

## 2011-2012 Seminar Participants

### "Interactive Instruction, Student Learning, and Retention"

*Prof. Sean Mulholland*

#### *Project Description:*

I seek to lead my students on an intellectual journey through mysterious observations. We stop off at various points to discuss why economists find them mysterious and how economists attempt to understand and explain them. I strive to inspire students to search for mysteries on their own and apply economists' tools and logic to understand them. But to do so requires a rich understanding of each tool in the economists' toolbox. One tool economists use with increasing frequency is controlled experiments. Experiments grant researchers the ability to test the validity and efficacy of various theories. Classroom experiments provide an interactive way to engage students in the learning process by granting them firsthand knowledge. The goal of classroom experiments is to enhance student understanding and, most importantly, increase retention of theoretical foundations that are used to explain the mysterious (and at times not so mysterious) world around us. But whether these interactive experiences result in greater understanding and retention is up for debate. My goal as a member of the Teaching and Learning Strategies Seminar is to complete the IRB approved project to test the effects of classroom experiments on student learning and retention.

Much of the research on interactive learning experiences suggests that economic classroom experiments result in a more thorough level of understanding and greater overall retention (Frank 1997; Gremmen and Potters 1997, Dickie 2006). Other research suggests otherwise (Emerson and Taylor 2004; Cardell, et. al. 1996). In the fall of 2010 and again in the fall of 2011, I plan to lead two principles of microeconomics sections through different sets of classroom experiments so that I am able to test whether classroom experiments do, in fact, lead to a more thorough understanding and a greater retention of microeconomic principles.

By holding constant such factors as the instructor, date, classroom setting, and assignments, I will be able to directly estimate the level of learning associated with interactive classroom experiments. My co-author at the College of Mount Saint Vincent, Natalia Smirnova, will be estimating the effect of collaborative learning on her principles of microeconomics students during the fall 2011 semester as well.

#### *Benefits:*

Benefits of my participation in the seminar on teaching strategy abound. First, I hope to learn various new innovative teaching techniques from my fellow seminar participants. I also hope to receive valuable feedback from other seminar participants on how to interpret the results of the project. Given my methodology and feedback from participants, I will be able to isolate which experiments appear to result in a greater level of understanding than others. Armed with this information, I will organize my future principles of microeconomics classes to include only those experiments which appear to enhance student learning and retention. Second, the seminar provides a wonderful venue for me to lead the

members of the seminar through one or more classroom experiments similar to those run in my classes as a way to motivate faculty from various disciplines to think about ways to engage students with interactive teaching methods.

### *Community Outreach Plans:*

Extending these benefits to the Stonehill community, I will (with the approval and assistance of the Center for Teaching and Learning) design and lead a Teaching Roundtable for Stonehill faculty on using experiments in the classroom. Furthermore, I would be happy to lead a break-out session at a future Academic Development Day on classroom experiments or interactive learning. And finally, I plan to submit the results of the project as a research article to a journal such as the Journal of Economic Education.

### *References:*

Cardell, N.S., R. Fort, W. Joerding, F. Inaba, D. Lamoreaux., R. Rosenman, E. Stromsdorfer, and R. Barlett. (1996). Laboratory-based experimental and demonstration initiatives in teaching undergraduates economics. *American Economic Review* 86 (2): 454-59.

Dickie, Mark. (2006). Do classroom experiments increase learning in introductory microeconomics? *Journal of Economic Education*. 37 (3): 267-88.

Emerson, T. L. N., and B. A. Taylor. (2004). Comparing student achievement across experimental and lecture-oriented sections of principles of microeconomics course. *Southern Economic Journal* 70 (3): 672-93.

Frank, B. (1997). The impact of classroom experiments on the learning of economics: An empirical investigation. *Economic Inquiry* 35 (4): 763-69.

Gremmen, H., and J. Potters. (1997). Assessing the efficacy of gaming in economics education. *Journal of Economic Education* 28 (Fall): 291-303.