

Mathematics Education in the South and Western Pacific: Building Local Capacity to Support Teachers of Mathematics

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Over the past 7 years, two National Science Foundation (NSF) funded projects—Developing Effective Leadership Training Activities [DELTA] and Mathematics Education for Novice Teachers: Opportunities for Reflection [MENTOR]—identified and trained mentor teams drawn from and working on remote Pacific islands. During the past 4 years, these mentor teams—composed of college mathematics instructors, district mathematics specialists, and expert classroom teachers—supported some 400 novice teachers of mathematics.

The ability of the projects to achieve their stated purpose of nurturing effective mathematics instruction in novice and experienced teachers was dependent upon the achievement of a number of goals, including but not limited to: (1) developing experienced mathematics educators' understandings of their roles and responsibilities of mentors, as well as of effective mentoring processes; (2) developing experienced mathematics educators' skills as mentors, as well as their abilities to design and implement professional development models that foster professional growth in teachers; (3) increasing mentors' and novice teachers' mathematical content knowledge, as well as their understanding of associated pedagogy; (4) increasing novice and experienced teachers' ability to plan, implement,

and assess instructional sequences that reflect an understanding of the principles of standards-based mathematics learning and teaching; and (5) developing novice and experienced teachers' and mentors' abilities to reflect critically on their practices and on their growth as mathematics teachers and educators.

In addition to individual and focus group interviews, observations, and audio and video conferences, impact was measured using two instruments designed for the projects: (1) a mathematics content test administered yearly to the novice teachers and biennially to the mentors, and (2) a pre-post attitude questionnaire given to both mentors and novice teachers. These measures indicate modest growth in content knowledge, and a growing appreciation and understanding of standards-based instruction on the part of the novice teachers. The mathematical knowledge of the mentors has grown significantly. Questionnaire data for the mentors is not available until the conclusion of the projects in 2007. Anecdotal data from a few of the island communities indicates growth in student achievement taught by the novice teachers. Improved understanding and appreciation of the richness of their diverse island cultures is extensive among both mentors and novice teachers.

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