



Chemistry Professor Embraces the Science of Writing

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By Stephanie Hiquiana

Rainer Glaser sits at a table in his office hunched over a picture frame. He stares at the frame, contemplating the two large words enclosed by the shiny glass and sturdy wood: *Docendo Discimus*.

“By teaching, we learn,” Glaser says, translating the Latin phrase. “It was said by the Roman Seneca and I think this is very true.”

Glaser, a professor of chemistry who has been at Mizzou for 25 years, teaches a [Writing Intensive](#) chemistry seminar to upper-division undergraduate students.

He will soon add “author” to his lengthy list of accomplishments. As the recipient of the [Faculty Development Award](#) from the Campus Writing Program, Glaser is being funded to publish a textbook on scientific writing.

“As you think about how to write scientific papers, you actually get much better at it,” Glaser says.

The process of regurgitating knowledge into a textbook in a manner students will accept and understand has taught Glaser the importance of writing in chemistry and science. *Docendo discimus*.

“I think the biggest problem with graduate school is graduate students are ill-prepared when it comes to writing,” he says. “What we have traditionally not valued enough in our curriculum is educating them on scientific writing.”

The textbook is structured around assignments, peer review and background material to aid the completion of the assignments.

“At the beginning it’s very frustrating,” Glaser says. “This is not a judgment about people’s talents; I found it very hard when I started to write. What you need to do is create an atmosphere where the students are seeing that it is useful.”

Glaser’s approach to scientific writing is built on the significance of peer review and scaffolding—starting small and building up on each area.

“You have to create an environment where you teach the students to learn small parts that are not overwhelming, and then you build it up,” he says. “Like everything else in life.”

When Glaser started teaching this course at Mizzou, he found that most textbooks catered to professional writers and had too much detail for beginning writers.

Glaser stood firm in his belief that there must be a better way to teach chemistry students how to write. He began taking his own notes from textbooks and created a course that he believed would satisfy his philosophy.

His personalized course starts with small, simple assignments and gradually builds up to more complex writing styles. Students complete their assignments and use peer review as a way to improve.

The peer review technique is imperative to students’ learning, challenging their thoughts and improving their overall writing.

Since the creation of this course Glaser has found that his students are satisfied with their work. They recognize what they are learning is useful and is a skill that will improve their chemistry education.

“I wish I would have had something like this for myself,” he says. “My professor at Berkeley expected me to know how to write. There was no instruction.”

The words *Docendo Discimus* are displayed proudly on a shelf in Glaser’s office—an everyday reminder of what it means to be both a scientist and an educator.



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