Statement of teaching philosophy

My teaching philosophy is motivated by the question, What is the value-added of a course in economics? In many cases, it is the first class in which students take a rigorous approach to the study of human behavior. As a common elective subject for undergraduate and business students, it may also be the only such class that they take. And yet economics has much to offer; as Alfred Marshall's "science of everyday life," our field can provide students with tools that make them better at reasoning, more adept at decision-making, and more capable in their personal and professional lives. To accomplish this in a single course, however, requires an efficient and effective pedagogical approach, and one that takes into account the diversity of students' backgrounds and their motivations for studying economics.

As an educator, my objectives for students are that they become *fluent* in the use of economic models and empirical methods, and that they be able to *apply* these tools to questions and problems that they are likely to encounter. Students should be able, for example, to engage with economic and social issues in a careful and evidence-based manner. But they should also be able to employ the same rigor in their own decision-making, such as when choosing between majors, making important financial choices, or presenting a proposal to an employer. My goal for myself is to take a similarly rigorous approach to teaching, by using pedagogical best practices to create an interactive, engaging, and inclusive classroom.

To build fluency, a key strategy I employ is active learning. By working short exercises into lectures - for example, classroom polls using Zoom or iClicker - one can keep students better-engaged with the material, while providing additional opportunities for practice.[1] In large courses, group exercises allow for more personalized feedback from peers, which can help to identify gaps in knowledge. Longer in-class activities allow students to learn-by-doing; for example, Vernon Smith's double auction classroom experiment provides a hands-on way of learning about the role of information in market equilibrium. These activities serve as preparation for summative assessments like quizzes and exams. Such assessments play a critical role, both for evaluating students' performance and for identifying subjects that have not been taught effectively. Hence it is important that they be well-designed, well-written, and informative about students' grasp of the material.

To achieve my goal that students be able to apply the economic toolkit - or "think like an economist" - my strategy is to provide (1) examples of such thinking, and (2) opportunities to practice it. The academic literature is an inexhaustible source of worked examples of how economists start with a difficult question, attack it with a model or an experiment, and arrive at carefully reasoned results. These examples can make the course material more relevant, and they expose students to the challenges and the rewards of a rigorous economic approach. Opportunities to practice this approach can implemented in the form of individual or group

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

projects, that present students with less-structured problems; for example, by asking them to write a memo or give a presentation on the effect of a macroeconomic policy, while incorporating models or empirical methods learned in the course.[2] In this way students are able to practice moving from an open-ended question, to a methodological approach, to a conclusion. These exercises can also help to bridge the gap between economic theory and everyday life. In a principles of microeconomics course, for example, I conducted an in-class project in which I had students pick several occupations of interest, use easily-accessible datasets (ONET and the BLS occupational handbook) to quantify the costs and benefits of each option, and then solve for the optimal choice.

Finally, to create a more inclusive and engaging classroom, I strive to actively identify and remove barriers to learning. This starts with effective course design. When lectures and assessments are oriented around a clear set of learning objectives, students will have a better idea of why a topic is important and how they will be expected to apply it. While a course is in progress, information is key. Classroom exercises provide high-frequency feedback to students,[3] while well-designed assessments can pinpoint where and how they are struggling. An important piece of information that students sometimes lack is *why* they should care about a subject. Here, examples from the academic literature as described above, interactions with peers in group exercises and projects, and an enthusiastic instructor can all go a long way towards motivating students' effort, as well as exposing them to the diversity of thought in the classroom and in the field. Finally, as an instructor it's my responsibility to identify shortcomings and potential improvements in my approach. For this I find it helpful to obtain an outside perspective. For example while teaching a fully remote course, a focus group conducted by my university's teaching center indicated that lack of peer interactions was negatively impacting student engagement, which I was then able to address by making greater use of breakout rooms for the in-class exercises.

Teaching 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 the first fully remote version of our undergraduate principles of microeconomics course, an effort for which I re-designed the course from the ground up - both to gain experience and to better adapt the class to a fully remote setting. I have led recitations for introductory macroeconomics since the course was first introduced at CMU in 2018, during which time I collaborated closely with faculty in developing recitation content and assessments. As head TA for an MBA course entitled "Future

[2] A 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).

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

of work", also a new offering at CMU, I worked with faculty to develop classroom versions of theoretical models of technological change, and to develop problem sets that took students through the substantive implications of these models.

In terms of more general experience, many of the courses I have been involved with 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 inference. 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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