Michael B **Pyle**

New Orleans, LA

michael.b.pyle@gmail.com 850-748-2137 GitHub Website

Teaching Philosophy

Data literacy is not merely a knowledge set or collection of skills - it is a way of viewing and engaging with the world. My teaching philosophies are primarily situated around five principles: that data work should be open to everyone, driven by curiosity, grounded in ethics, approached with humility, and - crucially - fun. These guiding principles shape how I approach instruction, structure assignments, and how I interact with learners from all data backgrounds - from the highly reluctant to the most experienced.

Openness

I have guided students and professionals alike who had never opened a statistics textbook. In both cases, the most effective instruction begins by meeting learners where they are - remaining open to all prior experiences by providing learning opportunities that account for the learner's disciplinary interests, quantitative anxiety, and comfort with numbers and computers.

Practically, my approach consists of scaffolding assignments. This begins with thought exercises to elicit a single big research question. Over the course of instruction, we collaboratively break down large, complex problems into manageable puzzles to solve. The outcome matters less than understanding the mechanisms behind the results, and intuition develops through exposure and practice. No one is "not a data person." Being open with data learners from all backgrounds provides for them accessible pathways to begin looking at their world through the data lens, ensuring future generations make empirically informed decisions rather than relying on speculation or tradition.

Curiosity

Everyone has wondered something. What makes a neighborhood feel safe? Why do some policies fail while similar ones succeed? What factors predict door entry at the college dive bar (turns out it is day of the week, ask me how I know). Curiosity is the engine of data work, and I try to harness it from the first day of class, progressively encouraging learners to ask more complex and impactful questions as their data skills grow.

With any level of data instruction, I begin with questions learners actually want answered - What factors predict recidivism rates? What influences student persistence? What color paper enhances content retention on a subsequent test? - and work from there through the steps of empirical observation and rigorous investigation. When learners discover that data can help them answer questions they genuinely care about, the methods stop feeling like obstacles or abstractions and start feeling like tools for understanding and shaping their worlds.

Ethics

In my work at the District Attorney's Office, the responsibility to treat data with care is immense. The decisions to cultivate, visualize, and share do not solely rest on whether such actions are legal, but are regularly part of larger discussions involving priorities, equity, unforeseen consequences, power, and access. Each real-world decision about data needs to be coupled at every stage with discussions of transparency, impact, and clarity, so that any particular data product does not inadvertently further harm marginalized groups from a misinterpretation of findings.

As ethical issues are ubiquitous and pervasive in real-world applications, so too should be the instruction of ethics. Data ethics should be integrated throughout a curriculum, not merely confined to a single lecture. When I discuss data collection, I address consent, privacy, and the power dynamics inherent to who gets studied and why. When I begin analysis, I consider the assumptions baked into our methods and who might be harmed by

Ethics (continued)

their misapplication. When I teach communication, I discuss the responsibilities that accompany the authority we claim when presenting findings.

Any discussion of ethics, in this era, is incomplete without addressing the rapid emergence of AI tools. Agentic AI is a remarkable productivity multiplier, however, learners need frameworks for thinking critically about using these systems. It is vital to understand their capabilities, limitations, and hazards.

Humility

I approach every instructive collaboration knowing that learners bring knowledge I lack - disciplinary expertise, lived experience, and fresh perspectives. My role is to facilitate learning, not to perform expertise. When a learner offers a better interpretation of a finding or identifies a flaw in my reasoning, that is not a challenge to manage; it is the point. In my class, discourse spotted with "I don't know, but that's a fascinating prospect. Let's look it up!" is a feature, not a bug.

This humility extends to my own development. I solicit mid-semester feedback and adjust accordingly. I review end-of-course evaluations with genuine interest in what worked and what did not. I remain open to better information, better methods, and better ways of teaching. The learners who push back hardest often teach me the most.

Fun

Data work can be genuinely delightful, and I have no interest in teaching it otherwise. My courses emphasize active engagement - learners work through problems together, debate interpretations, and get their hands dirty with real datasets. I use messy administrative records and survey data that require judgment calls about coding, missing values, and interpretation, because that is what real data work looks like.

But I also believe in the pedagogical power of the absurd. Alongside serious policy questions, I incorporate playfully preposterous data problems - analyzing which zodiac signs keep house plants alive longer, using field collection methods to predict the shirt color of people walking into the library, using demographic and personality traits to predict whether a person expresses interest in starting a podcast. These exercises teach the same statistical concepts as "serious" examples while keeping learners engaged, entertained, and willing to take risks. When learning is fun, learners show up ready to participate.