Afterschool, Science, and Equity

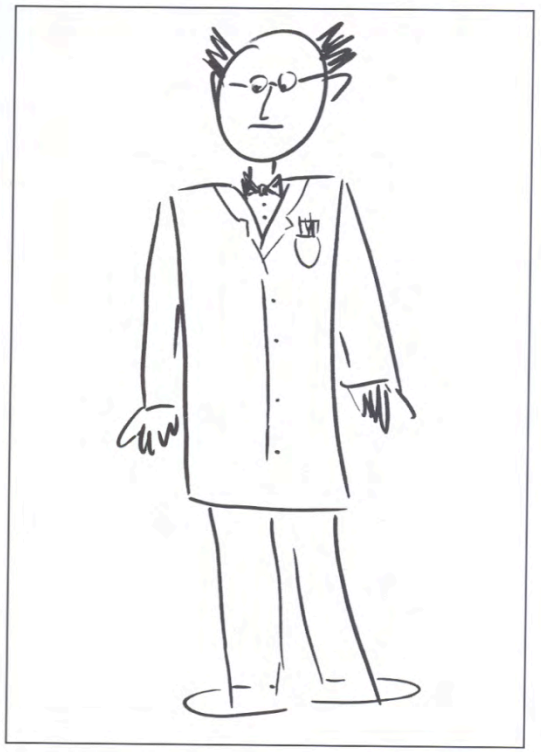
Educational Equity Center
at AED

What is the connection between science, afterschool, and equity?

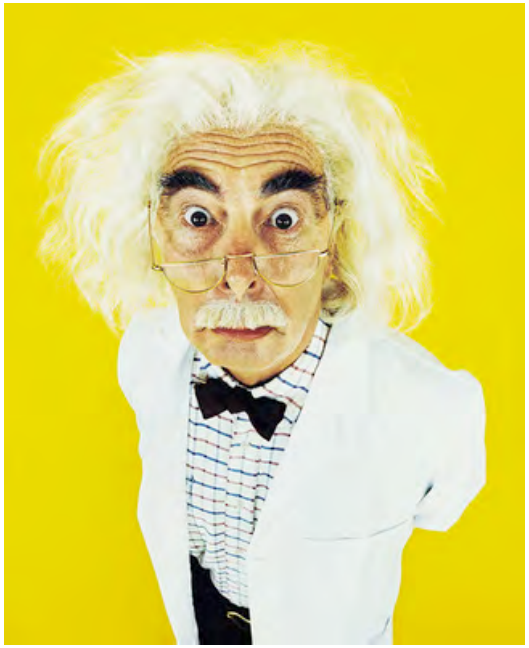
- **What is *equity* in science education?**
- **Why is it important for a science activity to be equitable?**
- **What are the components of an equitable science activity?**
- **Where do we (afterschool educators) fit in the picture?**

WHO DOES SCIENCE?

This group activity helps students become aware of stereotypes they may hold about who does science and gives them an opportunity to broaden their views. As the first activity, "Who Does Science?" focuses on the importance of science equity, and forms the foundation for the ten activities that follow. If you do this activity fully, you will have introduced your students to science learning that opens their minds to new possibilities for future jobs and careers.



A composite drawing of a stereotypical scientist, generated by participants at an After–School Science PLUS training session.



Who is missing from the picture?

Underserved groups (women, minorities, and people with disabilities) comprise a disproportionately low percentage of the STEM workforce.

Startling Statement

There are 2083 full professors in the mathematics departments of the top 50 universities in the United States.

What percent are women?

Less than 10%! (7.2% to be exact)

Startling Statement

What percent of the students with disabilities graduated from college with a degree in science

or mathematics in 2004?

Less than .0001% (one ten thousandth!) of college students with a disability graduated with a degree in science or math—although they represented 4.8% of all graduates.

Startling Statement

What percent of those entering the workforce in 2007 were women or people of color?

In 2007, 82% of the workforce in the United States was comprised of women or people of color. (U.S. Dept of Labor)

Look to the Future

- By the time today's 4th grade students are in the 12th grade, 85% of all jobs will require a facility in science, math, or technology.
- American students' performance in science and math is rated below many other industrialized nations.
- ***If our youth are unprepared, what is our nation's future?***

How does this translate to science education?

What can we do as educators?

Strategies for Equitable Science Activities

- Use familiar, readily available materials to facilitate a series of simple, instructive, fun, hands-on activities.
- Create opportunities for students to view science as a part of their daily lives.
- Involve parents and other family members in science activities that they can do with their children.

Strategies for Equitable Science Activities

- Include role models and introduce mentors

  SOARS (Significant Opportunities in Atmospheric Research) mentoring program reports 100% of protégés receive an undergraduate degree, more than half entered the workforce with graduate degrees.

- Reinforce literacy skills and support math learning.

Strategies for Equitable Science Activities
(Attitude is everything!)

- Convey positive messages to students about who can do science (everyone!).
- Expect the best!

What makes science in afterschool so important?

Afterschool makes the difference!

The freedom and flexibility of the afterschool setting allows for learning experiences not possible during the day. Afterschool settings provide the opportunity for experiential learning that supports academic achievement. (NASA and Afterschool Programs: Connecting to the Future, 2005)

The perfect audience in the perfect setting…

Underrepresented in Science

- Women
- People of color
- People with disabilities
- People from low-income backgrounds

Afterschool Population

- More girls than boys
- More kids of color
- More kids with disabilities
- More kids from low-income backgrounds

The possibilities are endless!

Rachel

5/5/06

science