

Engaging Higher Education and K-16 Faculty Members in Science and Mathematics Learning Communities

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ABSTRACT

This paper describes combined quantitative/qualitative research conducted on the effectiveness of learning communities. This research is part of a larger study of a systemic reform effort to improve teaching and learning of mathematics and science in Georgia called the Partnership for Reform in Science and Mathematics (PRISM) which supported by a grant from the National Science Foundation. A unique feature of the learning communities is the systematic participation of university science and mathematics faculty with K-12 educators. Quantitative results on the effects of learning communities on teachers' use of (1) inquiry based teaching and learning, (2) standards-based teaching and learning strategies and (3) traditional strategies showed that K-12 teachers who participated in PRISM learning communities reported more use of standards-based teaching and learning strategies. There was no difference in the other two scales. Qualitative results demonstrate a variety of structures being implemented as K-16 learning communities. Participants are extremely positive about the outcomes of the learning communities' professional collaboration while acknowledging that competing demands on their time creates problems for many individuals. One finding has been that the formal sharing of cultures between higher education and K-12 faculty has been viewed as positive by all parties.

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