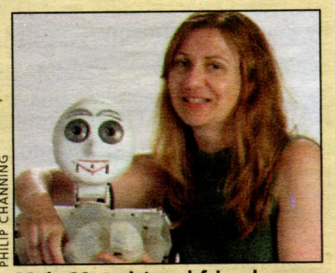
Using Robotics to Make Learning Fun

A USC professor develops a hands-on program to teach students at Foshay Middle School.

by Lauren Walser



PHILIP CHANNING

Maja Mataric' and friend.

ROBOTS AS TEACHERS may seem like something from a science-fiction movie, but not to the students at Foshay Middle School. In an effort to teach science, technology, engineering and math, or so-called STEM topics, a USC professor has developed a new hands-on robotics program to make learning fun.

"STEM topics are a hot area right now, but we have trouble teaching them in this country," said Maja Mataric', the program's creator and director.

Though mounting evidence stresses the importance of teaching STEM topics early in life, many schools reportedly are falling short. Equally distressing is the under-representation of girls and minorities in the STEM fields.

Mataric', an associate professor in the USC Viterbi School of Engineering and co-director of the USC Robotics Research Lab, devised a hand-on robotics program as a way to remedy these ongoing problems. Thanks to a generous grant from the USC Neighborhood Outreach program, Mataric' recently was able to bring her idea to life with nearby Foshay.

Together, Mataric' and graduate student assistant Jenny Chang provide the Foshay teachers a curriculum to teach STEM topics by learning the fundamentals of robotics. Though the school had a few computers and some robotics equipment to work with, the teachers were uncertain how to integrate these limited resources into their curriculum.

With the grant from the Neighborhood Outreach program, Mataric' was able to buy additional robot kits and other necessary equipment. When a shortage of computer access threatened to pose a problem, the Outreach program donated five additional computers to the school.

With these new tools at their disposal, the teachers have been eager to learn the material and introduce it to their students. Most important, the students are just as enthusiastic.

"The teachers have said that sometimes the students don't realize they're actually learning," Chang said. "To them, it seems like playing."

The learning will not stop in the classroom, however. Mataric' and Chang are working with the California Science Center to organize a small competition this spring for the middle schoolers to put their newly acquired skills to the test. The competitions would be an annual event.

The program reaches out to students even further by providing them with a connection to students from the USC Robotics Lab. By visiting the lab, the students are able to see the possibilities that lie ahead. Mataric' hopes to build a strong relationship between the Foshay and USC students with these visits and also by establishing a mentoring program.

"This program isn't just about robotics, but about building a community," she said. ■

Do you know of a USC student who is involved in community outreach? If so, e-mail Meaghan Agnew at magnew@usc.edu to suggest a feature for this column.