TEACHING STATEMENT

Rather than a full-fledged philosophy, my teaching is informed by a handful of deeply held convictions. I feel that a suitable “bedside manner” is a prerequisite for effective teaching. Therefore, rather than focusing on my pedagogical tactics (e.g. live-coding demonstrations, working concrete examples, socratic questioning, and repetition) I will focus on my emotional approach to teaching.

1. The goal of my teaching is not to duplicate my skill set, or worldview, or career trajectory, in my students. Rather, I would like to teach a set of concepts and habits of mind that can be profitably applied in a wide range of settings. I have no desire to clone myself professionally. I do not believe in learning and research as ego-sport.

   a. Given this perspective, I focus my teaching on the aspects of my discipline that are most likely to resonate with non-methodologists. I try not to teach as if my students were my professional peers (they typically are not), but as if they were smart, curious people with their own expertise (they typically are) who happen not to know many of the things I know about statistics and data analysis, but who might benefit from learning a bit. Practically, this means I always stress concepts over formulas.

2. Being a teacher is more like being a coach than being a surgeon. I cannot reach into a student’s brain and deposit the knowledge as if Bayes rule were an aortic stent. By contrast, a coach motivates and structures the training, but the athlete is the one who runs the laps and does the reps at the gym. I provide the syllabus and problem sets, but the students do the learning fundamentally on their own.

   a. An important corollary of the coaching analogy is that homework tends to be more important than lectures. I have my students read and present papers and do a lot of coding-intensive assignments, because no amount of polished lecturing can replace putting in those mental miles. Designing good homework assignments is a bit of an art, and one that I’m not any kind of expert at. But I firmly believe in the importance of assignments that lead to aha moments and I work hard to try and come up with good ones.

   b. This is not to say that lectures are not important, but certainly as mere recitations of facts they are not so useful. Instead, I take the opportunity during lecture to editorialize about the practical or conceptual importance of particular ideas, attempting to provide a big-picture view of the topic we are learning. Concretely, lectures are about synthesizing the material that they have learned in previous homeworks and, in so doing, about motivating them to put the next piece of the puzzle into place.

3. The most important thing I can give my students is not any technical insight or writing advice, but is rather my sense of purpose for the work itself (both methodological development and applied data analysis). I love my job. My research is a great creative challenge to me, with the added benefit that I can help others solve important problems from time to time. Both elements are critical to my job satisfaction. Without the former I wouldn’t want to do the work as intensely as I do, and without the latter, I wouldn’t feel good going to bed at night having wasted the day on idle puzzles.

   a. I share this sense of purpose with my students by having them participate in the work alongside me. My students (graduate and undergraduate) are my teammates in research and I value their assistance and insights. To my mind, we’re all the same weird breed of
person that wants to comb through some data and find interesting patterns and stress test it for validity. The main difference between me and them is I’ve been doing it longer and I try to use that advantage to help them where I can. I hope to inspire my students to learn and grow through expressing my daily gratitude for being able to think and communicate for a living and being able to pitch in to solve challenging and meaningful applied problems.

4. Teaching a tricky subject like statistics has a delicate emotional component to it. In particular, telling people that something is easy, as a way to reassure them, can backfire when, inevitably, challenges crop up. I believe it is this pitfall that leads many people to the (false) belief that STEM subjects are a restricted territory, open only to special folks for whom it comes naturally. I directly challenge this false, often implicit, belief in two ways.

a. First, I talk a lot about the distinction between “straightforward” and “easy”. “Straightforward” means that the necessary steps for success are clear, even if performing those steps might not be easy. Many things worth doing aren’t very easy, but most of them are, in this sense, straightforward. Again, a coaching analogy makes the point. Running a marathon is not easy. However, it is fundamentally straightforward in that one must simply run more and more, gradually, over a period of time. STEM is not physically painful, but it can be confusing and disorienting at first, which can lead to frustration. To learn the material successfully, students need to become comfortable with first being confused, and then, gradually, becoming unconfused. Being confused is natural and it’s okay, so long as you don’t stay confused forever! Coming out of that fog into the clear light of understanding is a sensation students will come to like, given the experience.

b. Second, I stress that learning statistics, like any skill, can still be valuable even if you aren’t the best at it. I tell my students that the world doesn’t need a new best surgeon, it just needs lots of good enough surgeons. Recreational running is worthwhile even if you aren’t Eliud Kipchoge. Playing an instrument is worthwhile, even if you aren’t John Lennon. My contention is that the subject of statistics is worthwhile to learn even if you don’t want to be a professor. And that’s the way I try to teach it.

5. I never pretend to know more about something than I actually do. I want my students to learn the power that comes from being confident enough to say “I don’t know”, so long as it is followed up by an ability to find or figure out the answer.

6. To be clear, it is not my belief that positive vibes trump everything else. Although I strive to be empathetic and supportive, I also strive to maintain standards of rigor and effort and quality. My standards are high and I am careful to be clear about my expectations. But it is important to judge the work and not the person.

7. I believe in grace through creative problem solving. According to my smart watch, my heart never beats as slow and steady as when I’m thinking hard on a problem. For me, discovering a shared capacity for this variety of serenity with a student is a great delights of being a teacher.

8. In summary, characteristics that I aspire to reflect as a teacher: curiosity, intensity, gratitude, collaboration, enthusiasm, and inclusivity.