Personal Philosophy of Teaching

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I have taught Earth Sciences to a range of students, from non-majors in an introductory course to students with a declared major in a higher-level laboratory. As my experience grew, I developed several approaches to improve my students' engagement in my classroom and in their ongoing learning. As a teacher, I try to teach in a way that draws students into content through their own interests and life experiences by using technology creatively so that all students, even those who are initially disinterested or more challenged in the classroom can learn effectively.

I find it important and rewarding to help a class of diverse students to each find their own value in the course content. In the introductory geology course for non-majors that I have taught, for instance, a significant proportion of students take the course to meet a University requirement, without any initial interest in Earth Sciences. As I get to know my students' backgrounds, personal goals, and experiences better, I can help them become engaged in the content by connecting their own interests to the course content; for example, a hunting and fishing aficionado might become intrigued by human impacts on the environment, while a student who comes from in a tropical region may become curious about monsoon hydrology.

As a teacher, I also like to design and use course materials using several different media (e.g.,websites, video, 3D models, print-and-fold mineral shapes as well as traditional and current-interest texts) so that students can connect to the content in different ways and the course becomes more accessible to students with diverse learning abilities and approaches. An example of this is when I designed a webpage for students in my Igneous Petrology laboratory featuring photographs and minerals demonstrating polarized and cross-polarized views (https://terrarimor.wixsite.com/askgeo/petroquiz). I designed this webpage to be used in concert with the in-lab rock thin sections primarily for students who lived at a distance and thus could not easily access the microscope lab after hours, but it turned out to also be very useful for students with varied work or parenting schedules, and those who needed or preferred to review identifications on their own time or in their own spaces. This experience heightened my interest in principles of Universal Design for Learning, which I have found work very well for the Earth Sciences, where many subjects are both concrete and conceptual. For instance, concepts like faulting/folding, Miller's Indices, or crystal shapes can be easily translated into interactive formats.

An added and important benefit to offering students a variety of learning media through technology is that students can use those tools for self-assessment. I believe it is very important to enable and encourage students to monitor their knowledge before a formal assessment (quiz, exam, presentation) and if they have weaknesses, to offer them ways to strengthen their skills. One traditional way to do this is, for example, is to encourage students to create flashcards for themselves on index cards-- the act of writing out and reviewing flashcards can help students reinforce memory in memory-based tasks like learning science vocabulary. But physical index cards for complex topics can be hard to make, review, or share. A free program like Quizlet allows students to embed diagrams and even videos in their "cards," to collaborate with other students in creating and sharing materials, and to review them in a variety of engaging, semi-gamified formats.

My primary motivation in teaching is to give every student in my courses their best chance at success, while finding enjoyment. All the tools and instructional strategies I use are designed to help every student unlock the knowledge that they need from each class, and to find new connections between their lives and the natural world.