

Matthew T. Harrison — Teaching Statement

I have taught mathematics and statistics at all levels, both to students within the field and to students from other disciplines. I enjoy teaching; I put a lot of effort into it; and, gratifyingly, I always receive strong positive feedback from students. My primary goals when teaching are to facilitate the emotional and intellectual growth of students, to promote skills and attitudes that will enable a lifetime of learning, to maintain academic integrity, and, of course, to communicate both the beauty and the specific content of the course material.

I am willing to be quite flexible in my teaching style in order to achieve these broad educational goals. There are, of course, certain techniques that have repeatedly served me well. I use a lot of examples; I encourage active learning (homework, projects, in-class exercises); I provide frequent assessment and feedback. Two of the most important aspects of my teaching style are creating a positive environment for learning and presenting content within the context of a coherent story.

Creating a positive environment

I volunteered one year to teach math a few hours each week to 11th graders in a progressive, urban high school. This is where I first began to appreciate the strong role that emotion plays in the learning process. Regardless of the quality of the content, negative feelings about a course or about an instructor can severely interfere with a student's ability to learn. I work hard to minimize such negative feelings and to create a positive environment for learning. This does not mean pandering to the students and giving good grades. It means setting clear goals and expectations, providing appropriately challenging content, speaking and writing clearly during lectures, paying close attention to administrative details, and, in general, caring about the students. By carefully constructing this environment for learning, I can free the students to focus on content.

Telling a coherent story

The concept of a *complete statistic* is admittedly a little strange. When I first had to teach it in a graduate theoretical statistics course, I was tempted to gloss over it, call it a strange condition for uniqueness, essentially teach it as a disconnected concept within the fascinating story of statistical sufficiency and data reduction. But I dislike disconnected concepts. They obscure the beauty of a subject; they provide no insight into the minds of the men and women who developed the subject; and, above all, they are not a part of a story. My favorite way to teach is with a story — not necessarily a personal story, but an intellectual story, with goals and a plot, maybe some drama or surprise, and eventual resolution. So I decided against disconnection, found a way to make sense of complete statistics within the data reduction story, and, hopefully, continued to give students the correct impression that theoretical statistics is not a collection of complicated mathematical facts, but is rather a coherent story where even the strangest things make sense upon close inspection.

Interacting with students is one of the most important components of an academic job. It is decidedly the most human of all the ways to transfer and preserve knowledge. I will always strive to keep my interactions with students positive and enjoyable, hopefully imparting to them the best of what many exceptional teachers imparted to me.