

## THE SCIENCE GAP

Do male students dominate the discussion agenda in high school science classes? This was one of the questions behind a Texas study undertaken to examine lower participation rates by girls in Physics and Computer Sciences.

The study, reported in the magazine *Education Leadership*, was prompted by findings that indicated girls were seriously underrepresented in the Advanced Placement (AP) courses for these subjects. Advanced Placement courses are taken by close to two million students in the US as a means of getting a head start on their college credits. The courses cover thirty-four subject areas.

While girls are reportedly in the majority for a number of subjects and participate equally across the board in most maths and sciences, their low participation rates particularly in

Computer Science could spell reduced job prospects in a changing economy.

In response to the problem, a consortium of interested parties in Dallas, Texas developed a program called the *Dallas Gender Equity Project*. The partners included the Dallas School District, the Dallas Women's Foundation, a group of senior level female employees from Texas Instruments, a large technology firm, and a non-profit group named A P Strategies.

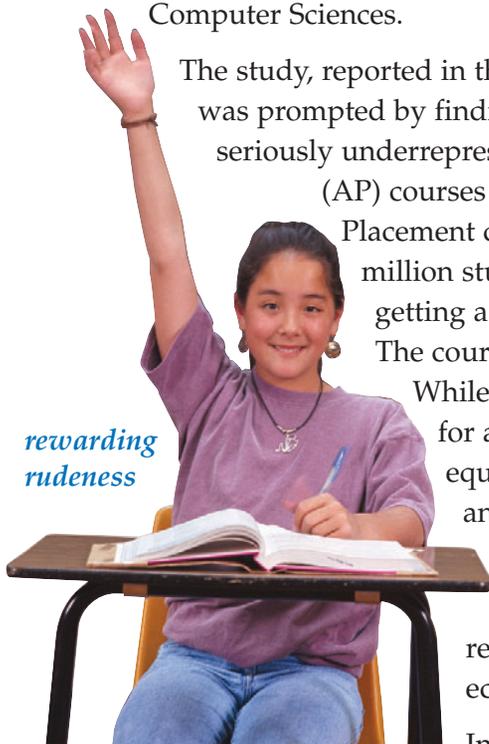
The project got underway last year with a full-day workshop for teachers of Advanced Placement chemistry, physics, and technology courses in the school district. The teachers learned about the low participation rates and discussed some of the classroom based factors that contributed to this. Over the next year, teacher participants continued to meet in half-day workshops that focused on specific

gender issues in relation to science and math instruction.

In one experiment arising from these workshops, a teacher asked a colleague to clock the amount of time he spent responding to girls and boys in his high school science class. Convinced that he was giving each gender equal time, the teacher was surprised to find that he was spending 80 per cent of his time responding to questions and comments from boys and 20 per cent from girls. To address this imbalance, he adopted a number of strategies including not acknowledging called out questions and answers from males in the class. While he felt that he had overcompensated in giving attention to girls by a huge margin, his colleague, who timed the experiment, informed him afterwards that the time spent between males and females was now exactly even.

Another teacher received permission to have his class video taped. Upon watching the tape he was shocked to discover that he allowed boys to interrupt and talk over girls, which he said had the effect "of rewarding the boys for being outspoken and rewarding the girls for being quiet." After sharing his results with the class, the boys began to apologize when they interrupted girls and the girls began to take leadership positions in classroom discussions. As a result of his changing of techniques, the percentage of girls taking the Advanced Placement physics course jumped from 30 per cent to 50 per cent in one year.

With an encouraging response from the teacher community, a *Gender Equity Institute* was initiated at the University of Texas in Arlington this year to help both teacher education students and classroom teachers. The institute is supported by a fund established by women working in technology positions at Texas Instruments. With the establishment of the program, a gender equity component will now be included in the math training program for teachers. A number of high school principals and guidance counselors have already participated in evening programs focusing on gender equity instruction techniques.



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