



TEACHER RECRUITMENT AND PROFESSIONAL DEVELOPMENT IN MATHEMATICS

Our nation has a shortage of highly effective teachers equipped with strong expertise in mathematics, especially teachers of students from disadvantaged backgrounds. Unlike teachers for our international competitors, most of those who enter the teaching workforce in the US are not the best and brightest students in mathematics, or those with the highest scores on verbal and mathematical assessments. The follow policy recommendations are provided to address these concerns.

Recruit highly qualified mathematics teachers

Studies show that, controlling for socio-economic status, teacher quality is single greatest factor influencing student achievement. Teacher efficacy in mathematics comes from a solid foundation in and grasp of content and problem solving skills. Too many teachers in our nation's elementary classrooms lack the fundamental knowledge of mathematical skills and applications needed to deliver effective curriculum and instruction. The National Science Foundation (NSF) is taking the lead to address this problem through programs such as the Robert Noyce Teacher Scholarship Program.

Build the capacity of educators to deliver and support effective curriculum and instructional practices in mathematics

An abundance of research has shown not only the importance of highly qualified teachers, but also that a student's exposure to an effective teacher in the earlier grades can have a cumulative and profound affect on learning in later years. Effective teachers with demonstrated competency in mathematics need access to sustained professional development opportunities, especially at the middle and high school levels. Current federal programs, such as the Math Science Partnership Program, that provide opportunities for collaboration between researchers and practitioners in mathematics instruction are not sufficient in scale to create lasting, widespread systemic reform.

Provide incentives for the development of meaningful assessments in mathematics to increase transparency and accountability in student learning

Broader efforts are needed to development meaningful assessments in mathematics that are informed by the latest research, measure what students need to know, and promote access and continued learning. Teachers will be able to use the assessments to improve design and delivery of instruction on a daily basis. This is critically important at the middle school level when children begin to have difficulty in math and may fall behind.