

Madhabi Chatterji: Research Themes

1. Improving Evidence Standards, Evidence-Gathering and Evidence Synthesis Methods to Support Evidence-based Practices and Policies

I've thought about, and written extensively on the merits and utility of traditional study designs, such as, Randomized controlled Trials (RCTs), for determining "what works" in education, health and other applied fields, especially for making causal inferences about the effectiveness of complex social programs/policies implemented in field settings. My search for better study designs led me to recommend a counter-methodology to RCTs called the Extended Term Mixed Methods (ETMM) designs (see my paper in *Educational Researcher*, 2004/05). ETMM is a systems-based, multi-method approach for performing impact evaluations. My most recent publications on this theme were in *Health Education & Behavior* (2014) and *Evaluation and Program Planning* (2016).

2. Instrument Design, Validation, Validity and Test Use Issues

I have long-standing research and teaching interests in methodological issues related to instrument design, validation, and validity of measures. I have developed a user-centered, iterative framework for designing and validating measures guided by, and situated in, the contexts of assessment use, called the "Process Model". With colleagues in medicine, we have just begun examining issues on measuring burnout and well-being in physicians who work in acute care environments. I am now exploring methods to study consequential validity issues, or measurement challenges that arise when existing tests and assessment tools are used in new contexts, such as, with new populations or for high stakes decision-making. My most recent publication on this theme is in *Quality Assurance in Education* (Chatterji & Lin, 2018), and focuses on measuring mathematics-related self-efficacy, self-concept, and anxiety in grade 5-6 learners.

3. Standards-based Education Reforms, Educational Equity and Closing Achievement Gaps

I also have long-standing interests in standards-based educational reforms, educational equity and evidence-based approaches for improving the quality of education. In 2006-10, we designed a school-based intervention to help reduce learning gaps in underachieving, disadvantaged or disenfranchised students. The *Proximal Assessment for Learner Diagnosis* (PALD) approach to reducing learning gaps is a teacher-mediated, formative assessment approach that we developed with funds from the National Science Foundation. Two publications on the PALD model were published in *Research in the Schools* (Chatterji et al, 2009) and *The International Journal of Educational and Psychological Assessment* (Chatterji, 2009).

4. Assessment Policy Issues: Promoting Meaningful Use

At the Assessment and Evaluation Research Initiative (AERI: www.tc.edu/aeri), our aim is to promote meaningful use of assessment and evaluation information to improve the quality of practices and policies, across disciplines and internationally. Education is our primary field of action. See the 2014 Education Week blog, *Assessing the Assessments* under Conferences and Forums (www.tc.edu/aeri), co-facilitated by James Harvey and me, for discussions that continue to be relevant. AERI's 2012-13 conference proceedings are also posted on the AERI site under Publications.