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Over the past quarter century, the women's movement has had a profound impact on the educational opportunities of both sexes. During the 1960s, demands were made on college campuses for curriculum reform and examination of the status and treatment of women students, faculty, and administrators. By the early 70s a few women's studies courses began to appear—there were 64 in 1970. Today, there are more than 20,000 such courses on college campuses and two dozen universities offer graduate degrees in women's studies (Hook, 1980).

The women's movement had its greatest impact on elementary and secondary education during the 1970s both as an impetus for and in response to the passage of three pieces of legislation affecting most every educational institution in the United States receiving federal funds. First, in 1972 Title IX of the Education Amendments prohibited sex discrimination in all federally-funded education programs.<sup>1</sup> Second, the Women's Educational Equity Act passed in 1974 authorized federal grants for research, development, and other educational activities to increase awareness of bias in education and to provide curricula and resources for promoting greater educational equity for women and girls.<sup>2</sup> Third, under Title II the Vocational Educational Amendments of 1976 were strengthened to provide both men and women with more equal opportunities to enroll in training programs for nontraditional occupations and to prepare for combined roles of homemaker and wage earner.<sup>3</sup>

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The views expressed in this paper are those of the authors and should not be attributed to NIE or to the Department of Education.

# SEX EQUITY IN AMERICAN EDUCATION

**Documenting  
discrimination  
is the first step;  
promoting equity  
is the next.**

The federal government has been increasing its support of sex equity in education for the past five years and in fiscal year 1979 spent about \$40 million in this area. The Department of Education's contribution is about \$28 million. Although these figures may seem large, they are miniscule compared with other federal education expenditures. For example, \$28 million is only .2 percent of the 1979 Department of Education budget of \$13.7 billion. It is also far less than the department's budget to promote equity for language and ethnic minorities (\$259 million); racial desegregation (\$294 million), and the handicapped (\$2.162 billion) (Klein and Goodman, 1980).

Sex equity is difficult to define. To many people it means women's rights, but to most working in the area "sex equity" has a two part meaning: activities designed to meet the special needs of females or males and activities designed to decrease sex-role stereotyping of females and males.

The most easily identifiable indicators of equity (or inequity) are enrollment and graduation rates in traditional or nontraditional fields of study, courses, and extracurricular activities, participation in athletics,

and a few indicators of outcomes such as grades and aptitude scores. The identification and amelioration of the subtle forms of sex discrimination are only beginning to be acknowledged and addressed.

## How Far Have We Come?

In summarizing the status of girls and women in elementary and secondary education, Matilda Butler, Director of the Women's Educational Equity Communications Network concluded:

... In spite of federal and state laws prohibiting discrimination on the basis of sex and in spite of the good intentions of many individuals in education, sexism persists in elementary and secondary school systems (1979, p. 39).

Disparities between the sexes have decreased significantly in a number of areas; in other domains the disparities have persisted at about the same levels, or have shifted in nature to be more subtle, but equally insidious.

**Enrollment.** A comparison of statistics on enrollments of high school males and females by racial and ethnic group between 1960 and 1976 reveals that progress has been made in reducing earlier sex differ-

ences for all groups except Puerto Ricans. Mexican American, Puerto Rican, and Chinese American females in 1960 were less likely than males of their respective minority groups to be enrolled in school. By 1976, there were fewer differences between the percentage of males and females not enrolled in school; however, Puerto Rican females were still three times as likely as Puerto Rican males not to be in school (16 vs. 5 percent). Black women were also more likely not to be enrolled in school than black men (13 vs. 9 percent) (Butler, 1979, p. 7).

**Graduation.** Males and females are now graduating from high schools in equal proportions. However data indicate that the higher the level of education, the more likely women are to be underrepresented relative to their proportion in the population. This is especially the case for minority women.

Figure 1 illustrates the percentage of degrees awarded to women by type of degree. The percentage of women receiving degrees consistently decreases as a function of increased educational level. For instance, women received 42.4 percent, 43.1 percent, and 45.3 percent of bachelor's degrees awarded in 1965, 1970, and 1976, respectively, but received only 10 percent, 13 percent, and 22.9 percent of all doctorates in these same years. (Note that the proportion of doctorate degrees received by women doubled during the period from 1965 to 1976). Women are even more severely underrepresented among those who receive professional degrees in dentistry, medicine, and law.

Data on the educational attainment of minorities are incomplete. What little is known indicates that minorities (both male and female) receive a disproportionately small percentage of degrees awarded by institutions of higher learning. Furthermore, Asian, Hispanic, and American Indian women receive an even smaller percentage of all degrees awarded than their male counterparts. In contrast, black women receive a slightly higher proportion of bachelor's and master's degrees than black men.

**Fields of Study and Course Enrollments.** At the high school level, there are few or no sex differences in course enrollments in English, foreign language, biological sciences, and social



studies. According to a 1978 report from the College Entrance Examination Board, high school age males take more mathematics and physical science than girls. This report indicated that 43 percent of college-bound females and 63 percent of college-bound males had taken four or more years of mathematics and 47 percent of the females and 63 percent of the males had taken three or more years of physical science. Some high schools have equal rates of participation while others don't. These variations can sometimes be traced to the attitudes of school personnel.

Nevertheless, mathematics continues to be an important prerequisite to many college majors at the B.A. level, and is generally considered a "critical filter" which has historically excluded women from a wide range of nontraditional occupations such as engineering and physics.

Enrollment in vocational courses at the high school level also continues to indicate major differences between male and female enrollments. Females enroll primarily in consumer/homemaking (76 percent female vs. 23 percent male); home economics related occupations (74 percent female vs. 26 percent male); and office/business related courses (61 percent female vs. 39 percent male). Males, on the other hand, enroll in technical fields (91 percent male vs. 9 percent female); agriculture (90 percent male vs. 10 percent female); and trade/industry (90 percent male vs. 10 percent female) (Atkinson, 1979).

**"...The greatest area of progress in the schools as far as women's opportunities are concerned has been in sports.... In 1972, when Title IX passed, for every one girl in a high school interscholastic team there were 12 boys. Now the ratio is down to two-to-one male-to-female...."**

Although males are moving into traditionally female-dominated fields, and females into traditionally male-dominated fields, examination of the subfields within major categories indicates that each sex is still most likely to enroll in courses that seem "appropriate" to their sex. For example, females are more likely to enroll in courses in ornamental horticulture than in agriculture mechanics (Butler, 1979).

The two most significant changes for women in vocational education have been the tremendous increase in their enrollment overall (a 44 percent jump between 1972 and 1978) and their shift from concentration in traditional programs to "mixed" programs which are defined as courses enrolling between 25 and 75 percent women in 1972 (Institute for Women's Concerns, 1980).

A comparison of nationwide figures for 1972, 1976, and 1978 revealed male enrollment in mixed courses increased from 19 to 25 percent; female enrollment in mixed courses increased from 28 to 38 percent. There was a small increase in the percentage of women enrolled in nontraditional vocational programs (7 to 10 percent), with the greatest gains at the post-secondary and adult education levels (Institute for Women's Concerns, 1980).

While the schools are not solely responsible for patterns of course selection, vocational educators still play a major role either in the perpetuation of sex-role stereotypes or in the expansion of the opportunities that students perceive for themselves.

In higher education and beyond, data suggest that for the most part

women concentrate in nonscientific fields, including the humanities and education. In 1977, women received 72.2 percent of all bachelor's degrees awarded in education, 61.3 percent in fine and applied arts, and 75.8 percent in foreign languages. On the other hand, women received only 4.5 percent of the bachelor's degrees awarded in engineering, 20 percent in physical sciences, 36.2 percent in the biological sciences, and 23.4 percent in business and management.

At the doctoral level, women received 39 percent of all doctoral degrees awarded in nonscientific fields, and only 21 percent of the doctorates awarded in science fields (including physical sciences, social sciences, engineering, biosciences, and life sciences). Half of the 21 percent of doctoral science degrees were in the social sciences.

Higher education figures show a great response to recent changes—enrollment in engineering is up 700 percent, participation of women in legal and medical education has also increased, and these are at least partially attributable to changes in admissions policies in higher education.

**Athletics and Interscholastic Sports.** Significant improvements have been made in the athletics and extracurricular opportunities available to girls. According to Holly Knox, Director of the Project on Equal Education Rights (PEER) of the NOW Legal Defense and Education Fund, "the greatest area of progress in the schools as far as women's opportunities are concerned has been in sports. . . . In 1972, when Title IX passed, for every one girl in a high school inter-

scholastic team there were 12 boys. Now the ratio is down to two-to-one male-to-female. Women are now 33 percent of the high school students in interscholastic sports, a tremendous rate of progress" (Knox, 1979, p. 520).

Despite this progress, the U.S. Commission on Civil Rights (1980b) indicates there are still *More Hurdles to Clear*. Their report notes the progress in competitive athletics since the passage of Title IX but concludes that women and girls "still lag far behind men and boys" and that "equality has not yet been achieved despite considerable progress." Although females are now almost one-third of all athletes, their athletic programs do not have comparable athletic budgets.

**Extracurricular Activities.** On the average girls have a somewhat higher participation rate than boys in extracurricular activities, but there are substantial differences in the types of activities in which they engage. High school girls are far more active than boys in journalism, the arts, and social community clubs. In contrast, boys are more active in athletics (81 percent males vs. 58 percent females) (Butler, 1979).

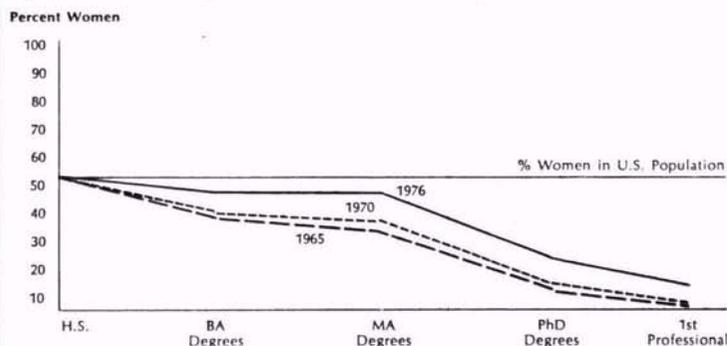
### Achievement

**Grades.** Data from 1978 college-bound seniors indicate that, at least for this portion of 12th grade students, girls make better grades than boys in every subject except mathematics and physical sciences although the difference is small (30 percent of the boys and 28 percent of the girls got A's in the physical sciences (Butler, 1979).

**Aptitude Scores.** In contrast, college-bound boys consistently receive higher scores than girls on the mathematics part of the Scholastic Aptitude Test (SAT). Since 1972, males have also scored slightly higher than females on the verbal part of the SAT, with average scores of 431 vs. 423. This difference may be attributable to the declining proportion of men taking the SAT (College Entrance Examination Board, 1979). On the other hand, girls score higher than boys on the Test of Standard Written English (TSWE) (Butler, 1979).

**In Sum.** For women, the greatest improvements have been made in athletics and interscholastic sports

Figure 1. Percent of Degrees Awarded to Women by Degree, 1965, 1970, 1976



Source: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, *The Condition of Education, 1978* and *Digest of Education Statistics 1977-1978, 1978*.

and in enrollment and graduation rates through college. The greatest disparities continue to exist in the nontraditional vocational education courses (technical and trades); in the physical sciences; in graduate degrees awarded, particularly in the sciences and particularly for minority women; and in extracurricular participation in athletics at the high school level.

#### **Subtle Sex Inequities**

Many educational leaders are aware of how to avoid overt and clearly illegal sex discrimination. However, the educational system still perpetuates subtle forms of bias which often go unrecognized, yet may be equally harmful.

To foster sex equity, educational leaders should consider using the following sex bias identification strategies:

1. *Secure help from members of groups concerned with sex equity and other colleagues who are sensitive to these issues.* Some individuals are more aware of or likely to notice differences in the treatment of females and males than others. For example, a popular curriculum to teach the alphabet represents all 21 consonants as males; and the five vowels as females. When an executive at the publishing company was asked about his product, he responded that it was not at all sexist. After all "none of the male letter people can do a *thing* without a female vowel catalyst to bolster, encourage, enhance, or enable them to work" (PEER, 1980, p. 5).

Research evidence, however, indicates that the longer children were exposed to this reading program—which included such comments as "A girl, A girl. Oh, go away: A girl's no good for work or play"—the more their attitudes became sex-stereotyped and the longer those attitudes were retained. Children who used the materials regularly had more stereotyped attitudes than those who used it intermittently and were in turn more sexist than children who had not used the series at all (Jenkins, 1977).

Educators must remember that sex bias is dependent on the sensitivity of the "eyes of the beholder," and that educational leaders have a responsibility to increase this aspect of their visual acuity.

2. *Pay attention to potential bias in educational processes as well as*

## **"...the educational system still perpetuates subtle forms of bias which often go unrecognized..."**

*outcomes.* Frequently it is easier to identify sex differences in indicators of educational outcomes (higher male achievement in the math SAT) than process types of discrimination (differential career guidance to female and male students with similar interest profiles). It may be particularly difficult for administrators to learn about incidents which take place within individual classrooms. For example, a case was recently reported in which an auto mechanics instructor assigned boys to challenging tasks, such as fixing the brakes, while girls were assigned to simple tasks, such as replacing headlights. It is essential to identify such process indicators of sex bias in order to fully understand outcome measures, such as sex differences in auto mechanics grades.

3. *Look for new and useful indicators of sex equity.* The more easily quantifiable examples of sex equity such as student enrollment in sex-stereotyped vocational education courses appear more frequently than harder to measure but equally important subtle dimensions related to the schools' differential influence on self-concept development of girls and boys.

4. *Insist that research and evaluation reports contain analyses by sex, by race or ethnicity, and by sex and race.* Generally, data on educational experiences and outcomes are reported by sex only if differential treat-

ment is suspected. This approach generally fails to identify subtle inequities such as the greater availability of services for gifted boys than gifted girls in science, or a finding in a Michigan school of "a two-to-one ratio of girls to boys taking French, while twice as many boys as girls took German"—a good background language for technical training (PEER 1980, p. 5).

Patricia Campbell (1980) has documented the limited attention that researchers pay to potential sex and race differences, a practice she suggests often leads to improper generalizations. She cautions educators that it may be misleading to simply report sex and race differences without taking into account other related variables, such as socioeconomic status. Larson (1980) also documented the general failure to collect and analyze data by sex and race in federal evaluations and urged that such reporting be done more routinely. Such statistics should contribute to a more complete understanding of the patterns of sex and race inequities which have yet to be grappled with.

5. *Remember to identify disparities even where the causal relationships are not clear and then try to examine the causes.* Educational outcomes are due to multiple, complex, and interacting factors making it difficult to identify specific causes for results in any one outcome measure. Because of this complexity it is important to look for subtle contributing factors whenever gross measures indicate sex differences. For example, a survey by the Office for Civil Rights (1980) indicates that 78 percent of school expulsions are boys and 76 percent of children enrolled in programs for the seriously emotionally disturbed are boys. Educators should not automatically assume that this is an example of sex bias.

It is possible that many boys are behaving quite differently from girls and thus appropriately cause these sex differential results. However, it is also possible that an analysis of the treatment of boys and girls would reveal subtle biases which do not reflect actual differences in the male and female student behaviors or needs. Such biases may include the use of different diagnostic criteria for girls and boys, or teachers' beliefs

that they can handle "problem" girls more easily than "problem" boys.

6. *Look for instances of small but cumulative sex inequity.* Sometimes inequities are easy to identify because they occur dramatically or in rapid succession. For example, a male professor's propositioning his female student and then giving her a low grade if refused may be relatively easily identified as sexual harassment. Frequently, however, inequitable treatment may appear initially as relatively innocuous incidents which only in retrospect are seen to be damaging in their total, cumulative impact. To document such inequities, educators must be sensitive to patterns over time. Such cumulative patterns might become apparent, for example, if teachers repeatedly refer to hypothetical males when discussing science and math problems, but refer to hypothetical females when discussing cooking and sewing.

7. *Don't neglect the identification of sex differences just because they appear "normal" or "natural" and don't ignore behavior that fails to conform to stereotypes because it appears too unusual or "deviant."* In some regions of the country instances of sex discrimination are more noticeable than they would be in other regions. In 1974 in Vermont, 42 percent of all team sports were offered for girls, but in West Virginia the figure was only 12 percent (Butler, 1979). It is possible that rural West Virginia traditions are more likely to support team sports for boys than girls and the omission of girls from these sports may not be noticed by most West Virginia educators. Similarly, educators should learn to look for self-fulfilling prophecies in course enrollment. For example, PEER reports that in one school handouts tell students that "while home economics and shop classes are open to both sexes, Industrial Arts classes are generally for boys and Home Economics for girls" (PEER, 1980, p. 5).

8. *Remember that subtle sex bias is more likely to be covered by the intent of the civil rights laws than by the explicit provisions of the regulations which accompany these laws.* Although the intent of many anti-sex discrimination laws such as Title IX is to avoid all forms of inequitable treatment of males and females in

publicly supported educational institutions, many of the regulations and enforcement procedures are more likely to focus on visible forms of sex discrimination, such as admissions procedures which favor one sex over the other, than on the more subtle forms of sex stereotyping in teacher-student interaction.

The preceding eight points will help educators identify instances of subtle sex bias. Technical assistance is available from Sex Desegregation Assistance Centers, State Departments of Education and local Education Agency Projects under Title IV of the Civil Rights Act of 1964, from Sex Equity Coordinators in Vocational Education in each state, as well as from organizations such as the Project on Equal Education Rights and Project on the Status and Education of Women.

#### How to Avoid Subtle Sex Inequities

1. *Promote equitable treatment in traditionally sex-stereotyped courses.* In 1978 about one-quarter of the nation's public schools were out of compliance with the provisions of Title IX prohibiting sex-segregated home economics and industrial arts courses. According to a 1978 OCR survey 24 percent of the schools in the nation offered sex-segregated courses only in these traditionally sex-stereotyped areas (Office for Civil Rights, 1980, p. 101). Making these

#### WOMEN IN ADMINISTRATION

**Comprehensive literature reviews on "Women in Educational Administration: the Principalship" and "Minorities in Educational Administration: the Principalship" have been prepared for the National Institute of Education by JWK International Corporation. Contact: John Savage, Room 711—Mail Stop 16, National Institute of Education, 1200 19th St., N.W., Washington, D.C. 20208.**

traditionally sex-segregated classes coed is not sufficient to ensure equitable treatment. For example, in her study of coed practical arts classes, Wirtenberg (1979) found unconscious sexist behavior in teachers of both sexes. They interacted more with boys than with girls, admonished girls to act like little ladies, and asked boys to do heavy work. In some classes, teachers seated girls on one side of the room and boys on the other. (When asked why, one teacher replied that the sex-segregated seating made it more convenient to send attendance records to the office by sex, as requested).

• *Suggestions for Educational Leaders: Develop and implement plans to ensure that boys and girls have an equal opportunity to enroll in all courses, and that they are not sex-segregated within these classes.* Teachers and administrators of newly sex-desegregated practical arts classes should be trained to recognize subtle forms of bias in themselves and in students. Training should provide teachers with resources and skills to modify their behavior, language, and choice of curriculum so as to be sex-fair.

2. *Eliminate Sex Stereotyping in Textbooks and Instructional Materials.* The U.S. Commission on Civil Rights (1980) reviewed more than 200 studies of the portrayal of minorities and women in textbooks and instructional materials, documenting the heightened awareness, increased concern, and attempts to ameliorate the stereotypic and distorted portrayals in textbooks over the two decades from 1960 to 1980. Over the same period, the number and variety of resources for promoting greater fairness in public school education increased significantly; the U.S. Commission on Civil Rights' *Fair Textbooks: A Resource Guide* published in 1979, includes more than 1500 such resources. Despite these resources, there is considerable evidence that subtle forms of textbook bias persist.

• *Disproportionate and Stereotyped Portrayals.* Males appear far more often than females in reading, mathematics, science, foreign language, social studies, and other textbooks (U.S. Commission on Civil Rights, 1980a). When they do appear females are frequently depicted as

passive and dependent. For example, a study by Women on Words and Images (1975) showed that girls were featured six times as frequently as boys in stories with themes of passivity and dependency.

On the other hand, males appear much more often in stories with active mastery themes in which the central characters display such qualities as ingenuity, creativity, bravery, perseverance, achievement, adventurousness, curiosity, autonomy, and self-respect (Women on Words and Images, 1975).

• **Occupational and Family Roles.** Males and females also continue to be stereotyped in textbooks in the range of their occupational roles. In the most widely used reading textbooks in 1975, males were shown in 147 different occupations, females in 26 (Women on Words and Images, 1975). Furthermore, males were shown as job holders and fathers while females were shown as either job holders or mothers, rarely both.

• **Suggestions for Educational Leaders:** Obtain and use guidelines for evaluating textbooks for sex and race biases which are listed in *Fair Textbooks: A Resource Guide* (U.S. Commission on Civil Rights, 1979). Be sure that teachers and counselors are sensitized to the subtle forms of bias in textbooks and instructional materials. A quick overview of such biases can be found in *Characters in Textbooks: A Review of the Literature*, available free from the U.S. Commission on Civil Rights (1980a).

3. **Eliminate Sex Bias in Classroom Interactions.** There is substantial research evidence that the elementary school classroom experiences of boys and girls are quite different. Teachers generally spend more time interacting with boys than with girls (Etaugh and Hughes, 1975; Seewald, Leinhardt, and Engel, 1977). This seems to be due to the larger number of negative communications directed to boys, but observation sometimes found that boys receive both more praise and more criticism than girls (Sikes, 1971; Wirtenberg, 1979). In addition, boys receive more direct teacher questions; their ideas are used more often (Morrison and Gurin, 1980); and teachers are more likely to check boys' work and give them help (Sikes, 1971).

• **Suggestions for Educational**

**Leaders:** Although most teachers believe that they treat boys and girls alike, objective feedback is needed to let them know if this is true. Information on appropriate differential classroom interactions for girls and boys should also be developed. It may be appropriate for teachers to encourage many of their girls to volunteer in class discussions more than they encourage boys to do so; studies suggest that such volunteering helps achievement and boys generally volunteer more than girls.

We have not yet achieved consensus on when equal or differential treatment of girls and boys should be used to promote sex equity in classroom interactions or in other educational situations. NIE-sponsored research currently under way is attempting to address these complex issues through a better understanding of the nature of sex inequity in classroom interactions.

**I**n this decade we must move beyond the removal of overt barriers and assessment of progress by frequency counts and ratios of boys to girls. Documentation of systematic discrimination is only the first step in bringing about genuine equal opportunity for American men and women. The learning experiences of boys and girls are shaped by teachers, peers, and the range of expectations surrounding their progress.

At the same time educators must be aware of the economic realities which will confront their students after graduation. The value of the high school diploma or advanced degree is very different for males and females. Data on progress in course selection, for example, indicate that there is still a long way to go in eliminating sex stereotyping, and, in this way, schools contribute to occupational sex-segregation. Seventy-five percent of female students in vocational education are concentrated in home economics, health, and office work—three "female" fields that pay low wages. A corresponding 80 percent of the women in the work force are concentrated in low-paying, clerical, sales, service, and factory jobs. In 1977, the annual median income of women working full-time was 59 percent that of men. This gap has widened in recent years: in 1955 the figure was 64 percent (U.S. Department of Commerce, 1978).

Schools cannot singlehandedly effect major changes in occupational aspirations or distributions. Furthermore, if the schools are attempting to move in one direction while the social forces in the local community are moving in another, it is unreasonable to hold the schools accountable for the lack of progress. The challenge to researchers and educational leaders, then, is to promote sex equity given the community and larger social contexts. Clearly, the 80s represents a period in which the implementation of public policy and enforcement of equal opportunity regulations will provide a formidable and critically important challenge. ■

<sup>1</sup>Title IX of the Education Amendments of 1972 states that: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving federal financial assistance." The regulations which were subsequently issued by HEW, as well as the enforcement activities conducted thus far have been primarily concerned with correcting relatively blatant forms of exclusion and discrimination on the basis of sex. It is important to note that the regulations and guidelines for Title IX implementation have not yet addressed the full implications of either the letter or the spirit of the law for the denial of the benefits of educational programs or activities on the basis of sex.

<sup>2</sup>In 1981 the Women's Educational Equity Act program proposes to fund model projects in the following priority areas: Title IX compliance, educational equity for racial and ethnic minority women and girls, educational equity for disabled women and girls, and projects to influence leaders in educational policy and administration.

<sup>3</sup>Under Title II of the Education Amendments of 1976, the Vocational Education Act of 1963 was updated. Its regulations were designed both "to overcome sex discrimination in vocational education" and "to assist States to improve planning in the use of all resources for vocational education"—including plans for ensuring nondiscriminatory programs. States are required to set forth detailed descriptions of the policies and procedures they use to provide equal access to vocational programs by both sexes. This description must include specific actions taken to overcome sex discrimination and incentives adopted to encourage the enrollment of both males and females in nontraditional courses.

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