

# Chillicothe Gazette

## Ohio University-Chillicothe classroom concept thrives on technology

CHILLICOTHE -- Tucked away on the second floor of Ohio University-Chillicothe's Bennett Hall is Professor Mike Lafreniere's "collaboratory," a classroom concept that not only thrives on technology, but depends on it.

The setup looks something like this: Lafreniere stands at a computer at the front of the classroom while his Math 102 students sit at their own computer stations, each one flanked by a touch-screen tablet that displays his handwriting -- almost in real time -- and collects any notes they want to jot down using digital pens.

The software allows Lafreniere to display screen captures of their text book and allows the students to circle, underline and highlight what they think is important. He can send out a poll question seeking the answer to an equation and then, based on immediate feedback, see where students might be struggling. He also can see how students arrived at their answers on their tablets and determine where they went wrong.

All the while, the software is pairing audio of Lafreniere's lesson with the interactive slides, so students can revisit them later. Students can log in from home, too, allowing Lafreniere to reach students even when they're not on campus by using streaming video.

On a whim, Lafreniere can project his computer display, or anyone else's for that matter, onto a large screen behind him.

"This is how you're going to be 'coming to the board' this quarter," he told students Thursday while teaching a lesson about polynomials.

Another key component of Lafreniere's collaboratory approach is his use of "flipped" instruction. Rather than spending class time lecturing, he provides students copies of his notes, "so we can hit the ground running," he said.

"We're asking them to work collaboratively," he said. "Aggregating the group's thoughts is much more powerful."

Lafreniere is quick to point out he was not the originator of the collaboratory concept -- he's just adopting and adapting techniques pioneered by professors at

Virginia Tech and DePauw University in Indiana.

Lafreniere secured an internal Ohio University grant to help buy \$12,000 in new hardware. The cost of such technology used to be prohibitive, but it's becoming more affordable, he said, adding he would like to see it embraced by other OU-C faculty members and even high school teachers.

The benefits already are starting to reveal themselves, Lafreniere said.

"We're changing the assessment game. I can do deeper levels of assessment," he said.

He's starting to collect data on student performance in the new setting. Although he has yet to formalize the numbers, he suspects they will show the setting has improved.

OU-C students Scott Limle and Lynn Owings first experienced the collaboratory this past quarter in Lafreniere's Math 101 course and now are enrolled in Math 102. They prefer it to more conventional lecture-based courses.

"I was a little intimidated at first," said Owings, who's pursuing a nursing degree.

Limle, a computer science major, said he was overwhelmed when he first saw the lab.

"I had a disability in algebra and flunked an algebra class at Ohio State," he said. "(Lafreniere's) technology and what he was using really fascinated me once I learned it, because there were so many techniques we were able to use to better ourselves."

Limle mentioned how Lafreniere records video lectures and posts them on YouTube, a practice the professor considers helpful in his teaching. He can track where students pause and rewind each video, or "hotspots," as he calls them.

"If a bunch of students pause and rewind on problem No. 7, I know they need extra help and I'm ready for it," Lafreniere said.

Limle said if he's struggling on a few concepts, he can go back and re-watch the lectures.

Limle and Owings said they would like to see the collaboratory approach used in their other courses.

Even with all of the new technology at his fingertips, Lafreniere resorted to writing on the dry erase board Thursday. Apparently old habits die hard, even in a collaborator.

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