DMI in Texas

Building a System of Tens: Calculating with Whole Numbers and Decimals

A workshop for school leaders to be held in Austin, Texas

Period of performance: January 1, 2010 to June 30, 2010

EDC will provide four facilitators to lead a 5-day BST workshop, January 11-15, 2010 and a 5-day BST facilitator workshop, May 17-21, 2010. EDC staff will respond individually to each of two assignments during the time between the one-week workshops.

Week 1: January 11-15, 2010

Week 1 will be an opportunity to work through the content of *Building a System of Tens*, a module of the professional development series, *Developing Mathematical Ideas*. *Building a System of Tens* is designed to help K-8 teachers explore the structure of the base-10 place value system and examine how children develop an understanding of that system. This includes studying the principles of place value and investigating how those principles are implicated in whole number and decimal computation. At the heart of the course are sets of classroom episodes (cases), illustrating student thinking as described by their teachers. In addition to case discussions, the curriculum offers teachers opportunities to explore mathematics in lessons lead by the facilitators; to view and discuss videotapes of mathematics classrooms and interviews with students; to share and discuss the work of their own students; to plan, conduct, and analyze mathematics interviews of students; to analyze lessons taken from elementary mathematics curricula; and to read and reflect on overviews of related research.

Each of the five days will include two three-hour sessions. Participants will prepare for each session by reading a set of cases or an essay. On Thursday evening, January 14, they will write a short paper explicating an aspect of what they learned during the week.

Homework assignments between January 11 and May 17, 2010

Between the two weeks of the course, participants will complete two assignments to investigate student thinking related to the content of *Building a System of Tens*.

1. Conduct an interview to investigate an individual student's understanding of some aspect of the place value system, drawing on what was learned during Week 1. The write-up will include: tasks given to the student, what happened during the interview, what you learned (or didn't learn) about the student's ideas, what surprised you, what questions you are left with, and what you learned from conducting the interview. You will send this assignment to your facilitators by April 1, 2010.
2. Pose a mathematics task to your class or a small group of students related to

computation of multidigit numbers. Describe your task, how your students responded, and what you make of their responses (your expectations, your surprises, and what you learned). This assignment will be brought to Week 2 and will be the basis of an activity during the week.

Week 2: May 17-21, 2010

The second week of the course will prepare facilitators to lead *Building a System of Tens* seminars. (Participants must have taken Week 1 and have completed the two student-thinking assignments.) Participants will identify the key ideas of the *Building a System of Tens* seminar, learn how to make these ideas prominent for seminar participants, work with cases from seminar sessions to reflect on facilitator-participant interactions, practice responding to participants' homework, and become familiar with the resources of the facilitator's guide.

Each of the five days will include two three-hour sessions. Participants will have reading assignments to prepare for each session.