

ASU program fosters interest for women, minorities

Andrea Natekar | Posted: Sunday, November 18, 2007 3:27 am

Nancy Cortas, 12, stood outside Powell Junior High School in Mesa writing down observations about a desert tortoise ambling on grass near her feet.

“These are prehistoric animals,” she wrote. “Their feet are very scaly and rough.”

More than 20 other seventh-graders stood in a circle around the creature, doing the same.

“Does it float?” Cortas asked, standing with her pencil in the air, poised to write down the answer in her binder.

A minute later: “Does he have good eyesight?”

She will use her observations next month to build a robotic simulation of the creature that will burrow, move and even react to changes in temperature.

Cortas is part of a pilot program started by Arizona State University that aims to strike an interest in science, technology, engineering and math among females and minority students underrepresented in the fields.

The National Science Foundation recently gave Tirupalavanam Ganesh, assistant dean for information systems at ASU’s Mary Lou Fulton College of Education, a \$1 million grant to pilot the program at two junior high schools in the Mesa Unified School District.

Ganesh and his team hope the students will get hooked on technology by using it in innovative and socially relevant ways, he said. Their activities will include working with desert habitats, urban heat islands and humans settling on Mars.

“We want children to see this for themselves, without the children being told science is fun,” Ganesh said. “You hook them into large ideas — we want them to engage in (science and technology), not for the sake of technology, but because it is meaningful for them.”

Students will gain leadership experience by working as youth docents at the Arizona Science Center and doing other activities.



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SHELL GAME: Students at Carson Junior High School in Mesa study desert tortoises as part of their ASU after-school program. Above, left to right, Christian Landey, Khoi Ly and Billie Miller-Casillas check out the tortoises.

Powell and Carson junior high schools invited seventh-graders who passed both the math and reading portions of Arizona's Instrument to Measure Standards exam to apply for the program. Out of more than 120 applications, teachers chose 48 students based on their answers to a list of questions.

Now, those students have committed to attend two hours of the program after school, twice a week, for two years. They will have a chance to continue a third year, too.

Cortas, a seventh-grader whose mother is from Mexico and father from El Salvador, had been wanting to go into cosmetology.

She said she hadn't considered engineering — a more lucrative and less conventional choice for women and minorities — before she started the program at Powell.

And she thinks she knows why other girls don't seem interested in engineering.

"I think they think it boring, like it's just writing down information," she said. "And they think most of the scientists are guys, so it's for guys."

Her friend, Brenda Castro, 12, said she joined primarily as a way to meet new people, but she said there were other benefits, too.

"We get to learn about robots and have hands-on experiences and you get to go on a lot of field trips," she said.

Ganesh said the program provides role models for students who likely don't have parents employed in technology professions, helping the children see those fields as viable career options.

That's especially needed, he said, at schools where many students hail from low-income and immigrant families.

"Most of the middle-school population in a place like Ahwatukee would have at least one parent in the companies like Intel, Microchip," he said. "The idea is to provide opportunities to everyone. We want to create a new generation of youth who are actually going to think about these fields in new ways. If you don't have role models in your own families, we need to provide this."