

# Gender Equity and Educational Reform

A review of the literature and a survey of practitioners' views show that the reform movement has done little to promote educational equity or close the gender achievement gap.

The glaring omission of equity concerns, particularly the needs of girls in schools, from reform agendas suggests that the movement itself is in need of reform. We recently assessed the state of reform from the perspectives of policy and practice, undertaking a comprehensive review and analysis of professional literature and, at the same time, conducting a nationwide survey to determine the reactions of practicing educators to the reform reports. Here we discuss the major emphasis of our study: the reform treatment of educational equity, with particular focus on the gender achievement gap.

## The Silent Treatment

In our study, to obtain a clearer picture of the professional response to the reform movement, we conducted a line-by-line content analysis of each article on reform appearing between January 1983 and January 1987 in nine professional journals, selected for their prominence in the field.<sup>1</sup> We had trained a team of raters to use the content analysis instrument we had designed, subsequently establishing and

maintaining inter-rater reliability at 85 percent agreement.

The 138 articles we analyzed contained 68,660 lines, of which approximately 10 percent addressed the broad topic of equity. Sometimes writers concentrated on this issue, but more often equity was only one of several concerns they raised about reform. Authors worried that the movement was elitist, with too much attention paid to the college-bound and too little effort to help less

able students meet the new higher standards. Specifically targeted were the detrimental effects of tracking and the negative impact of competency tests on minority teachers.

Only 1 percent of article content pertained to gender equity, and even then it was an afterthought. Typically, phrases such as *gender equity*, *sex equity*, or *the needs of girls and women* were tagged on to an article whose main focus was a different topic. Except in one article, no author noted the achievement gender gap as measured by the National Assessment of Educational Progress, the Scholastic Aptitude Test, or the Graduate Record Exam. Only 1 author out of 183 discussed sex differential treatment in classroom interaction, in athletics, or in the curriculum.

Containing by far the largest number of articles in our study, *Pbi Delta Kappan* was slightly above the equity average with 13 percent of content devoted to the broad issue of equity and 3 percent of this on gender equity. The four articles in *Harvard Educational Review* gave 30 percent of content to equity. Almost 60 percent of the

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content of the two articles in *Review of Educational Research* was on equity, and 7 percent of this was on gender equity. Journals that gave the least attention to equity were the *NASSP Bulletin*, *Educational Leadership*, *Journal of Teacher Education*, *Teachers College Record*, and *The Elementary School Journal*.

Women were absent not only from narrative content but from authorship and illustrations as well. Of the total of 183 authors who wrote the 138 articles included in this study, only 38 (21 percent) were female. Of the 685 authors and researchers noted in bibliographic citations, 518 (76 percent) were men.

Sometimes the journals, particularly *Phi Delta Kappan* and *Educational Leadership*, attempted to enhance narrative with drawings and photographs. The 157 photographs we examined included 86 males and 71 females. However, only 12 minority group members were depicted in photos. Further, the drawings, products of an illustrator's mind rather than a snapshot of reality, were far more biased than photos: the drawings depicted nearly twice as many males as females. Amazingly, only three minority group members populated these drawings, and none of the three was female.

Thus, we included that, in the professional dialogue about education reform, gender equity received the silent treatment.

### Voices from the Schools

When we found that fewer than 10 percent of the articles analyzed had been authored by teachers or administrators, we deduced that practicing educators had been relegated to a minor role in improving their field. To determine what practitioners thought, we surveyed their reactions to specific reform recommendations and their impressions of the impact of the movement on daily school practices in general and, in particular, on opportunities for females and minorities.

We targeted teachers and administrators in three national organizations to receive questionnaires: National Education Association, National Association

of Elementary School Principals, and National Association of Secondary School Principals. Out of the 537 questionnaires mailed to representatives in every state, 304 (57 percent) were completed and returned.

The majority of the respondents reported that the reform movement had done little to increase the academic achievement of females, with 57 percent seeing no increase in their academic performance and 11 percent believing that it has improved. Nor have minorities benefited, according to 65 percent of the respondents. When asked to rank-order the factors that have promoted educational opportunities for females and minorities, these educators cited civil rights legislation and political action; the reform movement was far less often seen as a beneficial influence (see fig. 1).

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	Percents		
	Yes	No	Don't Know
<b>Has the reform movement increased female academic achievement?</b>	11	57	32
<b>interest in math and science?</b>	17	52	1
<b>entrance into education administration?</b>	34	60	6
<b>interest in nontraditional careers?</b>	31	37	32
<b>participation in sports?</b>	33	53	14
<b>self-esteem?</b>	24	34	42
<b>retention in school?</b>	7	52	41
<b>Has the reform movement increased minority academic achievement?</b>	22	65	24
<b>interest in math and science?</b>	14	54	32
<b>entrance into teaching?</b>	11	78	12
<b>entrance into education administration?</b>	16	76	8
<b>entrance into college preparatory programs?</b>	12	49	39
<b>career expectations?</b>	20	41	39
<b>self-esteem?</b>	20	44	36
<b>retention in school?</b>	6	58	36

**Fig. 1. Practicing Educators' Perceptions of the Impact of the Reform Movement on Educational Equity**

## What the World Needs Now: More Women in Mathematics and Science

Joy Wallace

"Expanding Your Horizons in Science and Mathematics" conferences are designed to nurture girls' interest in science and math courses and encourage them to consider nontraditional career options. The conferences were originated in 1976 by the Math/Science Network in Berkeley, California; since then, more than 142,000 students and 21,200 parents and educators have participated. Every year about 75 meetings are conducted in 20-25 states.

A typical conference takes place on a Saturday at a college or university and is attended by 200-500 young women from middle schools and high schools. The agenda includes a keynote address encouraging girls to persist in mathematics and science courses and two varieties of workshops. In some of the workshops, role models share career awareness information, including job satisfactions, necessary training, and a description of a typical day on the job. Other workshops feature hands-on activities related to a math or science career; workshop titles include "Designer Genes" (classifying genes using a microscope); "Are There Stars in Your Eyes?" (assembling and using a telescope); and "You've Got to Draw the Line Somewhere!" (designing and drafting a building).

Three major outcomes result from Expanding Your Horizons conferences. First, each participating community establishes a volunteer conference planning committee representing a wide range of community groups. Next, each committee develops an active pool of women who work in math- and science-related careers to serve as role models for these students. In 1988, for example, over 5,500 professional women volunteered as conference planners and career role models. Last and most important, young women take more math and science courses—and begin to think of themselves as future mathematicians and scientists.

The Math/Science Network provides sponsors with technical assistance, conference and planning materials, and support services such as coordinated publicity, public relations posters and buttons, and networking among sites. For information about sponsoring a conference in your community or school, or to receive a list of conference sites, please call the author at (415) 841-MATH or write to her at the address below.

*Author's note:* See B.G. Davis and S. Humphreys, (1983), *Evaluation Counts* (Berkeley, Calif.: Math/Science Network) for the results of a National Science Foundation longitudinal study that measured the impact of the conferences.

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## In the professional dialogue about education reform, gender equity received the silent treatment.

### Gender: Our National Blind Spot

The reform reports and the professional dialogue they have spawned fail to take into account the substantial body of research concerning different educational experiences and outcomes for boys and girls. Consider the following:

- Between 1970 and 1984 the National Assessment of Educational Progress conducted three assessments of reading achievement. While girls continue to outperform boys at the 9-, 14-, and 17-year-old levels, the achieve-

ment gap between the sexes has narrowed as girls' performance remains stable and boys continue to make achievement gains. A 1985 National Assessment of Educational Progress showed that by ages 21-25, males have caught up with females in reading and literacy proficiency (Mullis 1987).

- Males outperform females substantially on all subsections of the Scholastic Aptitude Test (SAT) and the American College Testing Program Examination (ACT). The largest gap is in the math section of the SAT followed by the ACT natural science reading, the ACT math usage, and the ACT social studies reading (Dauber 1987).

- On the College Board Achievement Tests, which are required for admission to more selective colleges and universities, males outperform females in European history, American history, biology levels 1 and 2, and mathematics (Stanley 1987).

- Girls attain only 36 percent of the National Merit Scholarships (more than 6,000) awarded each year. These awards are based on the higher Preliminary Scholastic Aptitude Test (PSAT) scores attained by boys (PEER 1987).

- On tests for admission to graduate and professional schools, males outperform females on the Graduate Record Exam (GRE), the Medical College Admissions Test (MCAT), and the Graduate Management Admissions Test (GMAT) (Brody 1987).

Girls encounter sex bias in the classroom as well as on the athletic field (Sadker and Sadker 1985). Report card grades, awarded for compliance as well as achievement, mask much of this educational deficit, but other measures, including standardized tests, highlight the need for gender equity in schools. Girls are the only group who enter school scoring ahead and 12 years later leave school scoring behind. The decline of academic achievement experienced by half our population remains an invisible issue.

### The Case for Real Reform

To ensure all America's children a window of opportunity in the nation's classrooms, a *reformed* movement

should address the academic deficits of girls and minorities with the same fervor and finances devoted to resolving academic problems that historically plague boys. Low reading achievement, for example, has been addressed with federal programs and funds; this priority has been especially helpful to boys, who have outnumbered girls in these programs at a ratio of more than five to one. The math and science deficits that so frequently trouble females and minorities should receive similar attention and resources.

Although half of America's classrooms are sex segregated—in classroom seating, work groups, and informal interactions—educators and the public seem unaware of this gender line or of its implications. We know that there are boys' areas and girls' areas of the classroom, but we do not know enough about the impact of this informal gender separation (Sadker and Sadker 1986).

In addition, a contradiction exists between national standardized test scores, where boys outperform girls by the secondary school level, and report card grades, where girls outperform boys. The contradictory results of these two assessments need to be examined, as well as bias in the standardized tests and bias in report card grades.

Girls and minorities are short-changed in the critical currency of classroom interaction. Teachers from grade school to graduate school ask males more questions, give them more precise feedback, criticize them more, and give them more time to respond. Whether the attention is positive, negative, or neutral, the golden rule of the American classroom is that boys get more (Sadker and Sadker 1986). The inequities in teacher-student interactions are reinforced in the curriculum. Females are less likely to be studied in history and read about in literature; and math and science problems are more likely to be framed in male stereotypic terms. Even the illustrations in most textbooks depict a world populated and shaped mostly by males (Klein 1985).

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Nor are these the only national blind spots. Steps toward economic improvement for women and minorities have been slow, and persistent economic differences suggest the need to look more closely at academic and career counseling at school. And school itself presents a model of economic inequity, with too few women and minorities in positions of leadership. The educational medium and message combine to form a subtle pattern that slowly takes an academic and psychological toll.

The present reforms, promulgated with little participation from practicing educators and unresponsive to the majority of the nation's children, are indeed a limited blueprint for education in the 21st century. From the classroom to the workplace, real education reform will require well-informed research, policy, and day-to-day action. As practitioners and policymakers, professors and politicians struggle to reform education reform, equity must take the highest priority. □

1. Fifty-eight of the articles were published in *Pbi Delta Kappan*, 26 in *Educational Leadership*, 26 in *NASSP* [National Association of Secondary School Principals] *Bulletin*, 8 in *Journal of Teacher Education*, 5 in *The American School Board Journal*, 5 in *Teachers College Record*, 4 in *The*

*Elementary School Journal*, 4 in *Harvard Educational Review*, and 2 in *Review of Educational Research*.

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*Authors' note:* If you are interested in receiving more information on the studies described in this article, you may write to David and Myra Sadker at the address that follows.

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