

## 2011-2012 Grant Proposals

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Economics

"Toobeez for Economics"

Classroom Innovation Grant

### Project Proposal

With support from the Center for Teaching and Learning at Stonehill College, I will obtain six, 57 piece boxes of Toobeez life size construction toys. Often referred to as giant Tinker Toys, I will use these in my principles of microeconomics, principles of macroeconomics, and upper level elective courses to add an artistic component to the traditional graphs we use to analyze behavior. I will ask students to design and build life-size structures reflecting various graphs used in the analysis of consumer behavior, firm behavior, externalities, and a variety of other policies. These structures will grant students with an artistic flare a flexible medium to express their creativity. The life-size designs will also grant students, both those enrolled and passersby, a new vantage point from which to learn from the spaces created. My hope is that these creative structures will remain in place for a short period of time for others on campus to appreciate. In the long run, I hope to accumulate photographs of a large number of structures that could be part of a display case or even, potentially, part of a show on creative student work.

### Benefits

In order to become proficient at economics one must be able to explain the reasons behind various behaviors of individuals and groups. Economists do this in a variety of ways: from storytelling to calculus, from descriptive models to empirical estimates. Undergraduate students first encountering these ideas are often overwhelmed by the new, often contrarian, way of thinking. Moreover, they are often intimidated by the mathematical methods used to express many of the ideas. The beauty of mathematics is that it can be expressed in a variety of ways. Traditionally, students use pen and paper to represent the algebraic models used to describe behavior. But these traditional methods rely on one vantage point and often lack any avenues for creativity. While learning by doing is the best way to accumulate knowledge, learning by actively designing and building, may give students, especially kinesthetic learners, an additional way to connect with the material.

### Community Outreach Plans

While I would love to save each structure created, this may not be financially feasible. Thus my goal would be to photograph all structures created each time I assign a Toobeez exercise. After a number of semesters, say five or six, I will create a display case of those structures which express an economic concept in creative ways.

In addition, I am in the process of writing a paper on the use of outside activities to teach economic concepts. The paper will discuss various ways to harness the benefits of incorporating the use of sidewalk chalk and Toobeez as learning tools. My coauthor, Sherri Wall at University of Alaska-Fairbanks, and I plan to present a preliminary draft at the Association of Private Enterprise Education Meetings in April of 2012. The ultimate goal is to publish the manuscript as a refereed journal article that can be used by other economics instructors to enhance students' understanding and retention of economic concepts and corresponding graphs through more kinesthetic exercises.

### Budget:

Six Boxes of Toobeez, each with 57 pieces: 20 spheres, 32 tubes, 4 curtain panels and one storage bag:  
\$900 (6 @ 150 each)