Teaching Philosophy

Earth science education reaches beyond the simple dissemination of knowledge; it sparks curiosity and empowers students to perceive, understand, and responsibly act within the natural world. Students learn best when they can incorporate subject matter into their own present and future lives. Thus, my primary goals as a teacher are to:

1. offer student-centered activities that foster creativity and critical thinking by highlighting personal stakes, and
2. provide students with the practical skills necessary to synthesize interdisciplinary concepts and tackle real-world, multifaceted problems.

Teaching Approach

While my principal goals remain constant, I continually learn from my students and update my approach to be more student-centered. I devote time in my first class session to discuss my own and each students' background, interests, and expectations. I also have students self-assess their ability to perform the course-learning goals and define their personal goals for the course. I then tailor class activities to the individual student needs and goals. For instance, to accommodate a deaf student, I incorporated more dynamic visuals and consciously used more hand motions when speaking in class. These small, but significant, adjustments ultimately benefitted all of my students. I also support individual student goals by offering flexible activities. I often ask students to relate a topic discussed in class to a field of their choice, such as policy or economics, by any means they choose, such as a traditional scientific paper or a journalism piece. The students take responsibility for what and how they learn and hone skills they need in their unique life trajectory. Throughout the course, students revisit their self-assessments and personal goals to track their progress and redirect their learning strategies if needed.

My students are given ample opportunities to reflect on their own lives in class. When I led a class on delta sedimentation, land subsidence, and human impacts, I structured the lesson as a historical story of the Mississippi River Delta. At the end of the lesson, students wrote and discussed questions that they would want answered before buying property on a delta. The students, who were predominantly non-science majors, visualized how sedimentary geology played into their own lives and demonstrated how they could utilize this new knowledge. Immediately after class and in the post-term evaluations, several students asked that future classes be led with this same inquiry-based style of instruction.

After taking my course, students will have honed practical skills they need to act responsibly within the natural world. One way I work toward this goal is by leading students on local fieldtrips. On a trip to the Duwamish Waterway, a superfund site that has been partially restored, I share only a brief history of the region. I then ask the students to survey their surroundings and answer questions like "If you were restoring this site, what structures would you build to stabilize the river banks?" and "Do you see any evidence of other methods that reduce erosion?". By combining these guiding questions with group discussion, students learn

how to act responsibly within the natural world by independently recognizing and synthesizing observations of geologic processes and human impacts.

Flexible assignments and group discussion allow me to qualitatively assess student comprehension. To assess individual students more robustly, I assign multiple quizzes and take-home problem sets. These assignments are not designed to test a student's rote knowledge. Instead, they evaluate a student's ability to evaluate and elaborate on topics covered in class. For example, students may be asked to look at an aerial image of a shoreline, use visual cues to assess processes that have been discussed in class, and then choose areas they think would be at most risk during a storm event.

Mentoring and Outreach

My first responsibility as an educator and mentor is to create an inclusive and supportive atmosphere both in and beyond the classroom. As the instructor of a graduate-level science-communication course, I began every session with an improv game. Enthusiasm and energy are contagious. These games allowed all of us to confidently take risks, experiment with presentation styles, and grow as a supportive team. After this course ended, I continued to support my students by facilitating a speaker series at Town Hall Seattle for them to execute the public-speaking skills they practiced in class.

Similarly, when I served as the instructor for an undergraduate-level science-writing course, I taught students active listening skills before asking them to interview a local marine scientist and write a researcher profile. After these interviews, students reported that they felt more included in the scientific community and confident in their career goals. I later helped one student publish their profile in a scientific magazine.

Personal Development

After leaving my classroom, my students should be able to recognize geologic processes in their daily lives and respond as an educated citizen. As a scientist, an educator, and, above all, a lifelong learner, I emulate what I teach. In my classroom, I observe and recognize my students' interests, expectations, and achievements. Outside of my classroom, I educate myself on best teaching practices by participating in pedagogical workshops and seminars. I ultimately synthesize these observations and concepts to conquer my own multifaceted puzzle: how to continually become a more effective educator and mentor.