Pitt’s Learning Research and Development Center Tapped for $35 Million NSF Math and Science Education Initiative

The University of Pittsburgh’s Learning Research and Development Center (LRDC) will comanage a five-year, $35 million National Science Foundation-funded project to reform math and science education in elementary and high schools nationwide.

LRDC and Pitt join with the University of Wisconsin to form a partnership known as Systemwide Change for All Learners and Educators (SCALE). The partnership includes four urban school districts serving approximately 900,000 students—Los Angeles Unified School District, Denver Public Schools, Providence, R.I., Public Schools; and the Madison, Wis., Metropolitan School District.

SCALE will focus on five key areas:

- Implementing the best current math and science programs throughout each of the four partner districts;
- Creating and implementing in-depth science, technology, engineering, and mathematics units of study that immerse students in deep study of a topic;
- Reforming teacher education for teachers in partner districts;
- Mounting an innovative program of peer tutoring aimed at keeping high school students who serve as tutors intimately engaged in mathematics and science; and
- Implementing a comprehensive program of research and evaluation.

SCALE aims to markedly improve student achievement in science, technology, engineering, and mathematics (STEM), especially for those from minority and low-income families, including nonnative English speakers. Lacking equal opportunities to learn basic math and science, such students are dropping out of STEM courses in discouraging numbers, according to LRDC Director Lauren Resnick.

“The problem is self-perpetuating,” Resnick said. “When children of color do not see people like themselves in math and science settings, they can view that absence as a roadblock to their educational goals.”
LRDC and its Institute for Learning (IFL) will receive $2.85 million per year for its role in the project, which will involve Pitt's major science and engineering departments and the School of Education. Resnick and Christian Schunn, LRDC research scientist, will codirect the project.

Schunn said that SCALE’s multipronged approach will provide students with more challenging and engaging math and science curricula, encourage them to work on exciting science projects—even at the elementary level—and improve the training of existing and new science and math teachers, while enticing more math and science college students into teaching careers.

“Reforming math and science education is an extremely complex task with many interconnected problems,” Schunn said. “The goal is to make major improvements in the way almost a million kids in our partner schools learn math and science, and then to spread that success across the country.”

SCALE is a component of NSF’s Math and Science Partnership (MSP) program, a five-year national effort to unite the activities of higher education institutions, K-12 school systems, and other partners in support of K-12 students and teachers. The program is part of the federal government’s No Child Left Behind plan to strengthen and reform K-12 education.

LRDC is one of the largest and oldest education research and development centers in the nation. Launched in 1963, LRDC has been home to several U.S. Department of Education centers and is now the base for the IFL Learning, which maintains a well-established partnership between a university and urban school districts. Established six years ago in response to district requests for help in organizing to raise student achievement across the board, IFL has expanded into a network of 10 urban school districts in cities in nine states, including Los Angeles, Denver and Providence.