Math Camp is one challenging way for some high schools to spend vacation

By SUSAN HANSON
Staff Writer

For Dr. Max Warshauer, no principle of mathematics is more important than the lesson he learned as a high school student at Ohio University's summer math camp: "Think deeply of simple things."

Thinking mathematically, Warshauer is convinced, involves far more than solving a problem correctly. To think mathematically, he maintains, is also "to question, to explore, and reason carefully, rigorously, and precisely."

And it is this philosophy that has guided Warshauer not only in his role as professor of mathematics at Southwest Texas State University, but also as director of the SWT Math Camp, which recently completed its seventh session.

"We begin by assuming almost nothing [about what the students know]," explains Warshauer, "but by the end of the program, they're proving Gauss' Theorem of Quadratic Reciprocity, which took him a year to prove when he was their age."

Sponsored by the National Science Foundation Young Scholars Program, the Math Camp Endowment, and the RGK Foundation, the SWT Math Camp is open to high school students, 10th grade and above. This year's participants included 35 first-year college students, four junior counselors, and 10 senior counselors. For the first time in the camp's history, the program also was open to high school teachers, who, like the majority of the students, came from throughout the state of Texas.

The purpose of this new component, which is made possible by the NSF and the Texas Statewide Systemic Initiative, is both to "excite participants with the joy of doing mathematics" and to give them the pedagogical skills needed to teach such mathematics in appropriate high school courses.

"The National Science Foundation set up state systemic initiatives with the idea of impacting public education systemically," explains Warshauer, noting that the SWT Math Camp is not only a recipient of the initiative's support, but also one of the many programs sponsored by the NSF. "This is an important component of the program, which aims to impact public education, systemically."

Yet another important component of the program is the problem solving session held each day. To supplement these core courses, students and teachers also participated in a weekly colloquium held each Thursday.

High school students at Max Warshauer's SWT Math Camp spend their summer vacation proving Gauss' Theorem of Quadratic Reciprocity.

Math campers

It's a challenging way for some high schools to spend vacation, according to an article in the New York Times. The article states that math camps are popular among high school students, with many attending to improve their skills and prepare for college. The camps typically offer courses in advanced mathematics, with guest lecturers from top universities providing instruction.

Math (Continued from Page 1B)

Exam and techniques for building a homepage.

"They really set a wonderful tone for the program," Warshauer says of the counselors. Of the 10 senior counselors participating in the program, two were undergraduate students who previously had attended the math camp, two were graduate students at SWT, and one was a sophomore student at UT. Universities represented in addition to SWT and UT included Harvard, Rice, and TCU.

"Our objective is to show these students attending the SWT Math Camp how to participate in a way that's meaningful to society and feel comfortable working with people," Warshauer explains. "Careful thinking about problems is one of the things we're interested in, so we're looking forward to visiting him again next year."

During their time in San Marcos, students also enjoyed visits from SWT administrators including President Jerome Supplee and Vice President Hugh Hill, and from State Representative Sheri Grinnell. "It was really exciting for her to see what we were doing firsthand," notes Warshauer. "I appreciate her taking time to visit with us."

What does Warshauer see when he looks back on the program's growth over the last seven years? At the heart of the camp, which has been Quadratic Reciprocity so successful these last seven years? It's the idea of impacting public education systemically," explains Warshauer, noting that the SWT Math Camp is not only a recipient of the initiative's support, but also one of the many programs sponsored by the NSF. "This is an important component of the program, which aims to impact public education, systemically."

"We've expanded into a junior camp this summer," says Warshauer. "It's a way to introduce fourth, fifth, and sixth grade students to mathematics and using calculators," explains Warshauer. "Next year we'll have a drama component with [SWT playwright] Chuck Pascoe."

Looking ahead, Warshauer also hopes to see significant growth in the SWT Math Camp. "Our program is continuing to build it up," he says. "Money from this fund, which got its biggest push from the RGK Foundation, will help establish student scholarships. Many students wouldn't be able to come otherwise."

In short, with the assistance from the endowment, a number of students would miss out on this opportunity. One former participant summed up the benefits of the camp in this way:

"Now that I have completed my first year as an undergraduate at MIT, I realize the impact that math camp had in my preparation for college. I was never challenged very much in high school. When I attended the math camp..."