

SCHENECTADY

Work on toys not all play

Program aims
to get girls into
engineering

BY MARK ROBARGE
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A vibrating pig has Imbi Salasoo seriously considering a career in engineering.

Salasoo, a Niskayuna High School student, was among about 20 high school girls from across the country who spent the last two weeks at Union College, taking part in the Educating Girls for Engineering (EDGE) program. They have been learning about such topics as bioengineering and robotics in large part by adapting toys for use by children at Northwoods Health System in Niskayuna.

"That's the part that I think is great for these kids," said EDGE program coordinator Jenny Moon, "and that's what makes them think about engineering in a different light, rather than just the technical aspect."

Salasoo said she decided to join the program because her father is an electrical engineer and she was curious "to see what it's about."

"I've gotten a totally new light with it," she said. "I never really knew what it was about before. It was kind of, my dad's an electrical engineer and that's great, but now I actually see what the process is."

In a lab in Union's Science & Engineering Building, Salasoo and three other team members were putting the finishing touches Thursday afternoon on the "Pulsating Pig." Emily Garratt, a student from the Syracuse suburb of Marcellus, said the group created the vibrating stuffed animal to help a boy afflicted by muscular dystrophy. The hereditary disease causes progressive muscle weakness and has left the boy in discomfort, especially in his legs, she explained.

The group initially thought of creating a vibrating pillow, but re-



PETER R. BARBER/GAZETTE PHOTOGRAPHER

Imbi Salasoo, 16, of Niskayuna, left, Emily Garratt, 17, of Marcellus, and Kathleen Tucker, 17, of Delmar, work on a stuffed vibrating pig at the Science and Engineering building at Union College in Schenectady on Thursday.

fun for a child. The girls later decided to add lights to one prototype and music to another to make them even more entertaining.

"It's good that we can at least try to make something that can possibly be made into an actual toy or tool to help them out," said Salasoo.

The toys will be presented to Northwoods during a news conference this morning.

In addition to the toys, the students also created "talk boxes," which help children who are unable to speak to express themselves.

synthesized voice just by pressing a button.

REALITY CHECK

While learning the skills to design and create their projects was challenging, many of the girls said the hardest lesson came when they met the children.

"It was kind of hard to see them just because you know that they're going through a lot, but we could do something to help them," said Garratt.

Northwoods staff explained the disabilities of each child to help

"That's what I think is the beauty of this program," said Sabina Garland, an occupational therapist at Northwoods who has been working with the EDGE program since it began in 2002. "These students are able to meet the child and understand their abilities and disabilities by actually watching them, how they behave, how they move."

Garland said that interaction makes the experience more personal for the students.

"When you see a child who cannot play the way you thought

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Careers

Continued from page B1

children should be playing, then your feelings come into play and you want to help," she explained. "If you can construct something for them that they then can use and you see that smile, that's an emotional experience. You feel rewarded, and you feel like you were able to make a difference and help."

And in the process, Moon said, it is hoped the students learn that engineering is not the impersonal career it might seem.

"That trip there is obviously very sad ... but then when they get back to the classroom, they start thinking about what they can do to make that child's life better," she said.

LIGHTER SIDE

The students didn't spend all their time in the classroom. They also had dinner with a group of female engineers and toured a pair of local companies, Plug Power in Latham and Extreme Molding in Watervliet, to get a complete picture of the field, as well as enjoying dinner and a Shakespeare production in Saratoga and playing laser tag at Zero Gravity in Albany.

"We're trying to give high school girls an opportunity to explore

engineering," said Michele Canistraci, who holds a degree in bioengineering from Rensselaer Polytechnic Institute in Troy, teaches physics and technology at Colonie High School and is one of the EDGE program's instructors. "Since many high schools don't have pre-engineering programs, it gives them an idea before they actually want to commit to going to an engineering school, to see if this is really what's right for them."

The program specifically targets girls because of a nationwide dearth of female engineers. According to the college, women represent only about 9 percent of the engineering work force among college graduates dating back to 1990.

Moon said the program has met with some success, with several of its participants going on to study engineering at such prestigious schools as the Massachusetts Institute of Technology. And a few have decided to return to Union as students, she said.

And Salasoo, the Niskayuna student, may soon end up among those successes.

"I still don't know if it's exactly what I want to do, but it's definitely on that list of things that could be possible," she said.

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