

# Pavlos Protopapas | Teaching Experience and Philosophy

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## Teaching Experience

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I have been teaching for over 15 years, covering a wide spectrum of educational settings—including small seminars, large lectures, online courses, in-person classes, asynchronous modules, and live sessions. My experience ranges from teaching introductory data science courses with close to 500 students from diverse backgrounds to instructing advanced, high-level classes.

Throughout my career, I have consistently sought to innovate in my teaching methods. I was among the first to introduce Python notebooks in the classroom, leveraging them to facilitate active learning alongside traditional lectures. I have experimented with flipped classroom models and have continuously kept abreast of the latest developments in education since my early days as an educator. I consider myself a practitioner of various pedagogical approaches, adapting my methods to suit the needs of each class and student cohort.

Over the years, I have concluded that, much like there is no single best way to learn a new language, there is no one-size-fits-all approach to teaching. As a practitioner with extensive experience, I have developed strategies that are effective depending on the class dynamics, the backgrounds of the students, and my own strengths as an instructor.

### Course Development at Harvard

At Harvard, I have created more courses than anyone else in my department. I began with **AM207**, a class on stochastic optimization and computational statistics. I then moved on to redesign **CS107**, the capstone course, and developed **AC215**, **CS109A**, **CS109B** (the current versions), and **Extreme Computing**. I understand the challenges inherent in developing new courses—it is often unavoidable for a new course to have imperfections, and it is not uncommon to receive lower evaluations initially. However, I have always embraced the creation of new content and material, recognizing that innovation is essential despite potential drawbacks.

### Achievements and Evaluations

The records show that **AC215** and **CS109** have been extremely well received. **CS109A** has doubled in enrollment during my tenure, and course evaluations have increased by 75%. My personal evaluations have also improved over the years. While I view student evaluations as one of several indicators of teaching effectiveness, it is encouraging to consistently receive ratings of 4.8 out of 5 in classes with more than 300 students.

Feel free to let me know if you'd like any further adjustments or additions!

## Teaching Philosophy

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**Student-Centered Learning:** I create a positive, engaging environment where students feel valued and motivated. Through clear communication and personalized support, I aim to foster student growth and equip them with essential skills and confidence.

**Teaching as Craftsmanship:** Teaching is an evolving craft. I dedicate extensive time to refining content for each lecture, enhancing clarity and quality. This commitment reflects my dedication to tailoring each course to meet students' unique needs.

**Diverse Learning Pathways:** Recognizing varied learning styles, I incorporate multiple methods—lectures, discussions, and hands-on activities—so students can engage with concepts from multiple perspectives, promoting deeper understanding and retention.

**Authentic Engagement:** I approach teaching with genuine enthusiasm, creating a dynamic, interactive space.

Connecting with students individually fosters curiosity and encourages a respectful, open classroom culture.

**Rigorous Organization:** Consistency and structure are central to my courses. My meticulous planning allows students to manage their time effectively, with stable schedules and clear expectations.

**Clarity in Communication:** Precise instructions and transparent expectations empower students to focus on learning. I design assignments with clarity, ensuring students can engage deeply with the content rather than navigating unclear requirements.

**Empathy and Support:** I strive to create a supportive environment, treating students as individuals and valuing their potential. My role extends beyond teaching; I am committed to their success and well-being.

**Building Confidence:** I introduce concepts progressively, allowing students to build confidence through familiarity before tackling more complex material, fostering resilience and readiness.

**Continuous Improvement:** I reflect on and adapt my methods, guided by student feedback, to maintain relevance and effectiveness in my courses. Open communication and mutual respect are foundational to this reflective process.

**Inclusive Learning Environment:** My teaching style has evolved to be inclusive and non-hierarchical. I actively foster a culture where students feel safe to participate, ask questions, and acknowledge when they need help without fear of judgment.