

UWO program brings new focus to learning math

by Kat Pecora - Thursday, November 18, 2010

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The University of Wisconsin Oshkosh is partnering with nine northeastern Wisconsin school districts in a new professional development program for fourth through eighth grade teachers.

The Making Mathematical Connections program is run by the UW Oshkosh mathematics department and connects University faculty with practicing elementary and middle school math teachers.

The focus of the program is to provide teachers with a deeper understanding of mathematical concepts. It's funded by a three-year grant for \$446,419 through the Mathematics and Science Partnerships program, of the No Child Left Behind Act.

For each year that teachers participate, they receive four graduate credits but are asked to make at least a two-year commitment to the program.

Elementary and middle school math teachers do not have as extensive background in math because they are only required to take a few math courses in order to receive their teaching license. In comparison, high school math teachers must major in mathematics.

Eric Kuennen, a math faculty member and project director of the project, said the general public has a misconception that elementary math is easy to teach. University coursework for future elementary and middle school teachers tends to focus on how to teach and does not adequately prepare them in mathematics content.

"I think we've come to realize that teaching math in middle and elementary school is actually very difficult," Kuennen said.

The project is in its first year, and during the summer the mathematics department held an intensive, two-week summer institute on the program.

Kuennen said teachers want to learn more about math at a more thorough level as well as new ways to teach math so students can better understand concepts.

The partnering school districts include Clintonville, Lomira, Menasha, Neenah, New London, Oshkosh, North Fond du Lac, Seymour and Wild Rose to offer this new program.

Many of the teachers in the program have told us that when they show students how to do a problem, they find that students aren't remembering the process or why it works, Kuennen said.

Shirley Rose, a 5th grade teacher at the Jacob Shapiro Brain Based Instruction Laboratory School in Oshkosh, said students often see math as just coming up with the correct answer.

“They end up trying to use algorithms, shortcuts and tricks without knowing why they work,” Rose said. “Instead of trying to make sense of the way numbers work, they just manipulate numbers.”

The two-week summer institute used videos, research and group work to understand math concepts as well as how students learn math.

Lori Loehr, principal of Theresa Elementary in Theresa, Wis., took part in the program during the summer. She said one of the most beneficial aspects of the program is the hands on experience.

“This is so different from the way in which most of us have learned and taught mathematics in the past,” Loehr said. “If we didn’t experience it ourselves as learners, it would be very unlikely that we would be able to implement this model in our own classrooms.”

Teachers who participated in the summer institute are using what they learned in their classrooms.

Loehr said she uses the information she learned when talking with other teachers in her school district. The summer course comes up frequently in in-service discussions, Loehr said.

Rose said she has her students spend more time thinking about how math works rather than having them doing algorithms.

“They listen to and learn from each other more than they learn from me,” Rose said.

During the school year, UW Oshkosh math faculty and staff from the program visit the teachers in their classrooms.

These visits, called content coaching, include faculty members watching a lesson and giving suggestions to what the teacher wants to work on.

Kuennen said teaching is difficult because one person must balance many things happening at once. Having faculty members there is reassuring to teachers to know they have someone on their side, he said.

UW Oshkosh math faculty also benefit from the program.

Kuennen said the program gives math faculty a better understanding of how elementary and middle school classrooms function. With this knowledge, the faculty can better prepare future educators.

“We’re learning a lot about teachers, and we hope the teachers are learning a lot from us,” Kuennen said.

For more information about the Making Mathematical Connections program, visit www.uwosh.edu/mathematics/connections.