

Methods for Studying Adult Development in Math Professional Development

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This project developed and tested several measures of constructive-developmental difference to be used in studies of math teacher professional development. Measures included a Teacher Decision-Making Vignettes instrument, as well as a Likert-scale rated Support Beliefs Survey administered online. Both these measures were analyzed using Robert Kegan's theory (1982, 1994) to try to find a more efficient, if somewhat less precise, measure of constructive-developmental difference than the Subject-Object Interview (SOI: Lahey, Souvaine, Kegan and Goodman, 1988).

The project also examined teachers' experiences of a reform-oriented math professional development program, using measures of teachers' content knowledge, pedagogical beliefs, and instructional approaches, to see how changes in these might be connected to constructive-developmental differences, and to explore the kinds of supports teachers receive in professional development programs and in their schools.

The **Teacher Decision-Making Vignettes** consisted of four teaching scenarios, each of which asked teachers to describe their own responses to the dilemmas presented and rate their agreement with three approaches to the dilemmas that were written to reflect different constructive-developmental Orders of Mind. Responses were analyzed qualitatively yielding some indicators of constructive-developmental difference, and a number of confounding issues and questions. Download a PDF of "[New Ways to Measure Adult Developmental Differences Among Teachers](#)" by Jim Hammerman and Rebecca Mitchell. This 2006 AERA paper describes the project's approach to measuring development overall and focuses on the Vignettes measure in particular.

The **Support Beliefs Survey** was analyzed using confirmatory factor analysis (CFA) based on theoretically driven ratings by a group of expert SOI raters. The resulting models had borderline acceptable fit and explained about 22% of the variance on average. However, they had some other problems including an apparent tendency for people to agree with items at Orders of Mind higher than their own, which makes the overall measure not so useful as a substitute for the SOI. Download a PDF of "[Measuring Adult Developmental Differences Using a Survey Instrument](#)" by Jim Hammerman and Rebecca Mitchell, a paper describing the development and testing of the Support Beliefs Survey.