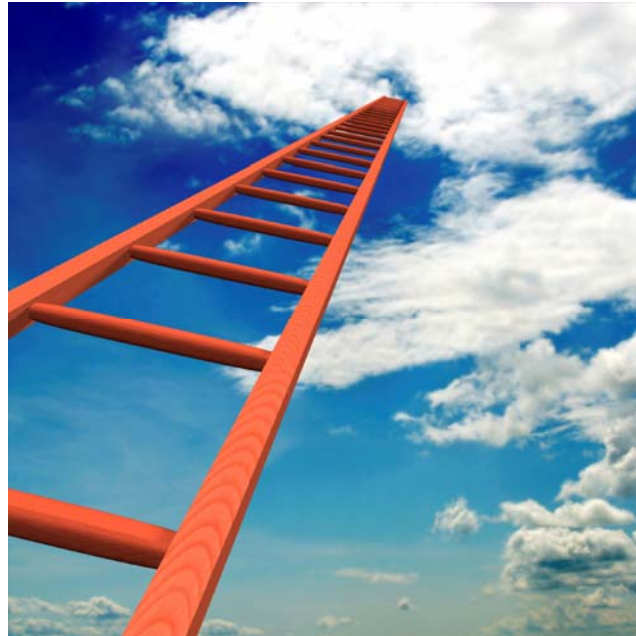


Reaching New Heights:

Promising Practices for Recruiting and Retaining Students in Career
and Technical Education Programs That Are
Nontraditional for Their Gender



July 2007

A publication of

**Programs and Practices That Work: Preparing Students for
Nontraditional Careers Project**

A joint project sponsored by

The Association of Career and Technical Education

The National Alliance for Partnerships in Equity

The National Association of State Directors
of Career Technical Education Consortium

The National Women's Law Center

Executive Summary

Reaching New Heights

This report describes promising practices for improving students' access to career and technical education (CTE) programs that are nontraditional for their gender. It relies on practices utilized by the winners of, and nominees for, the 2007 "Programs and Practices That Work: Preparing Students for Nontraditional Careers" Project award. The Programs and Practices That Work (PPTW) Project was created in 2005 by the Association of Career and Technical Education (ACTE), the National Alliance for Partnerships in Equity (NAPE), the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), and the National Women's Law Center (NWLC) to recognize programs that have successfully raised the enrollment and retention of under-represented students in nontraditional CTE courses. This year's recognized programs are: The Seattle Public Schools (highest recognition for IGNITE (Inspiring Girls In Technology Evolution)), St. Paul College in Minnesota (honorable mention for its respiratory care program), and Northeast Community College in Nebraska (honorable mention for its mentoring program).

Educators and administrators are encouraged to implement programs and practices that incorporate these promising techniques already used by other institutions:

- Implement research-based strategies for improving enrollment and retention of students in nontraditional CTE programs;
- Effectively identify and build strong education-community partnerships, interagency coalitions and business partnerships;
- Introduce students to role models, including professionals who have nontraditional careers and peers who participated in nontraditional CTE programs;
- Provide hands-on opportunities for students to learn about and apply skills;
- Centrally coordinate all the schools in a community college or secondary system;
- Build upon or cultivate an institutional commitment to gender equity and compliance with civil rights laws and use the program as an opportunity to train all staff about gender equity;
- Respond to the needs of the local labor market and feature high-demand occupations;

- Measure the outcomes and results of the project by collecting data about the students who participate in the program or benefit from the practice, including whether they have been retained in the field or continued their education in other areas;
- Collect testimonials and seek both positive and negative input from program participants to measure their enthusiasm for the program and make improvements where necessary;
- Document the program in a manner that is replicable by others attempting to implement similar programs;
- Expand model programs to other under-served populations that have historically not participated in careers that are nontraditional for their race, disability or socio-economic status.

We are currently accepting nominations for the 2008 PPTW recognition. See www.napequity.org/ for more information.

I. INTRODUCTION

June 23, 2007 marked the thirty-fifth anniversary of the enactment of the landmark Title IX legislation that mandates equal opportunity for women and girls in all aspects of education. But despite the tremendous gains women and girls have made in education over the past thirty-five years, girls continue to be the vast majority of those who enroll in traditionally female career and technical education courses, such as cosmetology, child care and health services. And boys make up all but a tiny percentage of the students in traditionally male fields such as auto mechanics and construction and repair.

These enrollment patterns have serious consequences for girls and boys. For example, traditionally female occupations, in which large numbers of girls are concentrated, pay substantially lower wages than nontraditional fields. But boys also are disadvantaged by the enrollment patterns, because they may be missing out on opportunities to pursue promising positions in high-demand and high-growth fields, such as nursing and other health-related careers. While these fields may pay less than many traditionally male careers, they are projected by many states to experience significant growth in the upcoming years. Moreover, all students lose out when artificial barriers prevent students from pursuing careers that match their interests and abilities.

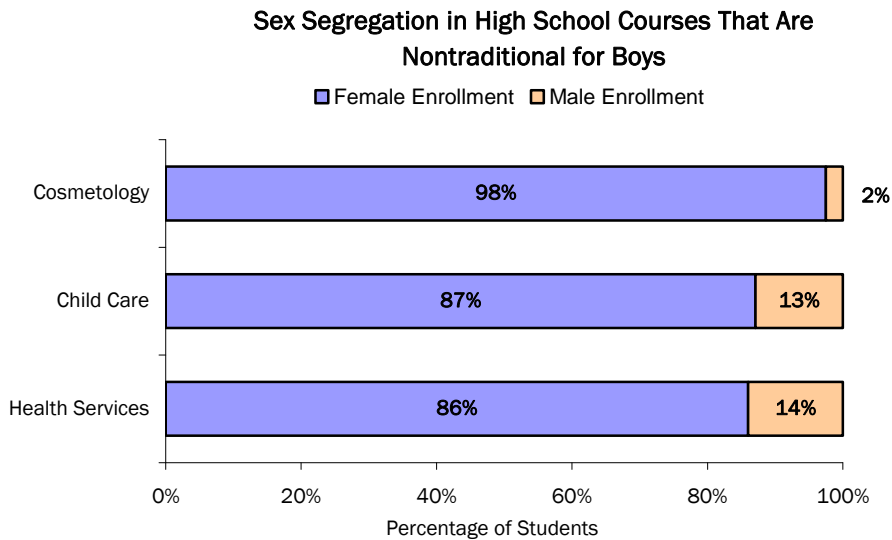
In an increasingly competitive and global economy, the factors that create real barriers to student participation in fields that are nontraditional for their gender cannot be ignored. This Report recognizes three programs that have implemented promising approaches for encouraging students to explore nontraditional training and employment. The Seattle Public Schools received the highest recognition for Inspiring Girls In Technology Evolution (IGNITE), a program which has dramatically increased girls' exposure to, and enrollment in technology courses in Seattle. St. Paul College in Minnesota received an honorable mention for its respiratory care program, which has improved the access and success of men in the area of health care. And Nebraska's Northeast Community College also received an honorable mention for its mentoring program, which has increased the retention rate of students studying in nontraditional fields by providing academic help and support to those students.

Background on Career and Technical Education. Career and technical education ("CTE"), formerly known as vocational education, makes up a significant portion of both secondary and postsecondary education in the United States. Over 95% of high school students take at least one CTE course, and about one-quarter of high school students take a concentration of three or more related CTE courses before they graduate from high school.¹ Participation in CTE at the postsecondary level is high as well — nearly one-third of all postsecondary students are enrolled in sub-baccalaureate vocational programs.² Moreover, CTE participation rates have grown significantly in just a short period. Nationwide, over 15.1 million students were enrolled in CTE in 2004—an increase of 57% from the 9.6 million enrolled in 1999.³

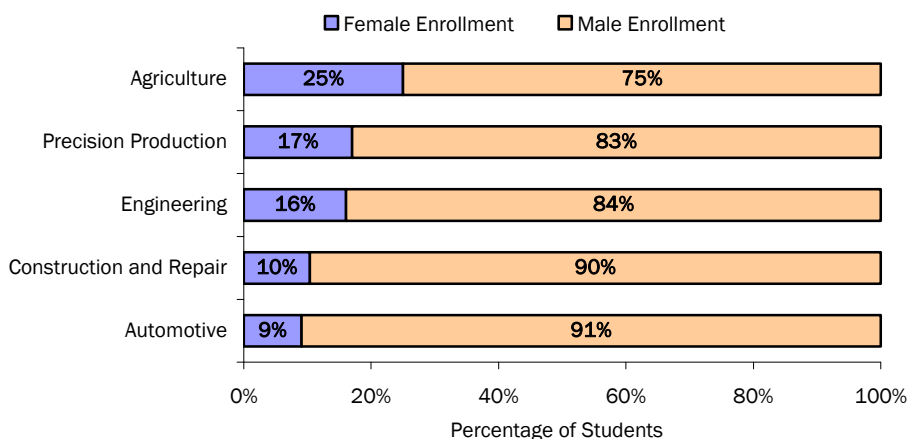
CTE programs are increasingly academically rigorous and can offer training in new and emerging high-tech fields. For example, new programs in courses such as

biotechnology and robotics have garnered national attention.⁴ Furthermore, among the recent findings about CTE are that it can keep students engaged, an important factor in reducing the high drop-out rate⁵ and that CTE can lead students to take higher levels of math and science.⁶ Moreover, students with a CTE background can also have the foundation to obtain high-paying, stable employment immediately following graduation from high school. And for those students who pursue postsecondary studies (and CTE students enter postsecondary education at approximately the same rate as all high school students),⁷ CTE programs offer skills that can benefit them as they continue their education.

CTE Enrollment Patterns Have Not Changed Substantially Since Title IX Was Passed. Despite the many exciting opportunities in CTE, recent enrollment data show that these benefits are not equally available to all students. Even though Title IX of the Education Amendments of 1972—the federal law prohibiting sex discrimination in education—has been in effect for 35 years, some CTE courses and job training opportunities are still dominated by one gender. For example, in high schools across the country, programs such as automotive technology, construction and engineering are dominated by male students, while programs such as nursing are dominated by female students. The following charts, which detail enrollment data from 2002-2003 and 2003-2004, demonstrate the disproportionate enrollment patterns of male and female students in CTE courses that are nontraditional for their gender.



Sex Segregation in High School CTE Courses That Are Nontraditional for Girls



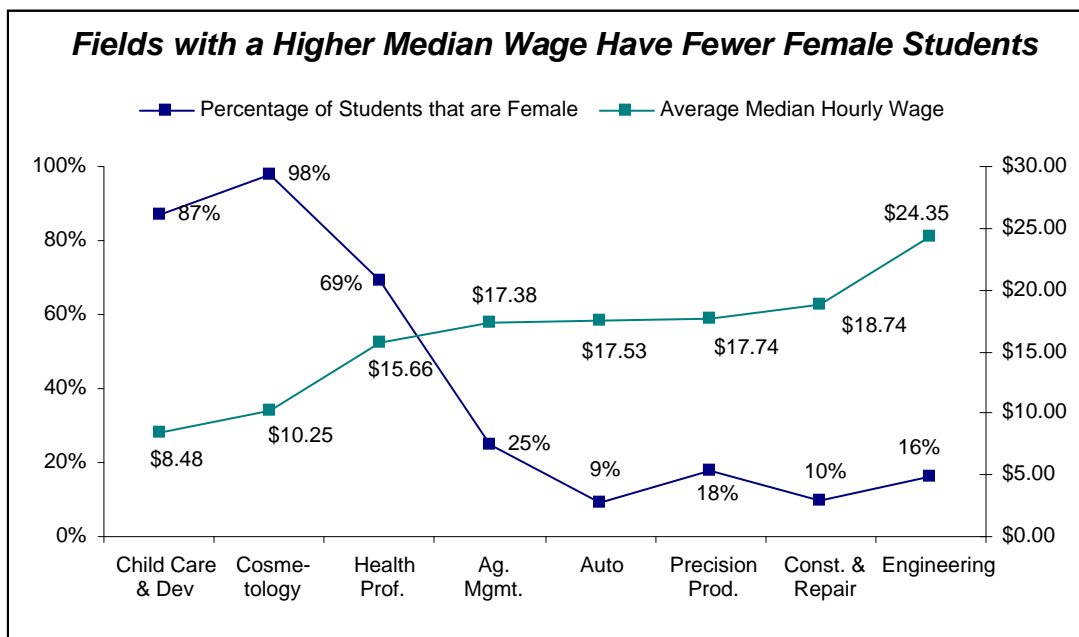
In fact, the most recent available data show that the level of under-representation of women in CTE fields that are nontraditional for their gender has remained virtually unchanged since 1979. High school girls also continue to be under-represented in critical math and science fields as well. In 2005, girls made up only 31% of students taking AP physics exams and only 15% of students taking AP computer science exams.⁸

While the reasons for this persistent under-representation are complex, preliminary research on CTE and research on math, science, engineering, and technology education suggest that, at least for female students, lack of enrollment in nontraditional courses can be linked to sex discrimination and sex-stereotyping – indeed, stereotyping limits options for boys as well. Sex discrimination and stereotyping – such as permitting sexual or gender-based harassment in classrooms, inadvertently allowing boys to monopolize equipment or teacher attention, or steering girls and boys away from nontraditional courses—can create real barriers that prevent students from being able to make informed choices about or pursue their education and careers.⁹ Other barriers that may contribute to the disparities in enrollment include:

- Student and parent lack of awareness about nontraditional CTE opportunities;
- Student internalization of sex-stereotyped roles;
- Peer pressure to avoid nontraditional CTE courses;
- Cultural pressure to avoid nontraditional CTE courses;
- Reluctance to be a “pioneer” in a new field.

The Enrollment Disparities Have Significant Consequences. Although lack of access to educational opportunities affects both genders, it is particularly troubling for women in

today's economy. Discouraging young women from pursuing nontraditional training can limit their access to nontraditional jobs, which are more likely to be high-paying than traditional jobs. As the chart below shows, male-dominated fields pay an average median hourly wage of \$18.48, while the traditionally female fields pay just \$14.26 on average. This translates into a median annual salary of \$38,429 for men and \$29,663 for women – a \$8,766 wage gap.¹⁰ In local labor markets, some of the most high-demand and high-wage jobs are nontraditional for women. In New Jersey, for example, network systems and data communications analysts are in very high demand and make two-to-three times as much as the other four fastest growing occupations in the state. And among the twenty-five occupations with the highest percentage growth projected for 2004-2014 by the New Jersey Department of Labor, none of the five occupations with the highest hourly median wage are traditional for women.¹¹



These disparities are a problem for men, too. In New Jersey, three of the five occupations with the highest percentage growth projected for 2004-2014 by the New Jersey Department of Labor—(1) veterinary technologists and technicians, (2) home health aides, and (3) medical assistants—are nontraditional for men and are projected to be in high demand over the next 10 years.¹²

There are Steps Administrators, Educators, Lawmakers and Advocates Can Take. The good news is that progress is possible. Administrators, educators, lawmakers and advocates can work cooperatively to take steps to ensure that neither sex discrimination nor outmoded stereotypes affects students' attitudes toward, access to, enrollment in, or completion of nontraditional programs that can lead to higher paying careers. To assist in this endeavor, the Association of Career and Technical Education (ACTE), the National Alliance for Partnerships in Equity (NAPE), the National Association of State Directors of Career Technical Education Consortium (NASDCTEc) and the National Women's Law Center (NWLC)

jointly sponsor the Programs and Practices that Work (PPTW) project to highlight programs that have overcome barriers that have historically limited opportunities based on gender and found innovative ways to encourage students to explore nontraditional training and employment. PPTW is designed to help schools eliminate subtle and unintended, as well as overt, barriers that students face in enrolling in and completing nontraditional courses and programs.

This Third Annual Report highlights the programs selected for recognition in 2007 and features promising practices for gender equity in CTE programs. The Report also recommends concrete action steps and identifies federal and state resources available to administrators, educators, and lawmakers to improve gender equity in CTE programs and courses that are nontraditional for one gender.

II. THE 2007 HONORED PROGRAMS

For 2007, ACTE, NAPE, NASDCTEc, and NWLC selected three programs for PPTW recognition. The Seattle Public Schools received the highest recognition for its program Inspiring Girls In Technology Evolution (IGNITE), which has dramatically increased girls' exposure to, and enrollment in, technology courses in Seattle. St. Paul College in Minnesota received an honorable mention for its respiratory care program, which has improved the access and success of men in the area of health care. And Nebraska's Northeast Community College also received an honorable mention for its mentoring program, which has increased the retention rate of students studying in nontraditional fields by providing academic help and support to those students.

Highest Recognition—Seattle Public Schools, Washington.

Since 2000 the IGNITE program has connected over 10,000 Seattle high school girls with women in technology careers. IGNITE has three specific goals – 1) to expose girls to the many technology career opportunities so that they are making informed career and educational choices; 2) to banish outmoded stereotypes about appropriate careers for women by connecting the girls with a diverse group of women working in technology; and 3) to provide ongoing opportunities for the girls to interact with women in technology careers, including job shadowing, internships and mentorship opportunities.

By developing personal connections between the girls and the women, the program has inspired girls throughout Seattle to overcome barriers to their participation in technology courses. Prior to 2000, girls made up only a handful of students in Seattle high school technology courses. After seven years, girls make up a substantial amount of the students in technology courses and in some cases they fill half of the seats in technology classrooms. For example, although the typical Seattle female enrollment in Cisco Networking Academies was less than 17%, female enrollment in these classes has increased by 35-80%, depending on the school. There has been progress in general IT courses as well. Prior to IGNITE, enrollment in Seattle IT courses averaged less than 10% female enrollment, it now ranges from between 20 to almost 50%.

IGNITE has been particularly successful in engaging the local Seattle business community. Microsoft and Cisco Systems are important partners and have provided financial assistance, sponsored field trips, provided job shadowing and internships. Indeed, in 2004, girls made up 66% of Microsoft high school internships.

Another important element of the IGNITE program is its emphasis on recruiting a diverse group of women in technology as speakers and mentors to the girls. The women are able to closely engage the Seattle girls and take care to share their full stories, including their ability to overcome obstacles relating to their gender, race, ethnicity, poverty, teenage pregnancy, and language.

The IGNITE program also measures its success by tracking its alumnae. IGNITE alumnae have gone on to complete CISCO and Microsoft certifications, have pursued postsecondary technology programs and are involved in technology careers.

Honorable Mention – St. Paul College, Minnesota.

St. Paul College has engaged in aggressive recruiting to attract more men to the health care profession and respiratory care in particular. They've used the media to highlight prominent men working in the health profession. They've also relied on a highly visible department chair to showcase faculty in nontraditional occupations.

The number of men enrolled in the respiratory care program at St. Paul College increased dramatically in only a four year period. In 2002, men made up only 5 participants in the respiratory care program. That number jumped to 88 participants in 2006 (out of a total 169 enrolled students). There has been an increase in male graduates from the respiratory care program as well. Since 2005, male graduates have made up anywhere from 42 to 62% of respiratory care graduates.

Honorable Mention – Northeast Community College, Nebraska

Northeast Community College provides a range of support services for students studying in fields that are nontraditional for their gender. It offers career planning, individual counseling, scholarships, and financial assistance to students for support services, such as childcare, mileage tuition, and textbooks.

In 2005, Northeast Community College added a mentoring program to its efforts to recruit and retain students in nontraditional fields. The mentoring program allows first year students to receive one-on-one academic support and mentorship from second year students in their field. The students meet weekly about a range of academic, career and personal issues. Although the mentorship component of the program is new, it's shown early success. Graduation rates for students in nontraditional fields increased by 84% in one year.

II. PROMISING STRATEGIES FROM THE 2007 NOMINATIONS

The three honored 2007 PPTW programs represent different approaches to improving enrollment of the under-represented gender in nontraditional CTE courses. The

IGNITE program uses hands-on activities and mentorships to expose high school girls to technology careers and breakdown outmoded stereotype types about appropriate careers for women. St. Paul College used the media and other resources to breakdown stereotypes about the role of men in the respiratory care profession. And Northeast Community College has used a peer mentorship program to support students studying in nontraditional careers. However, all of these programs, as well as several of the programs nominated over the past three years employ certain common strategies. The following factors tend to be present in a promising or successful program for improving enrollment and completion rates of the under-represented gender in nontraditional courses. The program or practice:

- Implements research-based strategies for improving enrollment and retention of students in nontraditional CTE programs;
- Effectively identifies and builds strong education-community partnerships, interagency coalitions and business partnerships;
- Introduces students to role models, including professionals who have nontraditional careers and peers who participated in nontraditional CTE programs. The role models answer questions, share stories, and frequently interact with and mentor students;
- Provides hands-on opportunities for students to learn about and apply skills;
- Documents the program in a manner that is replicable by others attempting to implement similar programs;
- Centrally coordinates all the schools in a community college or secondary system;
- Measures the outcomes and results of the project by collecting data about the students who participate in the program or benefit from the practice, including whether they have been retained in the field or continued their education in other areas;
- Collects testimonials and seek both positive and negative input from program participants to measure their enthusiasm for the program and make improvements where necessary;
- Expands model programs to other under-served populations that have historically not participated in careers that are nontraditional for their race, disability or socio-economic status;
- Builds upon or cultivates an institutional commitment to gender equity and compliance with civil rights laws and uses the program as an opportunity to train all staff about gender equity;
- Responds to the needs of the local labor market and features high-demand occupations.

III. PROGRESS IS POSSIBLE—IMPLEMENTING PROMISING TECHNIQUES FOR GENDER EQUITY IN CTE

This report describes several methods used to increase enrollment and retention of the under-represented gender in nontraditional CTE. We encourage teachers, administrators, and other education personnel to use these successful strategies to develop programs in their own communities and to experiment with additional new and innovative approaches.¹³ We also encourage educators to contact one of the four sponsoring organizations of PPTW to learn more about this year's recognized programs or the multiple approaches described in this report. In addition to providing technical assistance, we may be able to put educators in touch with individuals in their communities who have programs for gender equity.

Of course, some of the above described practices do not require specific funding and simply represent sound educational practices that can be immediately implemented by administrators, counselors and/or teachers. Where funding for initiatives is necessary, however, educators can seek it from a variety of sources. For example, funding may be available from local businesses whose workforce is comprised of occupations that may be nontraditional for one gender. We also recommend that educators and advocates seek funding through their state educational agencies. Advocates can urge schools to fund gender equity programs in CTE in order to bolster compliance with federal and state laws and standards.

Advocates can begin by noting that the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV), the 2006 federal law that funds and sets standards for CTE, requires state and local recipients of federal funds to make progress in improving student participation in and completion of CTE that leads to nontraditional training and employment as part of the accountability system. Moreover, local recipients of Perkins dollars must use funds on activities that prepare special populations, including students training in nontraditional fields, for CTE programs for high skill, high wage or high demand occupations that will lead to self-sufficiency.

In addition to Perkins IV, there are a number of federal and state antidiscrimination laws that advocates may use to persuade their local schools to take steps to provide nontraditional opportunities. For example, the United States Constitution guarantees that each person will receive the equal protection of the laws and applies to ban sex discrimination by public schools and other government entities.¹⁴ Moreover, the primary federal statute that is relevant in this context is Title IX of the Education Amendments of 1972, which prohibits sex discrimination in all aspects of federally-funded education.¹⁵ Title IX applies to career and technical education programs in public high schools and in private or public colleges that receive any federal funds. It bars discriminatory actions, including sexual harassment and retaliation, in every aspect of education, and authorizes proactive steps to address under-representation. Finally, many states provide, in addition to federal protection, statutes that address K-12 education, special education, higher education, bullying, teacher certification, civil rights, human rights, hate crimes, affirmative action, and/or public accommodations.

Educators can use these state and federal legal requirements to encourage proactive programs like IGNITE, or the respiratory care and mentoring programs at St. Paul College and Northeast Community College that make strides in improving student participation in fields that are nontraditional for their gender.

IV. CONCLUSION

In today's competitive economy, there is no doubt that the United States will benefit by ensuring full participation of both genders in high-demand, high-skill fields. We hope that this report will support and expand meaningful opportunities for educators and administrators to enable students to identify and follow their interests and create options for them to enroll in courses and programs that are nontraditional for their gender. We encourage educational agencies to adopt practices that incorporate the successful strategies described in this report and to develop unique practices of their own. To support educators and provide them with resources, ACTE, NAPE, NASDCTEc, and NWLC will continue to collect and disseminate information on promising techniques for promoting gender equity in CTE courses. We invite educators to share their experiences with us, or to nominate a program for recognition by the 2008 Programs and Practices that Work: Preparing Students for Nontraditional Careers Project.

For more information on the Programs and Practices that Work: Preparing Students for Nontraditional Careers Project or to share information on a CTE gender equity program, please contact one of the following organizations:

Association for Career and Technical Education

The Association for Career and Technical Education (ACTE) is the nation’s largest not-for-profit education association dedicated to the advancement of education that prepares youth and adults for successful careers. It provides advocacy, public awareness and access to information, professional development and tools that enable members to be successful and effective leaders. Founded in 1926, ACTE has more than 29,000 members including teachers, counselors and administrators at the middle school, high school and postsecondary levels.

1410 King Street
Alexandria, VA 22314
(703) 683-3111 or 1-800-826-9972
(703) 683-7424 (fax)
www.acteonline.org

National Alliance for Partnerships in Equity

The National Alliance for Partnerships in Equity (NAPE) is a consortium of state and local agencies, corporations, and national organizations that collaborate to create equitable and diverse classrooms and workplaces where there are no barriers to opportunities.

172 Hood Road
P.O. Box 369
Cochranville, PA 19330
(610) 345-9246
(610) 869-4380 fax
www.napequity.org

National Association of State Directors of Career Technical Education Consortium

The National Association of State Directors of Career Technical Education Consortium (NASDCTEc) was established in 1920 to serve as the professional society of state and territory agency heads responsible for the public career technical education at the secondary, post secondary and adult levels. Since 1920, the association has evolved into a dynamic, member-focused association that is a leader in shaping the future of career technical education.

The Hall of States
444 North Capitol Street, NW
Suite 830
Washington, DC 20001
(202) 737-0303
(202) 737-1106 (fax)
www.careertech.org

NATIONAL WOMEN’S LAW CENTER

The National Women’s Law Center is a nonprofit organization that has worked since 1972 to advance and protect women’s legal rights. The Center focuses on major policy areas of importance to women and their families, including education, employment, health and reproductive rights, and family economic security—with special attention given to the needs of low-income women.

11 Dupont Circle, NW, Suite 800
Washington, DC 20036
(202) 588-5180
(202) 588-5185 (fax)
www.nwlc.org



APPENDIX

Methodology for the 2007 Programs and Practices That Work: Preparing Students for Nontraditional Careers Project

To identify innovative programs that are improving students' access to nontraditional CTE courses, ACTE, NAPE, NASDCTEc, and NWLC relied on experts in CTE and in gender equity in education. To be eligible, programs were required to receive funding under the Carl D. Perkins Career and Technical Education Act of 2006 and to demonstrate an increase in participation in, or completion of, nontraditional CTE programs by students of the under-represented gender. Nominations were required to include an explanation of how the program or practice met criteria related to effectiveness, quality, impact, and documentation.

The four sponsoring organizations chose two independent reviewers representatives for a Review Panel that evaluated the nominations. This year, the Review Panel selected one program to receive highest recognition and two programs to receive honorable mentions. In 2006, the Review Panel selected one program to receive highest recognition and one program to receive honorable mention. This report features the two recognized programs as well as promising practices by 2005 PPTW honorees.

Each year, recognized programs will be featured at the ACTE, NAPE, and NASDCTEc national conferences. In addition, recognized programs will receive an award at a briefing for the U.S. Congress. The briefing will call Congress' attention to: 1) the continued existence of gender-based barriers in accessing opportunities in high-skill, high-wage CTE training; 2) programs dedicated to eradicating those barriers; and 3) the importance of improving gender equity provisions and funding for gender-based initiatives in federal law. Finally, the recognized programs will be featured in a report describing promising practices for improving enrollment in and completion of CTE that is nontraditional for a student's gender. This is the third of these reports.

ACTE, NAPE, NASDCTEc, and NWLC salute the initiatives by all nominees and encourage this year's nominees who were not selected to re-apply.

ENDNOTES

¹ NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION: FINAL REPORT TO CONGRESS (2004).

² *Ibid.*

³ CARL D. PERKINS VOCATIONAL AND TECHNICAL EDUCATION ACT REPORT TO CONGRESS ON STATE PERFORMANCE, PROGRAM YEAR 2003-2004 (Sept. 2005); US DEPT OF EDUCATION, OFFICE OF VOCATIONAL AND ADULT EDUCATION.

⁴ E.g., Andrew Ryan, *Vocational Education: 'It's Not Your Grandfather's Trade School,'* BOSTON GLOBE, April 23, 2006.

⁵ See NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION: REPORT TO CONGRESS (1994). In addition, a 1998 University of Michigan study reported that a quality CTE program can reduce a school's dropout rate by as much as 6%. James A. Kulik, *Curriculum Tracks and High School Vocational Studies*, UNIVERSITY OF MICHIGAN (1998) (as cited in the Southern Regional Education Board, *Facts About High School Career/Technical Studies*). See also Stephen Planks, *Career and Technical Education in the Balance*, NATIONAL RESEARCH CENTER FOR CAREER AND TECHNICAL EDUCATION (2001) (A mixture of CTE and academic courses reduces the likelihood that students will drop out, particularly for low performing students.).

⁶ Moreover, a recent report found that students who concentrate in CTE are taking more and higher levels of math and science when compared with general students. James R. Stone, *Research to Practice*, THE NATIONAL RESEARCH CENTER FOR CAREER TECHNICAL EDUCATION (2003).

⁷ Nancy Kober & Diane Stock Rentner, *Do you Know the Good News about American Education?*, CENTER ON EDUCATION POLICY AND AMERICAN YOUTH POLICY FORUM (2000), available at www.aypf.org/whatsnew.htm. In addition, the 2004 National Assessment of Vocational Education Final Report states that CTE student college attendance increased by nearly 32 percent between 1982 and 1992. NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION: FINAL REPORT TO CONGRESS at 105.

⁸ College Board, *AP Program Summary Report 2005* available at http://apcentral.collegeboard.com/repository/programsummaryreport_47033.pdf.

⁹See, e.g., Maria Carmen C. Sanogo, *Facilitators and Barriers to High School Female Participation in School-to-Work: Traditional vs. Nontraditional Programs for Females* (1995) (unpublished manuscript, thesis for Pennsylvania State University Graduate Program in Vocational Instructional Education, on file with the National Women's Law Center); See AMERICAN ASSOCIATION OF UNIVERSITY WOMEN EDUCATIONAL FOUNDATION: COMMISSION ON TECHNOLOGY, GENDER, AND TEACHER EDUCATION, *TECH-SAVVY: EDUCATING GIRLS IN THE NEW COMPUTER AGE 44* (2000) citing JANET SCHOFIELD, *COMPUTERS AND CLASSROOM CULTURE* (1995) (boys refer to girls' femininity and appearance in elementary and secondary computer science classes, distracting girls from their work); Susan Giurleo, *Persisters and Career Changers in Technical Careers: Are there Gender Differences?* in DIVERSITY AND WOMEN'S CAREER DEVELOPMENT: FROM ADOLESCENCE TO ADULTHOOD 85, 81-94 (Helen S. Farmer ed. 1997) (female high school student interested in a science career stopped taking science classes and pursued a technical career after her chemistry teacher repeatedly touched her breasts in class); MARY GATTA AND MARY TRIGG, *BRIDGING THE GAP: GENDER EQUITY IN SCIENCE, ENGINEERING AND TECHNOLOGY* (2001) (report for the New Jersey Employment and Training Commission's Council on Gender Parity in Labor and Education).

¹⁰ Wage data is from May 2006. Annual wages have been calculated by multiplying the hourly median wage by a “year-round, full-time” figure of 2,080 hours; for those occupations where there is no published hourly median wage, the annual wage has been directly calculated from the reported survey data. BUREAU OF LABOR STATISTICS, U.S. DEPARTMENT OF LABOR, OCCUPATIONAL EMPLOYMENT AND WAGES (May 2006) *available at* http://www.bls.gov/oes/oes_dl.htm#2006_m (last visited July. 7, 2007).

¹¹ Data on fastest-growing occupations is from New Jersey Department of Labor, *State of New Jersey: Occupations With the Greatest Percentage Growth, 2004-2014*, *available at* http://www.wnjin.net/OneStopCareerCenter/LaborMarketInformation/lmi04/state/pergrow_occ.xls (last visited Jun. 7, 2006). BUREAU OF LABOR STATISTICS, U.S. DEPARTMENT OF LABOR, OCCUPATIONAL EMPLOYMENT AND WAGES (May 2005) *available at* http://www.bls.gov/oes/oes_dl.htm#2005_m (last visited Jun. 5, 2006).

¹² *Ibid.*

¹³ All efforts to reduce under-representation of students of one gender in particular courses or programs must comply with relevant federal and state legal standards.

¹⁴ U.S. CONST., amend. XIV, §1; *United States v. Virginia*, 518 U.S. 515 (1996). Although detailed discussion of the Equal Protection Clause is beyond the scope of this Report, public school students may enforce their constitutional right to be free from sex discrimination in education through private lawsuits.

¹⁵ 20 U.S.C. § 1681 *et seq.*