

**CREATING RIGOROUS MATHEMATICAL THINKING: A  
DYNAMIC THAT DRIVES MATHEMATICS AND  
SCIENCE CONCEPTUAL DEVELOPMENT**

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**Introduction**

Several longitudinal studies are being conducted to demonstrate the efficacy of a new paradigm for accelerating and deepening the creation of higher-order mathematical thinking and mathematics and science conceptual development. The paradigm operationalizes constructs of a theory of rigorous mathematical thinking (Kinard, 2000) through Feuerstein's Instrumental Enrichment (FIE) program with Mediated Learning Experience (MLE, Feuerstein, 1980). This paper presents the paradigm and some initial results from one of the studies that targets inner-city youths who have experienced previous academic failure and possess the so-called traits that are presumed to place limits on individual difference (see, for example, Hernstein and Murray, *The Bell Curve*, 1994).