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I can honestly say that I love teaching. I thoroughly enjoy the moments where the light bulb turns on and the learning begins. I have had the opportunity to teach majors, both upper and lower level, and non-majors. The way I approach them all is very similar. I believe in engaging students regardless of whether or not it is a major or non-major course. It is important to keep students interested, engaged, and learning. I believe that student-centered classrooms ensure student learning, and I commit to creating that kind of environment whenever possible. It is all very well to stand up in front of a group of college students and go through the material assuming or expecting them to understand the information presented; it is another matter entirely to engage them in active learning. I believe this to be a most important tool in teaching. I have been able to engage students by making them take part in the class on a number of occasions. Once, I was teaching 35 third years students about the plant cell wall and its many components. Heavily armed with post-it notes and different colored rope, I split the class into the major components of the plant cell wall, gave them a label calling them things like “cellulose”, “xyloglucan”, “pectin”, and so on. I then made them take part in an educational, and unique, game of Twister. Some of the students thought I had lost my mind. When it came to the exam, however, they all passed it. In fact, some of them even came to thank me. Their small gesture allowed me to more fully understand the value of introducing active learning to a classroom.

Another example of that would be in the non-major course I developed, Biology Today [BIOL 109], where students are responsible for a classroom presentation on a current topic of biological interest. They must hand-in a written summary of what they will be teaching in advance, present, and answer student and my questions. This assignment, while often initially regarded with some dread, has proven to be one of the great highlights in the courses. *In fact*, I consider this to be so successful, I adapted the assignment for Biotechniques II in the Spring of 2007, the capstone course required for a Biology degree with an emphasis in biotechnology. The success rate at all levels has been amazingly high, and I have consistently been impressed by the students’ commitment to leading the class.

I first began to think about teaching while I was an undergraduate at the University of Hull. Even though my biochemistry professor held a Nobel Prize, it was obvious, even to a young undergraduate like me that he was possibly the worst teacher I have ever come across. He never made eye contact, never clearly spoke, never answered questions, and never engaged any of us. The timing of my enrolment at the University of Hull provided me with a unique opportunity, at least within the English higher education system. Upon graduation, I was invited to stay on and begin a research masters degree as a teaching assistant and work to obtain a higher education teaching certificate—a unique opportunity indeed. While I conducted experiments for my first higher degree, I was part of an experiment to improve teaching standards within the higher education system. For me, this was a very eye-opening experience as I was taught how to teach. A member of the drama department explained the value of enunciation (quite clearly, in fact) and how to use the power of the voice to grab someone’s attention. I was taught the value of the visual aid and not to overload these with too much information. Then there was the hand-out, with all its permutations—spoon-feed them?; give them all the information?; just give them



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copies of each slide?; or give out brief pointers with paper references to look up? I prefer the later, as it allows the student to learn how to assimilate information from a published paper. I truly believe in making students think and work.

I understand, of course, there are variables to teaching that require philosophies to be revised and amended. Teaching a class of 200 plus students required that I find other ways to engage them than those with which I previously mentioned. I try to make the large lecture course relevant, and an example of that was a lecture I gave on the possible pandemic regarding the Bird Flu. This type of lecture allows me to bring the science to the classroom that students do not get from the media. What I do know about myself is that I have the ability to find ways to make all situations learning opportunities, and I welcome the chance to challenge myself in all sizes of classrooms.

I also believe in the value of getting students to work in small teams outside the classroom and lab. My research students are responsible for advising, teaching, and mentoring each other. While I am continuously present with my students, I allow the older ones to teach the younger ones techniques they have already mastered. This further instills their understanding of the technique and creates a real student-led environment.

I believe that it is my responsibility to stay current in my field, engaging in research and participating in classes, conferences, workshops, and/or mentoring. I must be able to make good selections about what to teach and how to structure and organize the material. At the same time it is important to stay abreast of current theory and research in the field of teaching and pedagogy. I must know what to teach as well as the best way to teach it. I believe the role of a teacher is to be a facilitator; I should enable students to become responsible for their own learning. I recognize that students learn in different ways, and I am committed to including all students in the learning process. It is important to be committed to student success, and I am responsible for making my subject matter accessible to those who do not yet know it; it is important to provide formative as well as summative feedback.

I am a professor. There were times in my career when I believed I was a researcher first and foremost. Having had these past years to teach in addition to conduct research, however, I have discovered that they are two sides of the same coin. The work I do with a few students in the lab is no less a teaching moment than when I stand up in front of a class of 200. Teaching is what being a scientist is all about for me, and I love that I am able to pass my passion for this field along to students in a variety of learning environments.