

## Facilitator's Guide

### **Title: Building Upon Successful Model Programs**

#### **Overview:**

Model programs such as *Minority Computer Resource Opportunity Project* (Project MiCRO) and *Detroit Area Pre-College Engineering Program* (DAPCEP) have significantly changed the way students think about mathematics, science, and future careers in these field. Realizing the critical role that model programs play in increasing student achievement, this workshop facilitators will help participants to gain awareness of the strategies and components of existing educational models and initiatives in science and math, and design their own program using a template.

#### **Objectives: Participants will:**

- Gain an awareness of the strategies and components of existing model programs in science and math.
- Evaluate the case studies presented to identify critical factors and then to determine how they have been addressed.
- Develop criteria for choosing among successful model programs and practices.
- Design a program for implementation based on the strategies and components of effective model programs.

**Time Frame:** 2 - 4 hours

#### **Preparation Requirement/Materials Needed: See Section 5.1, 5.2, 5.3, & 5.4**

- Equipment
  - Overhead projector and screen, overhead pens, easel, newsprint, and markers, multicolored adhesive dots
- Transparency:
  - Three Strategies for Making Program Choices
  - Scoring Matrix for Selection of Successful Practices in Mathematics and Science
- Handouts:
  - Summary and Implications
  - Component Analysis of Case Studies: Individual Assessment Chart
  - Component Analysis of Case Studies: Summary Assessment Chart
  - The Equity Jigsaw Focus Questions: Students: Affective Factors
  - The Equity Jigsaw Focus Questions: Students: Cognitive Factors
  - The Equity Jigsaw Focus Questions: Classroom Factors
  - Screening Promising Practices for Adoption
  - Scoring Matrix for Selection of Successful Practices in Mathematics and Science
  - Sample Description of Promising Practices
    - Mathematics Education Initiative/MOVE IT MATH
    - Tools for Scientific Thinking: A Microcomputer-Based laboratory-Force/Motion Unit
    - Foundational Approaches in Science Teaching (FAST)
    - Search, Solve, Create, and Share (SSCS)

- The Institute for Science and Mathematics (ISM)
- Template for Designing Programs Based on Effective Models
- Case Studies
  - Case 1: Project MiCRO
  - Case 2: Detroit/Area Pre-College Engineering Program
  - Case 3: Family Math

### **Program Outline/Sequencing**

- 5.1 Components and Strategies of Successful Programs (p. 5)
- 5.2 Analysis of Model Programs for Critical Success Factors (p. 43)
- 5.3 Making Good Choices Among Successful Practices (p. 49)
- 5.4 Designing Programs Based on Effective Models (p. 71)

### **Follow-up Activities from Toolkit:**

- 1.1 “When I see or hear...” (p. 5)
- 1.2 “To use equity means...” (p. 7)
- 1.3 “In an equitable school I’d see...” (p. 21)
- 1.4 “Equity is more like...” (p. 25)