Building Diversity through Science and Science through Diversity

by Barbara Sprung and Merle Froschl

Education that legitimizes the cultural norms of only one culture within a pluralistic society robs students from other cultural backgrounds of self-esteem and contributes to discrimination.[1]

In 1982, when we founded Educational Equity Concepts (EEC) to address discrimination in education based on gender, race/ethnicity, disability, and level of family income, we identified science as one area in which all of these biases converged to limit children's potential. Research told us that students from underrepresented groups have traditionally been excluded from the science pipeline to higher education and the science/math related jobs of the future. Too often, school systems have not viewed these students as "scientist material," and have conveyed the message to students that "science is not for me."

To counter this attitude, we have developed programs to help teachers, after-school group leaders, and parents learn about equity issues in science and math, and we have provided practical tools to deliver inquiry-based science to all students in grades K–8. In 2005, EEC merged with the Academy for Educational Development (AED), and we are now known as the Educational Equity Center at AED (EEC/AED). Our goal remains the same: to impart the skills and a "can do" attitude so every child—girls, children of color, children with disabilities, and children who are poor—will say, "I can do this. Science is for me."

The good news is that in the past twenty-four years the field of science has become more diverse through the efforts of the National Science Foundation, the American Association for the Advancement of Science, the National Science Teachers Association, the Eisenhower Clearinghouse and many small organizations and individuals who have worked tirelessly to open that pipeline. For example, the EntryPoint program from the AAAS has a core of young scientists with disabilities available as role models; EEC/AED has developed an on-line community of practice around issues of science, gender, and after-school programs; and many science and technology corporations have posters available that illustrate the diversity of their workforce.

The goal is to impart a "can-do" attitude so all students believe science is for them.

Despite the gains, however, old attitudes die hard. Every time we ask teachers, group leaders or parents to "imagine a scientist," the same picture still emerges: an older white male with wild hair (think Albert Einstein) wearing glasses and a white coat with a pocket protector full of pens. Statistics tell us that much more