



Brooklyn Daily Eagle

Robot Dreams in Brooklyn: Initiative Brings High Tech to Urban Students

by Mary Frost (mfrost@brooklyneagle.net), published online 01-29-2008

By Mary Frost
Brooklyn Daily Eagle

BROOKLYN — Last Saturday, the gym at Riverbank State Park in Manhattan literally crawled with robots. As crowds cheered from the bleachers, rabbit-sized automatons installed model solar panels on the roofs of tabletop LEGO buildings, dammed simulated rivers, moved fuel to power plants and ran power lines to communities.

The robots' human creators, hovering over cities built on wooden platforms, had just two-and-a-half minutes to put their creations through their tasks, and the air cracked like a sports tournament — especially when the P.S. 21 cheerleaders jumped into action.

It was the New York City "FIRST LEGO League Championship Tournament," and roughly 80 fourth through ninth-grade teams competed in this spectacle of science, math and technology.

Among the schools vying in the tournament were five central Brooklyn teams that were mentored by Polytechnic University students as part of the Central Brooklyn Robotics Initiative (CBRI), led by Polytechnic University Professors Vikram Kapila and Noel Kriftcher.

"We started from scratch building the robot," said fifth-grader Thomas Smith, a team member from P.S. 21, Crispus Attucks school in Bedford Stuyvesant. P.S. 21 took the top prize, the Director's Award, in the Brooklyn-wide qualifier event last month, and won the Team Spirit Award in Saturday's citywide competition. "We completed eight missions," Thomas said.

One mission was to activate a photo-powered satellite. "We programmed the robot to go straight, and we had to angle it to hit the target before our opponent did. Another mission was to [install] wind turbines and trees. We put a special attachment on the robot to do this.



Kelechi Stuart and Thomas Smith from P.S. 21 in Brooklyn took the top prize, the Director's Award, in the Brooklyn-wide qualifier event last month, and won the Team Spirit Award in Saturday's New York City "FIRST LEGO League Championship Tournament." Photo by Marian Goldman

1/1

<<first <previous next> last>>

A Lot of Practice

"We had to do a lot of practice," he said. "We practiced till we got it perfect. I was very nervous because we had to make sure we had time to do all the missions."

Ms. Arnold, the math coach at P.S. 21 and the team's teacher coach, said that at first she thought the program would be merely a fun enrichment activity. "It turned out to be much more exciting than we anticipated," she said. "You see them use the computer's Mindstorms software, build the robot using the LEGO pieces, use problem solving skills. There's a sense of accomplishment when the robot does what you program it to do."

Ms. Arnold noted that of the eight students on the P.S. 21 team, five were girls. "Our programmers were girls; the boys tested the missions," she said.

CBRI Brings Robotics To Central Brooklyn

Thomas's team would never have entered the competition were it not for CBRI, funded by Independence Community Foundation with additional funding from JP Morgan Chase. CBRI introduces middle and high school students from Central Brooklyn (and their teachers) to the foundations of robotics technology.

"The object is to work with schools in Central Brooklyn areas with a large minority population, usually economically depressed, with not a lot of science or engineering events going on," said Polytechnic University's Professor Vikram Kapila. Amazingly, five out of the ten CBRI teams qualified for Saturday's citywide competition. "It was a vigorous competition," Kapila said. "Three of our teams won awards there. While it was not necessary to win awards, it was the icing on the cake."

Besides P.S. 21, Benjamin Banneker won the Teamwork Award and Bedford Academy took home the Against All Odds award. P.S. 11 and P.S. 81 also participated in the CBRI program.

Dr. Noel Kriftcher, Industry Professor of Humanities and executive director of the David Packard Center at Polytechnic University, said that CBRI Fellows from Polytech worked with teachers and students to master the various tasks.

It's Kriftcher's belief that the rich resource in women, African-Americans and Latinos is basically untapped. "We're not only concerned with kids who score in the 1500s on the SATs; we believe you can encourage young people by giving them an opportunity," he told the Eagle. "What they learn is that science, math and their application in the real world is invaluable."