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Sandra Laursen*, Ethnography & Evaluation Research, University of Colorado Boulder, 580 UCB, Boulder, CO 80309-0580. *Inquiry and Effective Thinking: Evidence from a Multi-Site Educational Research Study.*

Educational research across the natural and mathematical sciences supports the use of student-centered, active learning methods to enhance students' learning, motivation and persistence in the field. Our group carried out a large, mixed-methods study of inquiry-based learning (IBL) as implemented in some 40 undergraduate mathematics courses on four university campuses. Despite variability in instructors' approach to and skill with IBL, the results show benefits to students, especially for some groups that are often under-served by traditional lecture-based approaches, including women and lower-achieving students. First-year and less mathematically experienced students also benefited particularly. Yet there was no evidence of negative consequences of IBL for other students, who also made gains greater than their non-IBL peers. The positive outcomes for students were linked to classroom practices that emphasized deep engagement with mathematical ideas and collaborative exploration of these ideas. In this session, I will highlight evidence from our study that IBL supports development of "effective thinking" of two types: that which has an effect on the problem, and that which has an effect on the thinker. (Received September 09, 2013)