

Facilitator's Guide

Title: Student Achievement

Overview:

Student achievement is related to teachers', parents', and students' expectations of what can be achieved. An unrealistic expectation from any of the three leads to frustration, but lack of or low expectations causes boredom, negative behavior, and/or a feeling of helplessness. We all need to experiment, to be creative, to use out prior knowledge to create new knowledge, and to be challenged to improve. The workshop facilitators are going to use case studies to see how we develop expectations and how to insure that they are developed equitably.

Objectives: Participants will:

- Increase participants' understanding about equity issues and define equity.
- Begin to develop a vision within the group of equity and excellence in science and mathematics education.
- Offer some practical approaches for a teaching and learning classroom environment that supports problem solving, goal setting, leadership, and career awareness.
- Promote the role and contribution of women in science.
- Strengthen classroom instructional materials through the integration of female role models, their ideas and philosophies.
- Assist educators with strategies to achieve equity inn the science classroom.
- Promote an instructional environment that provides support to underachievers toward mastery in science.
- Showcase instructional and assessment practices that have proven to be successful in raising achievement among low-performing students.

Time Frame: 7 hours (best to split into two days)

Preparation Requirement/Material Needed: See Sections 1 and 4

- **Equipment**
 - Newsprint, multicolored sets of markers, tape
 - Big chart/easel paper scented.
 - Overhead projector, screen, and overhead pens.
- **Transparencies**
 - Jigsaw exercise.
 - Simple jigsaw.
 - Research Shows That Female Students.
 - Myths About Mathematics and Science.
 - Equity in Science Among Underrepresented Groups Is a Serious National Problem.
 - Student Achievement Is Related To:
 - Successful Learning Factors.
 - Intervention Success Variables.

- **Handouts:**
 - Individual Thinking Log (K-W-L or Journaling handout).
 - Fighting for Life in Third Period.
 - Review of NCRMSE Research: Equity in Restructured Schools
 - Equity in the Reform of Mathematics and Science Education.
 - What is Equity? The Struggle for.
 - Definitions and a Common Language.
 - Mathematics and Science Myths
 - What We Know About Girls.
 - Interventions I, II, III.

Student Achievement cont'd

- **Reading:**
 - *Dealing With Diversity: Casting Off the Stereotypes*
 - *What special problems do girls face in science? What can schools and teachers do?*
- **Case Study:**
 - Fighting for Life in the Third Period.
 - Interventions I, II, III.

Program Outline/Sequencing:

- 1.6 Naïve Expectations or Harsh Realities
- 4.7 Girls to Scientists
- 7.8 Building Bridges Through Classroom Interventions