

Teaching philosophy

My teaching philosophy is motivated by the question: what is the value-added of a course in economics? Oftentimes it is the first class in which students take a rigorous approach to the study of human behavior, or to what Alfred Marshall called the “science of everyday life.” As a common elective subject for undergraduate and business students, it may also be the only such class that students will take. If an instructor can successfully impart to students tools that allow them to better understand the actions of others, and to improve the quality of their own decisions, then economics can be one the most powerful and practical subjects in the undergraduate (or graduate!) curriculum. To accomplish this in a single course, however, requires an efficient and effective pedagogical approach.

As an educator, I have two main goals for students: that they become *fluent* in the use of economic models and empirical methods in studying social questions, and that they be able to *apply* economic thinking to problems that arise in personal and professional life. Students should be able to engage with pressing issues in a careful and data-driven manner, and to understand both the benefits and the blind spots introduced by the use of formal economic analysis. Students should also be able to employ the same rigor in their own decision-making, and to understand how the economic toolkit can be used, for example, when choosing between majors, making important financial decisions, or presenting a recommendation to an employer. As an instructor my goal is to take a similarly rigorous approach to teaching, by using pedagogical best practices to create an interactive, engaging, and inclusive classroom, and by actively assessing and improving my teaching methods over time.

My goals for students are accomplished through active learning, examples from the academic literature, and project-oriented assessments. Active learning through classroom exercises helps build fluency with the use of economic models in a real-time and social setting, for example by acting out Vernon Smith’s double auction experiment, or playing through a social choice problem. Such activities can complement the more traditional exercises that students encounter in assessments¹. The academic literature can provide valuable worked examples of how economic thought can be applied to challenging, open-ended questions². Card and Krueger’s (1993) study of the minimum wage, for example, is an excellent starting point for discussion of how theoretical predictions can be tested, and the challenges of interpreting empirical results obtained outside of a laboratory. Finally, individual and group projects allow students to apply what they have learned, for example by writing a memo or giving a presentation on the trade-offs associated with a macroeconomic policy. In this way students are able to practice moving from a research question, to a methodological approach, to a conclusion³.

¹Freeman et al. (2014) survey the evidence on active learning in STEM courses, and Roach (2014) study its application in an undergraduate economics context.

²See for example the “worked example effect” studied by Sweller and Cooper (1985).

³A similar approach is used in medical education (eg. Heller et al., 1992), and collaborative problem-solving has been shown to improve outcomes in introductory physics courses (Smits et al., 2011).

To achieve my goal of an engaging and inclusive classroom, I employ pedagogical best-practices that reduce barriers to learning. When lectures and assignments are oriented around a clear set of learning objectives, students will have a better idea of why a topic is important and what they are expected to take from it. Teaching methods that focus on the application of course material, like those described above, are a means of providing practice and guidance to students who may be struggling with the coursework⁴. High-stakes assessments should be preceded by low-stakes assessments, and each should be characterized by transparency, explicit connections to course material and learning objectives, and informative feedback. Third-party observation can help to identify areas for improvement; for example, during a fully remote course, a focus group conducted by the university teaching center indicated that lack of peer interactions was affecting student engagement, which I was then able to address by making greater of breakout rooms for the in-class exercises.

For student assessment I focus on three types of feedback. First, homework and exams provide a baseline of information about students' grasp of the subject matter: are they able to solve structured economic problems? My objective with summative assessments is that they minimize "noise", for example by avoiding confusing language and idiomatic expressions that may penalize second-language students. Second, student projects test the application of course material to less-structured problems. Are students able to clearly state their question and to formulate it in terms of an economic model? Can they derive results that answer this question? Do they show an understanding of why or when their results might be wrong? Third, embedded assessments provide immediate, localized feedback in the classroom. Polls (e.g. through Zoom or iClicker) can identify subject matter that students need additional on, or that I have not taught effectively. Group exercises allow for small mistakes and learning gaps to be addressed through peer interactions, and expose students to the diversity of thought that inevitably characterizes economic questions.

Of course it is important to note that a teaching philosophy can only reflect past experiences, whereas each new class presents an opportunity to reconsider one's approach, try different teaching methods, and gain new insights that pay dividends beyond the classroom. I therefore view this statement of philosophy as a rough draft I will revise heavily and often over the course of my career.

Teaching experience

Course experience. As a doctoral student I have played an important design and/or classroom role in three courses: introductory microeconomics, introductory macroeconomics, and an MBA macro-labor course entitled "future of work". I taught introductory microeconomics in the summer of 2020, an effort for which I re-designed the course from the ground up - both to gain experience and to better adapt the course to a fully remote setting. I have led recitations for introductory macroeconomics each year since the course was introduced at CMU in 2018, during which time

⁴For example, Theobald et al. (2020) find that active learning narrows achievement gaps in undergraduate STEM courses.

I collaborated closely with faculty in developing recitation content and assessments. The MBA course “Future of work” was also a new offering at CMU, and as head TA I worked with professor Laurence Ales to write problem sets and to adapt theoretical models of technological change in labor markets to a more intuitive, classroom-appropriate format.

Miscellaneous experience. Many of the courses for which I have TA’d include a heavy data analysis component, and in the past three years I have worked extensively with undergraduate and MBA students learning to code in R and to perform basic statistical research. I have also been a student mentor and a judge in CMU’s annual Global Economics Challenge, a hack-a-thon style competition in which undergraduate students present careful, data-driven proposals on a specific policy question. In terms of more general pedagogical preparation, I participated in and completed the Future Faculty program offered by Carnegie Mellon’s teaching center, which prepares PhD students for teaching roles through a combination of seminars, course design projects, and one-on-one work with staff members.

References

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