

# With Interactive Mathematics, Students at Vincennes University Are Not Only Actively Engaged, They Receive More One-On-One Attention



## Overview—Vincennes University, Vincennes, Indiana

- Interactive Mathematics better prepares a broader range of students for college-level math courses.
- Over 20 percent more students pass college algebra after taking an Interactive Mathematics computer-mediated intermediate algebra class than those who take a traditional lecture-style intermediate algebra class.
- Faculty can catch problems early on and help students in a one-on-one environment.
- Faculty find that students are able to ask more specific questions.

A few years ago, the staff at Vincennes University wanted to find a better way to help math students take a more active role in the learning process. After seeing Interactive Mathematics in action, they decided this powerful multimedia program was a perfect fit for their needs. So in the Spring of 1999, the staff at Vincennes implemented Interactive Mathematics (delivered under the Academic Systems name), into 15 entry-level math courses. Today, Interactive Mathematics is part of PLATO Learning, and is successfully being used in 50 sections of arithmetic, prealgebra, beginning algebra, intermediate, and college algebra courses.

“We went to a few different schools in Florida and saw how well Interactive Mathematics worked in the classrooms,” said John DeCoursey, mathematics professor at Vincennes University. “We were really excited to try it out with our students.”

## Successful Results

Now in their eighth semester using Interactive Mathematics, the faculty at Vincennes have witnessed numerous distinctions between computer-aided instruction and traditional lecture courses. According to a study conducted in the spring of 2002, students going from one computer-mediated class to another experienced the lowest overall dropout rates, with an 11.1 percent rate for computer-aided classes versus 36 percent for lecture classes in the 2001 spring semester.

As part of this comparison study, students responded favorably when asked how they feel about using Interactive Mathematics. Overall, students enjoyed the flexibility, the interactivity, the repetition, and the ability to work at their own pace. Students’ comments included:

**INSTITUTION:** Founded in 1801, Vincennes University is Indiana’s oldest college and is also the first two-year learning institution in the United States. Today, Vincennes is renowned as a technologically advanced two-year, public community college. Located in southwestern Indiana, students from around the world attend this rural residential campus and graduate with one of more than 1,250 associate’s degrees and certificates.

**SIZE:** Approximately 5,000 students attend Vincennes University. The students come from every county in the state of Indiana, 24 other states, and more than 34 different countries.

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“We’ve met our goals of engaging students and being able to work one-on-one with them.”

JOHN DECOURSEY,  
MATHEMATICS PROFESSOR

“I feel like I got the best of both worlds because I could do my thing on the computer, and when I needed help, I could count on the professor to help as well.”

“I liked the relaxed atmosphere and being able to spend more time on the hard parts and work quickly through the easy parts.”

“The teacher helped tremendously when I needed help with the problems. My grade is much higher in these math classes than it was in lecture classes.”

“I enjoy math a little more now.”

“This class was easier than having an instructor try to explain it to me while the rest of the class had to wait on me before going on.”

“It helped that I could go over it again and again to understand it much better. I used to hate math because I didn’t know and I didn’t understand what the teacher was talking about, and the teacher taught us so fast. After taking this class, I now understand what my teacher before was talking about in the lecture.”

“I like the steps I had to follow on the screen: Explain, Apply, then Evaluate. By the time I got to the quizzes, I was really ready to take the quiz.”

### A Comprehensive Solution

Which students gain the most from Interactive Mathematics? “They all benefit at different levels,” said mathematics professor Randy Brian. “Students who take the time to review things are the ones who get the most out of it,” added Professor John DeCoursey. With the flexible structure of the program, students can review as many times as they need to in class or at home. “I’ve got students who, instead of averaging 15 hours of class time per week, put in 20–30 hours on the

computer. It’s the repetition and ability to go back and review that really makes a big difference,” said DeCoursey.

The nature of the program also allows students to work in class on their own without interruptions. If a group of students is having problems with a particular topic, the instructor may call them aside and do a mini-lecture while the rest of the class moves ahead with the program. “We let the program answer most of the questions,” said DeCoursey. “That allows me to go around individually and see where the problems are right on the screen. It’s that ability to go one-on-one that is really one of the major strengths of the program.”

### Gauging the Future

Since faculty have started using Interactive Mathematics, they know much more about their students in a shorter period of time. “In the first one or two weeks of work, I can predict who will have problems so I can intervene with those students,” said DeCoursey. In a traditional lecture course, an instructor may not discover a student is having a problem until the first test, which might be four or five weeks into the semester. By taking quizzes every class period, both the student and the instructor can track progress and focus in on the problem areas.

“I really like that Interactive Mathematics involves students. Instead of just sitting there and listening to the lecture, they are actively involved in it. It really keeps them focused on the task at hand.”

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