

PROFESSIONAL DEVELOPMENT

Different Approaches Meet Different Needs

It takes both flexibility and creativity to meet mathematics and science educators' professional development (PD) needs in a region as geographically and culturally diverse as the Pacific. Some of PREL's initiatives, like developing cadres of local educators to provide in-service training, are region-wide (see "MENTOR Project" on p. 17). State-level solutions are addressed through strategic planning, and onsite PD events are provided in part through school partnership programs.

At every level, the Pacific Mathematics and Science Regional Consortium staff works with personnel from the entire school system to ensure that trainings provide effective

instruction, are well planned and coordinated, invite active participation in the learning process, and meet standards for high-quality PD. Objectives include the following:

- increasing participants' knowledge of both the content area and pedagogy;
- developing understanding of students as learners; and
- encouraging reflection.

The stories that follow show these beliefs and models in action at schools in Rota (see below) in the Commonwealth of the Northern Mariana Islands (CNMI) and in Yap State (see page 18) in the Federated States of Micronesia (FSM).

School Partnerships Improve Mathematics and Science Teaching in Rota

By Alice Borja and Paul Dumas

To increase student understanding in mathematics and science, CNMI parents and community members and Public School System (PSS) staff developed a two-year system-wide school improvement plan. Objectives include implementing a coherent mathematics and science PD program; improving instruction by applying new knowledge and skills; and strengthening partnerships with parents and the community.

On Rota, one of CNMI's three major islands, the Consortium's Pacific Schools Partnership program has played a major role in promoting these objectives. Rota's three schools, Sinapalo Elementary School, Rota Junior High School, and Rota High School, serve approximately 650 young people on the island. At the plan's inception in 2001, staff at the three schools joined together and committed themselves to improving the teaching and learning of mathematics and science across the island.

Since then, Rota's teachers have participated in a variety of PD events. Ms. Jacqueline Quitugua, PSS Science Program Manager, has worked closely with school administrators and teachers in designing these PD activities. Trainings have been provided by a variety of facilitators, including local educators, community members, and outside professionals. Peer study and curriculum development groups offer opportunities for



▷ PD includes providing experiences that model good teaching. Here Juliet Macabenta makes observations for a marine transect study.

discussion and reflection. Lead teachers have attended off-island institutes as well.

A wider use of standards-based teaching methodologies has resulted in greater student achievement in both mathematics and science, as evidenced by the most recent SAT 9 test results. Better relationships between schools, parents, and the community have paid off as well. In one joint project, parents with farming backgrounds partnered with informal science agencies to provide the technical know-how for student-grown vegetable gardens.

Paul Dumas is the Director of the Pacific Mathematics and Science Regional Consortium. Alice Borja is a Field-Based Program Specialist for the same program.

Online Marine Resource for K-12 Educators and Parents

Reef ED (www.reefed.edu.au) provides multimedia educational resources on coral reefs. The site, which is maintained by the Great Barrier Reef Marine Park Authority in Australia, includes curriculum and multimedia activities for K-12 educators and students, an online guide to reef flora and fauna, and an image gallery. Teaching units for students from kindergarten through high school address art, language, mathematics, science, and stewardship.