

**ZMATH 2007e.00197**

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**Bridging engineering and science teaching: A collaborative effort to design instruction for college students.**

Sch. Sci. Math. 106, No. 6, 259 (2006).

Summary: Reformers seeking to increase student understanding and interest are looking to collaborative partnerships to support improved science, technology, engineering, and mathematics (STEM) teaching. At the college level partnerships across colleges are encouraged by reformers in order to provide all students with strong content understanding, model recommended practices for future teachers, and increase participation by underrepresented groups in STEM careers. Collaborative curriculum development, however, is not a trivial undertaking and success is not guaranteed. A better understanding of how partners with different backgrounds interact and what types of instructional changes can be expected from initial attempts will facilitate this potentially powerful approach to instructional change. In this project, 2 engineers and 2 science educators worked jointly to develop a design-based core engineering course to meet the needs and interests of future engineers and science educators. Interaction among planners and development progress were documented by written meeting records and reflections, emails, and records of planning stages and products. Analysis characterized interactions between engineers and educators and the resulting instructional changes. In spite of a strong interest in partners' topics and mutual goals, specialized language and professional cultural differences presented obstacles to understanding and development progress. Also described are the types of instructional changes reasonable to expect in initial development efforts. (Contains 1 figure.) (ERIC)

*Classification:* D35 D45 M55

*Keywords:* cultural differences; curriculum development; teacher collaboration; engineering education; instructional improvement; STEM teaching

doi:10.1111/j.1949-8594.2006.tb17914.x