

Brooklyn Schoolkids Do the Robot

By MELANIE GRAYCE WEST

What happens when you mix young engineers, teachers, students and robots in a Brooklyn classroom?



MARILYN GELBER

"A whole bunch of magic," says Marilyn Gelber, president of the Brooklyn Community Foundation. The foundation is giving a \$500,000 grant to expand a program that invites engineering students into serve as mentors in Brooklyn schools. The program, Central Brooklyn Science Technology Engineering and Mathematics (STEM) initiative, is operated by the Polytechnic Institute of New York University.

The after-school initiative, launched in 2007, now operates in 18 schools, grades five to nine. With the foundation's grant and with additional funding from outside donors, the program hopes to be in 36 schools in three years. To date, the Brooklyn Community Foundation has given \$800,000 to the STEM initiative.

"We see it growing beyond robots into more intensive science and math instruction," says Ms. Gelber.

Graduate engineering students from NYU-Poly serve as fellows in the classroom, working with teachers to develop projects that build off of classroom education. Robots are a key tool in teaching children fundamental math and science concepts. In short, they are a "cool factor" that gets students engaged, says NYU-Poly professor Vikram Kapila, the program's principal investigator.

"The kids are not there simply to operate the robot," says Dr. Kapila. "They have to build it, and program it, and make it do certain tasks. Very quickly they learn that in order to do all these different things, you have to learn the underlying science and math."

Though students might have access to the Internet, cellphones and Xbox, teaching about such technology, and the science and math concepts behind it, doesn't easily translate in the classroom.

"We expect that these kids are going to be so thrilled about science and math and engineering that they are immediately going to jump at the first opportunity to have a science career," says Dr. Kapila. "It ain't going to happen."

For all that the kids get from the program, fellows get something, too. Fellows share their own personal research with students and are forced to distill complicated research into kid-friendly, nontechnical language—something that's not always easy. It's also practice for a pitch that the fellows might later use in a job interview or a meeting with a venture capitalist.

For the participants, the hope is to create a pipeline of talented students who will pursue a profession in engineering. "We are training graduate fellows to be better scientists, better engineers, better communicators of their science and math and we are exciting the younger generation to come and join us in science and engineering careers," says Dr. Kapila.

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