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TEACHING STATEMENT

Two specific moments as an undergraduate student have informed how I develop and run my classrooms. An intro lecture ran a demand simulation using candy bars which cemented the idea for me that preferences are quantifiable. And then on a slide describing profit I made the connection between calculus and behavior. I remember these moments, vividly and concretely opening a door on important parts of human behavior. I see a big part of my role in the classroom as building up and offering these types clarifying and expanding moments to students.

Like I mention in my diversity statement, 25 years as a dyslexic student in academics has given me something of an outsider's view on education. Having to put in extra work has given me a specific awareness of where our educational system misses students like me, and a broader empathy for students who aren't always included. Students at the University of Pittsburgh come from around the world and from so many backgrounds. Everyone has a different story but being aware of the subtle and overt ways educational systems can exclude students has given me a view on how to curate a inclusively effective classroom. And after some experience I think my approach not only promotes inclusivity but is instructive for everyone in the classroom.

With this in mind, remote learning in the early days of COVID offered me the latitude to experiment with classroom methods. Here, I'm going to highlight three ways my experiments worked in microeconomics classes at both the intro and intermediate levels, and as a template for how I'll teach other content areas.

Grant Sanderson, a YouTuber and math educator, describes his work as trying to convey the feeling of 'inventing math'. Similar to the starting points he uses in his videos, I start both my classes and class modules by asking the questions that motivated the original thinkers' curiosity. Microeconomics begins with David Ricardo's search for an answer to the question whether individual actors could do better by working together. It's not hyperbolic to say that in the moment directly following the asking of that question with these tools of opportunity cost and comparative advantage in hand, when specialization bends the PPF out I've seen countless minds inspired by economic theory. 'Inventing economics' can be an individually impactful endeavour.

After discovering the ideas, economics is learned through practice. I'll delineate practice from assessment for

a second here. Depending on the length of the semester the class follows either a 1 or 2 week cadence. Each module opens with 1) tutorial videos introducing and motivating the topic, 2) class lectures to personalize the ideas and supplement the tutorials, 3) an in-class simulation of how economic actors might behave when appropriate, 4) an in-class ‘vignette’ to solve an economic story with a model, 5) a ‘vignette demo’ video working through a problem similar to the vignette, and 6) homework, with a demo video of the solutions after the due date. The idea with this cadence is to offer the motivation, build up the conceptual tools, slowly remove the training wheels, and reinforce with examples and practice. The tutorial videos are often animated and aimed to be ‘bingeable’. They are a work in progress and are the seed of a YouTube series I’m currently developing. The in-class simulations range from production functions to two-sided markets and the tragedy of the commons. The vignettes offer students the chance to learn from their colleagues in a supervised environment, similar to the recitation style we’ve used in the department in recent years. Homework problems follow directly from the vignettes and their corresponding demo videos but with the training wheels taken off.

Students have responded well to this structure. Two Honors Intro Microeconomics students commented after the Fall 2021 semester.

“I loved the setup of the course. Each week would start off with watching tutorials, followed by notes, homework, and a minixam. I really appreciated the lack of surprises, so I always knew what to expect for the workload going into the week.”

- Anonymous Student 1

“I appreciated the set-up of the class— his modules were neat and purposeful. I was never confused about resources he attached. I always felt prepared for the exams and that he never wanted us to stress.”

- Anonymous Student 2

One consequence of dyslexia is that I am relatively more aware of classroom logistical overhead. And explicitly delineating the timeline of the class in this way is how I would have wanted the class to be structured if I were a student. This structure offered students a clear view of what was important, how to work with the concepts, and how to synthesize it with what they already know.

And the last experiment I’ve run aims to explicitly embed inclusivity in the assessments (neurodivergent, unstable living ..., students who struggle in general). The assessment structure explicitly targets demonstrating competency, both as a way to pull out each student’s strengths and to signal that the class is a place to develop. There isn’t one way to be good at economics; this is a process; this isn’t without tradeoffs

and is a work in progress; it might not scale well.

To this aim I adapted the traditional grading structure in two main ways. First, I set up five miniexams, one per week, and downweighted a student's worst scores. This meant no one exam could sink a high achieving student's grade and offered poorer performing students an incentive to improve. And second, I held weekly check-ins with all students broken into small groups, where they would verbally deliver a randomly chosen homework question to me in front of their peers, "graded" on both their mastery and whether they were upfront with what they didn't know. This gave students another layer of accountability and gave me another opportunity to offer micro-corrections to their mastery of the material. Although it turned out to be quite a bit of work, these two modifications made the class more inclusive and had the side effect of lowering students' incentives to cheat, lowering the stakes, and giving students incentives to recover from failure.

This assessment structure worked for students.

"How the class was structured, as well as how forgiving the grading system was. It set the students up to focus on learning the content, and not just to get to a certain grade."

- Anonymous Student 3

I see my roles as a teacher falling into four broad categories, generally in the following order: 1) introduction of a question or idea and its place next to related questions or ideas; 2) a presentation of an approach to considering or answering the question; and 3) guidance during a student's own work through the question.

The experiments I've run during COVID have had the effect of providing my students with a intuitive foundation for where economics comes from, have structure the modules to lower the barriers to learning, and have offered an inclusive environment. These experiments not only worked during remote education but have been effective during the transition to in-person classrooms during the Fall 2021 semester.

Beginning with original questions, sanding down the edges, and grading for competency have turned out to be more work but seemed to be a natural fit with a semi-flipped classroom model, and may have even minted an economist or two.