Inside TC profile: Jack McGourty
File name: finkelstein_mcgourty002
Word count: 710

Headline:
Bringing the real world to the classroom

Summary:
Jack McGourty collaborates with TC to implement STEM programs in Harlem and Northern Manhattan public schools

Key words:
Jack McGourty, Teachers College, Columbia Engineering, Fu Foundation School of Engineering and Applied Science, Center for Technology, Innovation and Community Engagement, CTICE, STEM, Columbia-Harlem Small Business Development Center, SBDC, Hayden Program, The Harlem Middle School Robotic Challenge Program, Technology Integration Partnership, Harlem Schools Partnership, GE Foundation, NYC Department of Education

By Barbara Finkelstein

Story:
In the not too distant past, P.S. 76 on Manhattan's West 121st Street was light years away from the educational opportunities around the corner on 120th Street. Now a collaboration between the Fu Foundation School of Engineering and Applied Science and Teachers College called the Harlem Schools Partnership (HSP) has turned those trillions of miles into walking distance.

Harlem Schools Partnership was spearheaded in part by Jack McGourty, vice dean for corporate, government and global engagement at Columbia Engineering, in collaboration with TC's associate vice president Nancy Streim. In 2006 McGourty established the Center for Technology, Innovation and Community Engagement (CTICE), a framework for bringing technology and entrepreneurship to ten public schools in Harlem and Upper Manhattan. Since then, TC and Columbia Engineering doctoral students have gone into area public schools as CTICE Fellows under the HSP rubric.

P.S. 76 was a prime candidate for HSP participation. Many students come from working class families; some live in temporary shelters and eventually move away to other boroughs. Department of Education rankings for the category of "student progress" is average. "Student performance" and "school environment" rankings are low. By any reasonable measure, HSP's enrichment programs -- made possible with funding by the GE Foundation and the NYC Department of Education -- would make only modest inroads into the school's curriculum.

Yet McGourty's CTICE Fellows report that P.S. 76 students have responded with intelligence and curiosity about the science, technology, engineering and math (STEM) projects introduced into the school:

+ "Hands-on, interactive approaches to understanding scientific concepts have been an extremely useful tool for solidifying connections from the classroom to the outside world and fostering student interest and engagement," says Nadine Els, a grad student in earth & environmental engineering.

+ "The kids are very excited for brainstorming activities where they can apply what they have learned in lecture to real problems," says Maggie Boushell, a grad student in biomedical engineering.

The connection between in-class learning and real-life application comes straight out of McGourty's teaching philosophy.

From his earliest days at Columbia Engineering, where he taught first-year undergraduates basic engineering and product design, McGourty intuited a model for teaching STEM subjects that would help students solve real-world problems:

+ Teach the theory.
+ Create experiments that can be done in the classroom.
+ Work on a real problem out in the world.

McGourty's administrative genius has not stopped at the classroom door. His programs also have helped middle- and high school students make the connection between STEM and running a business in the real world. Through CTICE, for example, McGourty established the Columbia-Harlem Small Business Development Center (SBDC), a federally funded project that links students to local businesses -- and supports job creation in the community.

Columbia Engineering undergraduates too have benefited from the 15-credit interdisciplinary minor in entrepreneurship that McGourty developed.

Indeed, McGourty has had a hand in one community educational program after another:

+ The Hayden Program, which brings subjects as diverse as hydroponics and astrophysics to Harlem and Upper Manhattan high school students.

+ The Harlem Middle School Robotic Challenge Program, which recently showcased students who built robots out of Lego pieces.

+ The Technology Integration Partnership, which sends undergraduate and graduate engineering students into public schools to improve the science, math and engineering curriculum.

No need to experience cognitive dissonance at the thought of an engineering administrator caring this much about teaching STEM to inner-city children. McGourty credits Lisa Miller, associate professor of psychology and education at TC, for what he calls his "enlightenment" about performing community service.

"When I was doing my doctoral work at TC, Dr. Miller helped me to see the connections between cognitive-behavioral processes and spirituality," McGourty said. "This understanding directly influenced my thinking about how one should teach STEM topics through service to the community."

McGourty's "spiritual" influences are living on beyond his work with CTICE.

Former CTICE Fellow Victoria Nneji, for example, founded Digital STEM, a grant-funded project that teaches elementary and middle school students how to refurbish used computers. Andrea Sreshta and Anna Stork, who went through the CTICE entrepreneurship program, developed a solar light lantern that they are selling as a disaster relief light source to people in Haiti, Ghana and Nigeria.

"Just so you understand," McGourty says, "we walk the talk."

-30-

Inline urls

Harlem Schools Partnership
http://www.tc.columbia.edu/hsp/index.asp?Id=Home&Info=Home

Center for Technology, Innovation and Community Engagement
http://ctice.columbia.edu/

GE Foundation
http://www.ge.com/foundation/

NYC Department of Education
http://schools.nyc.gov/default.htm

Engaged Entrepreneurship
http://ctice.columbia.edu/content/engaged-entrepreneurship

Columbia-Harlem Small Business Development Center
http://ctice.columbia.edu/content/columbia-harlem-small-business-development-center-sbdc-0

Hayden Program
http://www.columbia.edu/cu/news/newyorkstories/hayden.html

The Harlem Middle School Robotic Challenge Program
http://www.columbia.edu/cu/news/newyorkstories/robotics.html

Technology Integration Partnership
http://tip.columbia.edu/