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Teaching Statement

Based on my own intellectual growth at my undergraduate institution and on the strong mentoring relationship I have formed with my dissertation advisor, I strongly believe that the proper role for a teacher in environmental and natural resource economics is as a guide. This role involves not simply pointing students to the current literature, but structuring their exposure to this literature such that the benefits of applying economics in critical analysis become naturally apparent. Thus, at a general level, I see the instruction of environmental and resource economics as simply a case study in structuring a logical, evidence-based argument.

Students that I instruct should be able to critically assess evidence and arguments concerning resource exploitation, overpopulation, and sustainability, using common tools in the discipline—cost-benefit analysis, valuation of nonmarket and public goods, market solutions to externalities, and dynamic bioeconomic models of resource exploitation, as well as economic methods addressing uncertainty, to name a few. Whatever level my courses are taught at, students should learn how to apply these tools to some currently relevant societal problems. For examples of these tools and how I will apply them in my courses, I direct the reader to the syllabi of the courses in which I have served as a teaching assistant. The teaching process I use to familiarize students with these tools involves exercises in comprehension and synthesis. As a teaching assistant, I have utilized frequent problem sets, short writing assignments, group discussions, and the construction of topic-specific online *wikis* designed by the professor and myself, as opportunities to formatively assess these two aspects of learning. To do so, I encourage iterative approaches to assist with the successful completion of these assignments. For the problem sets, I utilize my office hours and recitation sessions to enable comprehension of the mathematical building blocks and concepts necessary for the completion of problems. I facilitate synthesis by providing other motivating examples of how these building blocks can be used. For short writing assignments, I heavily favor the use of a “feedback barrage,” using in-class discussions about the writing topic, online wikis and forums for students to exchange ideas about the writing topic, as well as working with students in office hours and through email on rough drafts of their writing. For example, in the Integrating Environmental Sciences and Policy class in which I served as a leader of a discussion section, we utilized a discussion exercise on the Ivory Trade Ban, prepared by Thomas Princen. In conjunction with this exercise, the writing assignment prompted students to offer an assessment to the U.S. State Department on what the best policy options were concerning the Ivory Trade Ban, from the U.S.’s perspective. As one indicator of the effectiveness of this general approach of providing constant, iterative feedback, I direct the reader to my student evaluations.

Once in the role of primary instructor, I hope to introduce further innovations into my teaching that incorporate current technology and have been proven effective by current research. For example, in order to successfully motivate the utility of economic tools in the analysis of current societal issues and policy, I intend to spend the first day of an introductory course in environmental economics by having students write down: 1.) How they define economics, 2.) what they perceive as the most relevant environmental

and/or natural resource problems currently confronting the world, and 3.) how they could imagine using economics to address these problems effectively. After having students discuss their answers in small groups, I will have the groups present some of their answers to the class. By the end of the first week, using lectures on a few motivating examples, more in-class discussion, as well as online wikis, the class should come to a consensus on: 1.) what our working definition of economics will be for the remainder of the semester, and 2.) what environmental and natural resource problems will we focus on in order to demonstrate uses of the economic tools discussed above. This approach requires customizing syllabi to the responses from this exercise, and encourages students to take ownership in their own learning; similar approaches have been followed in primary education with positive results [e.g. 1, pp 144-145].

Another technique that I intend to introduce to facilitate student ownership of their learning is to modify the short writing assignments, mentioned above, to allow students to structure their own, short research questions within some broadly specified topic. This, in effect, gives students the ability to define their own writing prompts, and to learn about the importance of question formulation and framing in research. The intended result would transform the writing assignments into a two-step process of first posing a good prompt and then answering it. As an example, the prompt could be assessed using the linked grading rubric; assessment of the final drafts would follow a standard rubric.

Another specific innovation I intend to introduce in my teaching is the use of electronic personal response systems (PRS) in the classroom, for the demonstration of nonmarket valuation techniques utilizing “stated preference” approaches. Such approaches include real time surveys, which can be conducted using a PRS. By actually administering such a survey to the class in real time, results can be compiled very rapidly and used to generate a dataset for analysis with estimation techniques that are part of the curriculum. For a demonstration, which should prove particularly motivating to students, see the example PowerPoint slides. Anecdotal evidence suggests that the PRS significantly engages students in the methods being demonstrated.

Works Cited

1. Commission on the Behavioral and Social Sciences and Education, *How People Learn: Brain, Mind, Experience, and School*, ed. J.D. Bransford, A.L. Brown, and R.R. Cocking. 1999, Washington, DC: National Academy Press.