

Project Summary

Title: The Mathematics and Science Partnership in New York City (MSPinNYC)

Lead Partners: Hunter College, City University of New York (CUNY)

CORE PARTNERS: The New York City Public Schools, Regions 3 and 9 and CUNY Institutions: Lehman and Queens Colleges and Hostos, Queensborough, and Bronx Community Colleges

Numbers of Teachers and Students, 324 teachers and 79,800 students

Current Enrollment of Students in Chosen Grade Bands: 81,100

MSPinNYC Abstract

The MSPinNYC focuses five goals: (1) develop partnerships and change cultures among a number of CUNY's senior colleges, community colleges, and two of ten Regions within the New York City Public School System; (2) create, scale up, implement, and field test student support, teacher recruitment, and a **Collaborative Teaching Laboratory (CTL)** professional development model; (3) improve student understanding of content and performance on examinations; (4) ensure that research characterizing the scientific method permeates every aspect of the project; and (5) institutionalize and sustain project outcomes. It employs a micro-macro strategy, enabling the project to work on two levels simultaneously, and impact the immediate partners, as well as other IHEs in the CUNY system and other Regions in the PreK12 system. The micro level includes development of 12 research-based Hub schools; scale up of a Hunter College chemistry model to support failing high school students to include mathematics, additional science disciplines and additional sites; scale-up of a teacher-research program developed at Hostos and Bronx Community Colleges; creation of a Cadet Corps of high school mathematics and science tutors; and creation of an improved student teaching experience. The macro level works simultaneously to address system-wide issues: to ferret out what works and why, and to provide the necessary research; develop connectivity among different academic groups and disparate programs; put into motion policy and practice changes necessary for institutionalizing and sustaining project outcomes; and disseminate results state and city wide. Formative and summative evaluation, developed to provide in-process advice and long-term counsel, are integral parts of the project and its research agenda.

Intellectual Merit

The innovative micro/macro project design includes research on and evaluation of program development and scale up. The project is structured to involve research scientists in the pursuit of critical issues related to what teachers must know and be able to do, and how faculty select and approach their disciplines' big ideas in terms of student/teacher misconceptions and other difficulties. It also involves leadership at the secondary and IHE levels in bringing about the partnerships and culture changes necessary to provide lasting reform. If the micro/macro design works, it will provide a new way to do approach systemic reform in and among large and complex system.

Broader Impacts

Society benefits when increasing numbers of students succeed and significant numbers of young people agree to become members of the teaching profession. These are MSPinNYC goals and implementation of the project includes research and analysis at each stage of development aimed at fulfilling the goals. The student groups for whom the reforms are being developed are 60% Black and Hispanic. The MSPinNYC aims at appropriate infrastructure changes, believing that changes in teacher preparation, curriculum, and assessment are impossible minus appropriate organizational, policy, and environmental changes.