College students host camp to spark interest in science

by Peggy Vaughn
Staff Writer

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Nineteen-year-old college student William Hwang is testing a new equation he's devised to get children interested in science.

The formula is simple enough: Enthusiastic college students plus toy robot kits equals dynamic science camp for middle school students.

The execution of the formula proved more difficult, requiring Hwang and 15 of his like-minded friends to spend countless hours brainstorming, planning and finding money to pay for the camp.

But last week, Hwang and his company of science-loving peers hosted "Innoworks Roboventions," a free science-oriented camp at the Scotland Community Center in Potomac that attracted 34 campers from across the county.

"To have college students come up with an idea like this -- it's very unusual," said Billie Wilson, western regional manager for the Montgomery County Department of Recreation. "So often, college kids aren't aware of the needs out there and how to bring what they can offer to the community."

Hwang and his friends did manage that feat, however, and as he watched dozens of kids ages 12 to 17 programming computers to run Lego building blocks robots through a series of "missions," or tasks, he was justifiably pleased with the results.

April Htut (left), 11, of Bethesda and Joelle Mensah, 12, search for parts for the robot their group is making during a free summer camp program called "Innoworks Roboventions," held last week at Scotland Community Center in Potomac.

Susan Whitney-Wilkerson/ The Gazette

"We can't teach a lot of skills in five days [of camp], but we can change attitudes about science and engineering being boring stuff," he said.

Camper Brianna Evan, 13, of North Potomac, said the novelty of working with college-aged mentors kept the campers fully engaged.

"They're amazing, really. We can relate to them because they're going to school and we're going to school -- we're all working towards the same goals," she said. "They talk to us about college and what we can do in science."

The idea for the camp grew out of a discussion that took place 18 months ago among his Montgomery Blair High School friends, said Hwang of Potomac.

"We all thought something was missing in teaching kids about science," he said. "When [science] isn't taught with a hands-on approach, it's hard to get kids to see all the possibilities. Especially among kids that haven't had the kinds of opportunities that we had."

Hwang, now studying biomedical engineering, physics and electrical and computer engineering at Duke University in Durham, N.C., continued that same conversation with his college friends.

"Lots of science camps for kids are taught by adults with college and high school students helping out," he said. "We wanted to do a program centered on college kids interacting with young students. We think we can motivate them in ways adults can't."

Since collaboration is crucial in science, the campers were assigned to teams of four and five. Each team worked with a mentor, using kit's of 750 building pieces and a software program to construct and operate mini-robots about a foot long and 8 inches high.

"We figured the theme of robotics would keep the kids interested and give them a hands-on experience. We could also bring in other disciplines, like ecology, by having the kids program the robots to do things like sort by color like they do under recycling programs," Hwang said.

Mentor Sheyi Ayeni, 19, of Bethesda, who is a biology major at Stanford University in Palo Alto, Calif., credits the decision to use Lego kits as key to the success of the project.

"They're easy to use and allow for creativity," he said. "The kids just wanted to get their hands on them, to build something. That's only natural."

Still, running a camp and working with a large group of children, was a first for most of the college-age students.

"Actually, we expected to have to yell our heads off at first," Hwang said. "On the first day, a lot of the wheels in the kits went rolling off and got lost. But as you can see, they really settled down to business."

Hwang worked with his friends on developing a proposal and agenda for the camp that convinced Duke University to give a $5,000 grant for the project. The money went toward purchasing 10 $200 robotic kits and other supplies.

Networking through friends and friends of friends, Hwang recruited the 15 volunteer mentors from a several different colleges. All but two are majoring in science, and several are former high school friends.

Since his parents, Yuan-Yuan and Phillip Hwang, have volunteered for years in volleyball camps for the Montgomery County Department of Recreation, the next step was easy.

"I knew the county had loads of good facilities we could use," Hwang said.

Scotland Community Center, which serves a diverse and historically African-American community, seemed the ideal spot to hold the camp.

"We want to reach kids that don't have easy access to high-tech equipment and to involve them in a collaborative process," Hwang said.

Gery Kamavu, 12, a Scotland resident, said he'd never attended a camp or played with Legos before.

"But I got my team off to a fast start on the first mission, though, because I've done programming before," he said.

Scotland resident Colby Moore, 10, said the camp is just one step on the long road to his future career as a scientist.

"At first it was confusing, the programming part," he said. "But I got it, I got it."

Hwang hopes to expand this project to several different sites next year. For more information, go to www.innoworks.org.