

Content Mentoring of Middle Grades Math and Science Teachers and Its Impact on Teaching Efficacy: Establishing and Nurturing Effective Partnerships among University Faculty, Public School Administrators, and Classroom Teachers

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Question(s) for Discussion: How do effective collaborations across disciplines and expertise develop and evolve? How can they be fostered?

Session Description: This session cuts across conference strands and focuses upon productive management and implementation of a research project. Specifically, this session seeks to provide some response to the questions: (1) what are the elements of effective partnerships and collaboration; (2) how do effective collaborations across disciplines and expertise develop and evolve; and (3) how can they be fostered? Session information evolved out of the NSF study “Content Mentoring of Middle Grades Math and Science Teachers and Its Impact on Teaching Efficacy.” The purpose of this ongoing experimental study is to examine the effects of university-faculty mentoring on middle grades math and science teacher understanding of content and overall teaching effectiveness. Successful implementation of this study required positive partnerships among interdisciplinary university faculty, public school administrators, and classroom teachers. This interactive session will focus upon strategies utilized in establishing and nurturing successful partnerships among interdisciplinary university faculty, public school administrators, and classroom teachers. The following grant elements and ways to tackle any associated problems or concerns are examples of presentation highlights.

- Bringing interdisciplinary university faculty on board to provide mentoring to teachers
- Communicating the purpose of the study to university faculty housed in colleges/schools other than Education
- Establishing an interdisciplinary advisory council
- Establishing an internal steering committee
- Implementing and maintaining positive communication
- Implementing and maintaining methodologies for capturing important feedback from interdisciplinary and multiple groups
- Obtaining approval from multiple over-site bodies (e.g., public school system’s IRB’s) to conduct research
- Negotiating the public school culture
- “Cold calling” and other introductions to public school administrators
- Obtaining volunteer teacher participants from disparate school systems
- Maintaining participant interest across the academic year; how to persist without becoming overly intrusive

An update on the NSF Content Mentoring grant, including data collection and analysis, will also be provided. Part of the methodology described in the grant involved journal entries and narrative surveys from faculty and teacher participants. While quantitative data are still being collected and analyzed, the qualitative data are complete for the 2008-09 grant year. The responses from both teachers and faculty are positive. Trends in the data tend toward the need for more time, both in consultation with each other and in relationship development; positive enhancement of discipline knowledge and resources; the reciprocal and professional mentoring relationship; and the positive nature of the relationship in general. Preliminary conclusions are that content mentoring with a specific professional in the teacher’s field enhances both content knowledge and teacher efficacy. It is too soon to know if this translates into enhanced student learning and the retention of highly qualified teachers, but these data are positive in that general direction.