Ex-Motorola engineers helping kids learn about science and math

Thirteen-year-old Ryan Smith wore a smile as he joined several eighth graders gathered around mini roller coasters they had designed and built. They demonstrated how one of the colorful construction-paper coasters worked, placing a marble at the top, which traversed several curves and dips before spinning round and round in what students called the toilet bowl.

They shared how they had to calculate potential and kinetic energy.

Meanwhile, other students were hard at work completing paper rocket replicas.

The students at Chicago's Sexton Elementary School were among participants in a class by Project SYNCERE, a local nonprofit formed to help boost the paltry representation of minority, female and underserved students who pursue careers in the in-demand fields of science, technology, engineering and math, or STEM.

Project SYNCERE uses project-based learning to spark students' interest. Since its rollout in 2009, it has served more than 5,000 students through in-school, after-school and summer programs.

Project SYNCERE is the brainchild of former Motorola engineers Jason Coleman and Sean Phillips and former Northwestern University grant fund manager George Wilson.

"We all had a similar interest in promoting STEM and had a love for technology and engineering," said Coleman, 33, who grew up on the South Side with childhood friend Wilson. "As we looked around, we knew there weren't that many minorities who were in the same positions we were.

Indeed, a survey released last year by Monster Worldwide found that African-Americans and Latinos made up just 7 percent of the STEM workforce.

"Growing up, I didn't have anybody telling me what engineering was, what different career opportunities existed in those fields and that made engineering fun to learn about," Coleman says. "So we decided to create Project SYNCERE to try to change that."

The majority of its programs target middle school kids, but it also offers programs for high school students.

Martese Jennings, 15, says he enrolled in the program "because it allows me to work with my hands, and I still learn science and math at the same time."

Eighth-grader Terrinique Battle says she had been thinking about pursuing a career in music, but "this program made me think about being an engineer."

Project SYNCERE works with 33 part-time instructors, who are engineering students from local colleges and universities.

This past year, it partnered with 30 Chicago Public Schools and charter school networks and launched programs in St. Louis and Atlanta.

Funds come from corporate donors, including Motorola, ComEd and others, as well as foundations and contracts with schools, says Wilson, 37, director of finance.

Sexton principal Nicole Monroe says the program has opened up opportunities for her middle school students and she likes the hands-on experience it provides.

This summer, Project SYNCERE will offer several free STEM programs in partnership with local groups, including After School Matters and the Chicago Urban League, Wilson says. Among projects the students will work on are building and programming robots, creating lotion and hair products, and making traffic lights.

"We love projects because seeing is believing," Coleman says. "When you're able to tie in computational math and science and show students how that all ties into a particular concept or something in real life, they automatically grasp those concepts."

For more information on the programs, visit projectsyncere.org/activities.html.