Project: "Bringing Out the Algebraic Character of Arithmetic" a.k.a. the "Early Algebra, Early Arithmetic Project."

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Goal area of the activity: Developing A Research Base

Summary: A longitudinal study of 70 children's mathematical understanding between grades 2 and 5, with an emphasis on the emergence of algebraic reasoning; children reside in an urban multiethnic neighborhood; school is a typical Boston public school.

Purpose: The research is helping clarify what young students (grades 2-6) are capable of learning when special mathematical topics and methods are introduced early, as an integral part of the existing curriculum. It will provide a research basis and illustrative activities for curriculum developers and teacher educators.

Some Results: The research shows (1) that young students can learn to treat arithmetical operations as functions from an early age; (2) it identifies the issues (for students as well as teachers) of mapping across diverse mathematical representations (e.g. between a movements along a number line and steps in a subtraction computation); (3) it strongly suggests that the well-known difficulties adolescents show with algebra are not due to developmental constraints (as many have argued).


Several of our project publications are available at:
http://www2.earlyalgebra.terc.edu/publications/