimination. In addition, they are particularly problematic for girls and women, since their lifetime earnings and career advancement opportunities are affected by the training they receive in career and technical education programs.

The reality for girls and women is that 35 years after Title IX, sex segregation in career and technical education has narrowed barely at all. Without better enforcement of Title IX and increased investment in programming to close the gender divide, the outlook for gender equity in career and technical education remains grim.

The Promise of Title IX and Other Legislation Opening Access to Career and Technical Education Has Not Been Realized

Despite the persistence and troubling consequences of sex segregation in CTE programs, laws designed to address these problems have not fulfilled their promise. In fact, the

early promise of these laws has been weakened over time by lack of enforcement and elimination of targeted statutory mandates.

Before the 1970s, the career and technical education system in the United States intentionally segregated students by sex. Educational institutions routinely denied female students admission into classes deemed “improper” for them, such as shop, manufacturing, auto mechanics and architectural drafting, and instead directed them into cosmetology, home economics and sewing classes. Specialized vocational high schools and technical colleges providing training in areas such as aviation and maritime trades were reserved exclusively for male students.¹⁰⁶

In 1972, the passage of Title IX made it unlawful for schools to steer students into career and technical education classes based on their gender. In fact, administrative policies issued under Title IX require that schools take steps to ensure that the disproportionate enrollment of students of one sex in a course is not the result of discrimination. In 1979, OCR developed guidelines to further explain how Title IX applies to career and technical education programs. *The Vocational Education Guidelines for Eliminating Discrimination* require states to collect, analyze and report civil rights data; conduct compliance reviews; and provide technical assistance.¹⁰⁷ As with other areas of education, Title IX’s enforcement mechanism allows students facing discrimination in career and technical education to file administrative complaints with OCR or file lawsuits to challenge discrimination in court.¹⁰⁸

During the years following the passage of Title IX and up until the late 1990s, Congress passed several laws with provisions that sought to systematically promote gender equity in career and technical education. These laws went beyond the antidiscrimination prohibitions and compliance requirements of Title IX, and mandated and provided resources for schools to take proactive steps to reduce sex segregation and make career and technical education classrooms more equitable.

In 1976, Congress amended the Vocational Education Act to require each State to hire a “sex-equity coordinator,” who was responsible for making the career and technical education system in his or her state more equitable. Congress provided \$50,000 to each State to support the sex-equity coordinator position.¹⁰⁹ In 1984, Congress passed the Carl D. Perkins Vocational Education Act (Perkins Act) requiring States to set aside 3.5% (decreased to 3% in 1990) of their career and technical education funding for programs designed to eliminate sex bias and stereotyping. Another 8.5% set-aside (decreased to 7% in 1990) supported programs for individuals who faced significant barriers to career and technical education, but who might benefit greatly from the occupational skill training offered by these programs, including displaced homemakers (women returning to the workforce after time out caring for family members), single parents and single pregnant or parenting teens.¹¹⁰

While these changes did not eliminate sex segregation, they did help to increase access and opportunities for women and girls in career and technical education. Thousands of women were trained and placed in nontraditional occupations, which are defined as occupations in which women represent less than 25% of employees. Teachers received training on how to maintain gender equity in the classroom and address classroom barriers, such as sexual harassment.¹¹¹ Between 1984 and 1998, an average of \$100 million annually was spent on programs primarily serving women and girls, with the goals of eliminating sex bias in career and technical education, including the barriers that some women face in accessing career and technical training.¹¹² This investment led to slow but steady progress for women and girls in career and technical education programs across the country.

Despite these early efforts, Congress set back this progress in 1998, when its reauthorization of the Perkins Act eliminated the majority of provisions that addressed sex segregation in career and technical education. The law eliminated the requirements for a state gender equity coordinator and for a gender-equity set-aside, leaving the states the discretion to use the funds for other purposes.¹¹³ The new law did require states to reserve a small amount of money—between \$60,000 and \$150,000 a year—to provide services to students pursuing nontraditional training and employment.¹¹⁴ But, this was between only 3% and 7.5% of the amount that had been previously available for gender equity efforts; far too paltry a sum to make real progress towards eliminating sex segregation in career and technical education. The Perkins Act also created performance measures for states based on the per-

centage of students who enrolled in and completed nontraditional programs for their gender. However, because they were not accompanied by sanctions or incentives, or supported by significant funding, the measures did little to hold states accountable for reducing sex-segregation.¹¹⁵

Spotty enforcement further limited Title IX’s effectiveness in eliminating sex discrimination in career and technical education. While the Title IX regulations authorize OCR to conduct compliance reviews, it has done little to investigate patterns of sex segregation, even when specifically requested to do so by gender equity and education advocates. Further, in recent years, states have consolidated their mandated gender equity reviews into overall school improvement reviews, which has severely minimized the investigation of issues of sex segregation and discrimination in career and technical education programs.¹¹⁶ Reversal of this conduct is critical if gender equity in career and technical education is to be achieved.

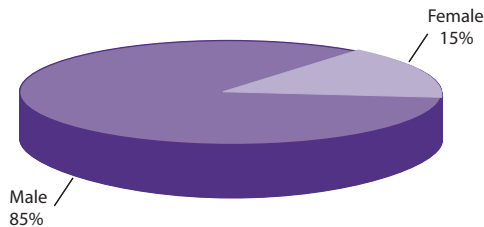
Construction for Boys, Cosmetology for Girls

In October 2005, the National Women’s Law Center published *Tools of the Trade*, a report examining career and technical education enrollment patterns in twelve geographically diverse states.¹¹⁷ This report revealed that girls make up almost 90% of the students enrolled in classes leading to traditionally female occupations and only 15% of those taking classes in traditionally male fields. In some traditionally female occupations, sex segregation is particularly marked. Female students make up 98% of the students enrolled in cosmetology, 87% of childcare students and 86% of those in health-related courses. Correspondingly, girls are largely absent from traditionally male courses, comprising only 4% of heating, A/C and refrigeration students, 5% of welding students, 6% of electrician and plumber/pipefitter students and 9% of automotive students.¹¹⁸

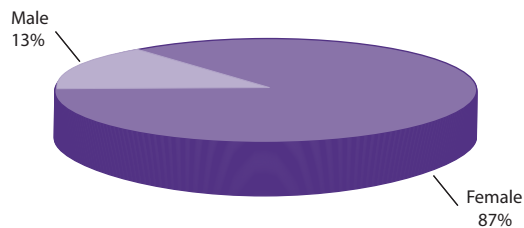
Thus, today’s career and technical education classrooms look strikingly and distressingly similar to those of 1972. Though some occupational categories have changed over time, overall levels of sex segregation remain largely unchanged after thirty-five years. Female students continue to make up the majority in programs that prepare students for stereotypically female, low-paying jobs; male students predominate in high-skill, high-wage career tracks.

Enrollment Disparities in High School CTE Courses

Enrollment in Courses Leading to Nontraditional Occupations for Females



Enrollment in Courses Leading to Traditionally Female Occupations



National Women's Law Center, *Tools of the Trade*, p. 5.

Enrollment Patterns Reflect Sex Discrimination in Career and Technical Education

Despite claims made by critics of Title IX, the persistent sex-segregation in career and technical education is not simply the result of women's and girls' choices and preferences. While the reasons for the gender divide are complex, existing research suggests that patterns of segregation result in significant part from—and in turn perpetuate—sex discrimination. Biased career counseling, gender stereotyping, unequal treatment by teachers, sexual harassment and other discriminatory practices result in a career and technical education system that limits the educational opportunities of women and girls. Female students are discouraged from pursuing traditionally male training programs in ways that are both subtle—such as an instructor inadvertently allowing male students to monopolize atten-

tion—and not so subtle—such as a guidance counselor telling a female student that an electronics course is “not for girls.”

Consider the following examples of sex discrimination uncovered in *Tools of the Trade*:

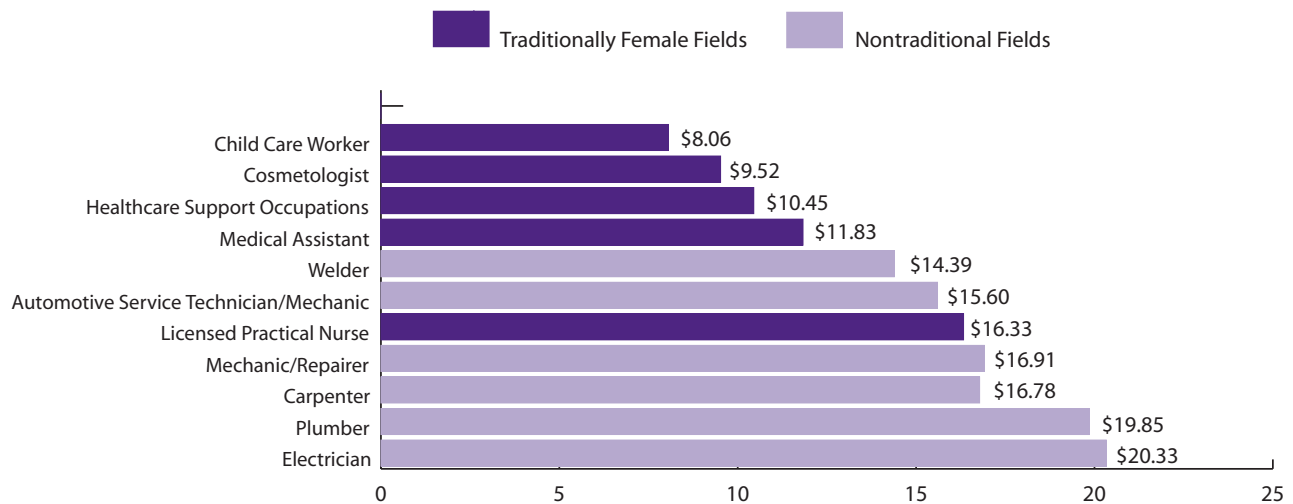
- A female student in Michigan reported that a counselor “tried to talk me out of” enrolling in auto body classes.
- A student in Pennsylvania was told by her classmates that “girls were not supposed to take masonry classes.”
- A student enrolled in an air conditioning program in Illinois described how she was sexually harassed by her fellow students—while her male teachers not only did nothing to stop her peers, but also sometimes joined in themselves.
- A New York City high school used a recruiting banner proclaiming that the school “builds mechanical men.”
- Another student in Michigan reported that the walls of her technology education classroom were covered with pinups of scantily clad women and a mural of male students using a urinal.¹¹⁹

Sex Segregation in CTE Programs Results in Limited Economic Opportunities

In addition to violating Title IX, these discriminatory practices have significant negative consequences for women's economic security. Women working in traditionally female fields earn on average 20-30% less than their counterparts in nontraditional fields. Traditionally male careers generally offer higher entry-level wages and better career advancement opportunities.¹²⁰ While child care providers offer vital services for families, the unfortunate reality is that a woman working in this field (a traditionally female track) struggles to support herself and her family on \$345 a week. A woman employed in an installation, maintenance or repair occupation (traditionally male tracks), on the other hand, earns almost twice that much.¹²¹ Thus, the relegation of women into traditionally female training programs and ultimately low-wage, low-skill career paths seriously disadvantages their earning power and career advancement prospects.

The impact of sex-segregation has become even more problematic as CTE programs have begun to offer training in new and emerging high-tech fields such as pre-engineering, computer repair and circuitry and telecommunications. These emerging fields offer very high-paying jobs with good benefits, such as healthcare and retirement savings. For example, individuals in telecommunication installation and repair earn \$874 a week, on average.¹²² But, despite the growing job opportunities and high demand for skilled labor in these fields, girls

Comparison of Median Hourly Wages for Occupations that are Traditional and Non Traditional for Women



National Women's Law Center, *Tools of the Trade*, p. 7.

and women are dramatically under-represented in educational programs that prepare them for these occupations and there are few efforts to actively recruit them into these careers. (See the chapter on Title IX and STEM for more information.)

Conclusion

In 2006, Congress passed yet another iteration of the Perkins Act. This latest legislation does not make up for the ground lost in 1998, but it does take several important steps that could—if implemented effectively by states and schools—renew progress toward gender equity in career and technical education. The new law requires schools to spend funds on programs that offer women and girls training for nontraditional occupations, as well as programs helping single parents and other women with barriers to employment succeed in career and technical education, and ultimately obtain high-skill, high-wage employment. In addition, the law adds

teeth to previously existing performance measures on the percentage of students who enroll in and complete nontraditional programs for their gender. If states do not meet specific targets around nontraditional training, they stand to lose their federal funding.¹²³ This change has the potential to increase opportunities for women and girls to enter and advance in a wide range of employment sectors, including those occupations typically dominated by men. The actions of states and schools will determine the future headlines about Title IX and career and technical education.

High Tech Girls Society

The good news is that successful strategies do exist. One example is the High Tech Girls' Society, launched in 2003 by the Minneapolis Public School District to increase the representation of girls in traditionally male-dominated, high-tech courses such as aviation, engineering and information technology. Through its substantial mentoring component, hands-on learning activities, site visits

and other related activities, the program has increased girls' enrollment in high-tech classes in areas such as engineering, information technology, construction and auto technology. In 2002, female students made up 39% of students enrolled in these high-tech courses; in 2005, they made up 44%.¹²⁴

Welder Michelle Zwotanek and the Nontraditional Occupations Project

Throughout most of her one-year welding program at Southwest Wisconsin Technical College, Michelle Zwotanek was the only female student in the room. Her male classmates made life difficult for her, frequently harassing her by teasing and "pulling pranks" on her. Fortunately, Southwest Tech has a Nontraditional Occupations Project (NTO), which offers support services for any student enrolled in a training program that is nontraditional for his or her sex. During her time at Southwest Tech, Michelle participated in a weekly peer support group that allowed her to connect, share resources and trouble-shoot difficulties with other female students at the college who were training for non-traditional careers.

The NTO Project also provided Michelle opportunities to do outreach with community high schools, educating younger women about opportunities in non-traditional fields. For Michelle, this was a critical to staying the course despite the challenges she faced: "Knowing that I was making a difference in the lives of these girls made me even more driven to want to succeed at it." With determination, an encouraging instructor, and support from the NTO Project, Michelle graduated from the program with High Honors and was immediately hired at an above average wage.

NCWGE RECOMMENDATIONS

CONGRESS AND OTHER POLICYMAKERS

- Federal policymakers should establish an adequate, designated funding stream for state-wide activities to reduce sex-segregation in career and technical education.
- Federal policymakers should restore funding to gender equity programs lost under the 1998 reauthorization of the Perkins Act. One option is to pass the Pathways Advancing Career Training (PACT) Act.
- Federal policymakers should restore the full-time gender-equity coordinator position in each state in addition to the already required state Title IX Coordinators.
- State policymakers should ensure that high schools and community colleges have effective programs and activities for students training for nontraditional employment and those with barriers to training, such as single parents and women returning to the workforce after time out caring for family members. States should make use of the flexibility granted to them under the Perkins law to use funding to support schools in providing these programs and activities.

ADMINISTRATIVE AGENCIES

- The Department of Education should conduct compliance reviews of career and technical education programs to ensure that they provide equal access and opportunity for all students. The reviews should evaluate school compliance with Title IX and its implementing regulations, as well as with the Department of Education's Vocational Education Programs Guidelines for Eliminating Discrimination.

EDUCATION PROGRAMS AND ACTIVITIES

- Schools should build upon or cultivate an institutional commitment to gender equity and compliance with Title IX and other civil rights laws. Educators should emphasize ending gender-based career stereotypes and let students know that they support nontraditional choices.
- Schools should actively recruit female students into training programs for non-traditional occupations. Career counseling and guidance should highlight the positive aspects of nontraditional careers for women and girls.
- Schools should introduce students to role models, including adults who have nontraditional careers and peers who recently participated in nontraditional career and technical education programs.
- Schools should provide support services for students in programs that are nontraditional for their gender, including orientation programs, mentoring programs and peer support programs.