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Robots enliven visit

Chinese educators attend teaching workshops at Valley City State

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On Thursday and Friday, Valley City State University hosted five administrators, eight faculty members and two interpreters from one of the university’s partner schools, Zhejiang Economic and Trade Polytechnic, from Hangzhou, China.

The group was on a two-week tour of the U.S. higher education system. Although the tour was mainly focused on North Dakota State University, this marked the third consecutive visit to VCSU by ZJETP educators.

“Through a partnership with NDSU – they spent most of their visit with the NDSU campus – they were brought to our campus just to show them some other things that we’re doing here that might interest them,” said VCSU communications director Doug Anderson.

One of the workshops the visitors attended at VCSU focused on applied robotics and was hosted by the Great Plains STEM (science, technology, engineering and mathematics) Education Center, Don Mugan, and Valley City State University instructor Hilde van Gijssel.

Valley City State University professor Hilde van Gijssel, left, shows two visiting educators from the Zhejiang Economic and Trade Polytechnic in Hangzhou, China, how to program a robot.
“America has a unique problem: Our children are not excited about science, technology, engineering and math in this country,” Mugan said.

“So we have to do something about it, and that is change the way we teach.”

Mugan said the classical instructional model is outdated for “digital natives,” a term coined in an article written by a math instructor named Marc Prensky. Mugan quoted a line Prensky wrote: “Today’s students are not the people our educational system was designed to teach.”

By letting go of the classical instructional model and using psychology and motivation in the classroom, Mugan believes more effective teaching methods can be found.

“Relevance must accompany rigor; context must accompany content. This included making connections in the lives of students in the real world and in the use of technology, and project-based learning,” he said.

**Enter the robots**

“This is ‘Little Suzy,’” said van Gijssel, holding up a black-haired LEGO girl to the Chinese educators.

“Your task is going to be to get the robot as close to Little Suzy as possible without hitting her. ... The problem is we need to teach the robot how to think.”

The Chinese visitors were divided among four computers connected to four four-wheeled robots. By punching in commands through the computer, the robots barreled toward “Little Suzy,” whose arm was raised facing the machines in a scene reminiscent of the famous 1989 standoff between a protester and a tank in Beijing, China.

“Little Suzy” went down several times before the groups began finding the right equations of commands.

Mugan said project-based teaching such as this helps make students more engaged in STEM classes, and stressed that student engagement is a priority in STEM education. He also stressed the importance of inquiry, competition, active learning, collaboration, teamwork, practical problem solving, connecting abstract concepts to the lives of students, and making career connections so that students are motivated to invest themselves into the subject.

“Robotics just happens to be one of the most versatile and flexible motivational tools to get students excited about these careers,” he said.