

**Supporting Geoscience Education at the University of Wisconsin-Richland
(A 2-yr liberal arts institution)
Norlene Emerson, Associate Professor of Geology
Department of Geography /Geology, UW-Richland**

As I reflect on the goals that I have to support student success in geoscience courses, my thoughts first turn toward strategies I use to connect with each student as an individual learner. Since our students each have different skills, prior knowledge, capabilities, and reasons for being in school, I seek ways to provide content in visual, tactile, and audio means so that each student can connect to the material in the form that best suits their learning styles in order to optimize their learning. While content is important, the process of learning is just as important in an educational experience. Today's students are bombarded with information through social media, television, and print media often with sensationalized information concerning the Earth and the environment. Students need to develop their skills to assess critically what they hear and read especially concerning world issues such as mineral and energy resources, climate change, or mitigating natural disasters.

In order to achieve these goals, I encourage students in taking ownership of their learning. I stress that being an "active learner" requires full engagement by both the student and the instructor, creating a two-way flow of knowledge, ideas, and opinions. In order to build that relationship, I begin by carefully listening to students to better understand their excitement, apprehension, fear, or possible indifference for the subject material. I try to find ways to make geoscience content relevant to students' lives. I share my own passion for geology as well as any challenges I may have had with learning any of the content material. I develop opportunities to listen, read, discuss, share, and engage in activities designed to help them conceptualize, experience, and reflect on the subject matter. Specific strategies include:

- Learning my students' names before the semester begins so that on the first day of class I can address them each by name.
- Requiring each student to drop by my office for a brief chat during the first two of weeks of the semester to help lessen the fear that some students have for seeking help from their professors outside of class.
- Frequent contact with students via email as well as face-to-face before, during, and after class for constant and timely feedback concerning class progress.
- Prior to class meetings students upload to a course "dropbox" their responses to a set of "pre-lecture" questions based on each day's reading assignment. This allows me to have a quick check for basic understanding of the material before class and facilitates better use of class time for addressing questions, incomplete understanding, or for delving deeper into the course material.
- Class lectures are interactive with frequent use of demonstrations, "minute papers", "think-pair-shares", "concept quizzes", and "lecture tutorials".
- Students are provided with a well-organized syllabus, course lecture notes, and specific grading criteria for all drafts and final products to help keep students on track.

The biggest challenges that I face with implementing the above include: the general time constraints that all busy faculty experience; the lack of funding to develop additional lab and field trip activities; and the few failures I have had with certain individual students to succeed in college.

Evidence for success consists of: overall positive student evaluations including written comments that often speak of my enthusiasm, engagement with students, my care and understanding, and how I challenge students' thinking; students who enroll in multiple courses that I teach because they value my teaching methods; being asked to serve on a former student's Master's thesis advisory committee; being selected (by students) as recipient of the "2012 Faculty of the Year" award; and recipient of awards from the University of Wisconsin System (2007, 2009, 2010) for excellence in teaching.