National Science Foundation

Goal Area: Improving Teacher Knowledge

Summary: NSF currently operates two programs that directly address improving teacher knowledge: the Teacher Professional Continuum (TPC) and the Math and Science Partnership Program (MSP). The TPC Program addresses critical issues and needs regarding the recruitment, preparation, enhancement, and retention of science, technology and mathematics teachers (NSF 03-534). The MSP Program supports innovative partnership-driven projects to improve K-12 student achievement in mathematics and science (NSF 02-190) and one of the five key features essential to all projects is *Teacher Quality, Quantity and Diversity.*

Purpose: TPC: improve the quality and coherence of the learning experiences that prepare and enhance STEM teachers and school districts administrators; to research and develop models and systems that support the teacher professional continuum; to research teacher learning and its impact on teaching practice; and to disseminate the research and innovative models and resources to a national audience. **MSP**: Through the partnerships' collaboration with higher education disciplinary faculty, projects will ensure that K-12 teachers engage in activities to develop strong mathematics/science content knowledge and related pedagogical skills. Activities can support increasing the diversity of the teacher workforce, recruiting qualified individuals, influencing teacher certification, teacher induction, and increasing retention.

Accomplishments/Results: All individual projects must describe evaluation plans. Both programs will have outside program evaluations. In addition, MSP requires baseline and ongoing data collection of all projects. Both programs provide for research and evaluation components. TPC invites research studies, and research and development of educational models and systems. MSP, through projects funded through the Research Evaluation, and Technical Assistance (RETA) solicitation, encourages research and evaluation on MSP key features, such as teacher quality, quantity, and diversity. In addition, all NSF projects are subject to peer review, review by Committees of Visitors and portfolio review.

Plans for the Next 12 Months: TPC will focus on three areas: (1) Research studies that contribute to the knowledge base for recruiting, preparing and supporting teachers and how to create supportive environments that sustain STEM teachers at all levels. (2) Research and Development of Educational Models and Systems that support the teaching profession. (3) Professional Resources Development that includes tools, curricula and information resources that support teachers. Proposals are due September 10, 2003. **MSP** supports various approaches to increasing teacher knowledge through the partnerships themselves and through the RETA projects that conduct research and evaluation on various aspects of teacher quality. Collectively these two activities constitute the MSP Learning Network. The second round of MSP projects will be awarded in the summer of 2003. RETA proposals are due May 12, 2003.