

July 1, 2014

To: Dr. Debra Lohe, Director Reinert Center  
From: Heather Bednarek, Associate Professor Economics

Re: Results Report for 2013 *Try It!* Summer Mini-Grants, "Just-in-Time Detours and Refreshers"

*Description of pedagogical innovation*

The pedagogical innovation proposed was to create several short videos for students to use as a resource during the semester to be posted on the SLU Global course page. The short videos were to be in the "Khan Academy" style where all that will be seen in the video is the white or black screen and writing implement with my narration in the background.

The videos include my narration of mathematical analysis – solving equations, graphical analysis – of economic concepts. The focus of the video will be to watch and listen to the steps that I go through to get to the solution, instead of watching me talk through the process. In this manner students are encouraged to draw along step-by-step on a piece of paper as they watch the video to actively reinforce what they are watching.

The idea is that this is a more interactive and dynamic approach to working through a concept will allow for greater transfer of information relative to if it was captured only as text. In a static, text-only approach as in a textbook, steps are often skipped where students are left to fill in the missing steps. In the video I narrate those "missing" steps.

Using both visual and auditory cues, students observe & possibly work through the step-by-step process that is involved in solving the problem or illustrating the theoretical concept. They can then refer back to the video as they need for a refresher/tutorial, later in the semester when the concept or technique appears again on assignments, projects.

A final note regarding the topics covered in the videos. The concepts in the video are of second order importance though nonetheless relevant to the discussion and to enrich students' ability to make connections to the main concept. Such video explanations viewed in advance of class would provide sufficient background for the student to understand the main concept more clearly. The goal is to circumvent the situation where students get caught up in the new background concepts such that its discussion in class ends up dominating the class meeting in which it was intended as of secondary relevance.

## *Lessons Learned*

### *What worked*

First, of course, there is the creation of the videos and the availability of them as an additional tool for students. The goal is that that these videos can help provide an understanding of related topics to allow for a richer understanding of the primary course content.

The second lesson learned was that this endeavor was beneficial with regard to buy-in and collaboration from some of my department colleagues. While I initially applied for the grant for myself, through the course of conversations with department colleagues it became a collaborative project. Specifically, in a faculty mentoring conversation, a colleague had identified a similar situation in a course she regularly teaches where a few just-in-time refresher videos would be beneficial for students. She learned the technology such that she could also create a few “just-in-time detours” videos relevant for one of her courses.

### *What did not work as anticipated*

One of the initial motivations for the “Just-in Time Detours” videos was that there are a few foundational assumptions in another elective course that are also useful building blocks in my course. As such I spend some time early in the semester discussing relevant background from a related course. However, the goal was to have “just-time-time detour” videos available on these topics, such that students could be referred to these mini-tutorials/detours to the other related elective to help them develop a sense of the greater context.

Prior to this year, I had observed that a majority of students taking my elective in the spring had not taken the related elective course in the previous fall semester. By pure coincidence this year, there was much greater overlap in the number of students taking both my course in the spring and the one the previous fall. As such any detour/tutorial had somewhat less impact than I would have expected in previous years. Nonetheless I will make them available in future semesters.

Both my colleague and I did not do an adequate job of tracking the impact on students. During this year we were more focused on making, editing and posting the videos with not enough attention toward assessment. A more intentional plan will be developed for the coming year. In fact, the course for which my colleague created videos is taught several times each semester by several faculty. She discussed the innovation and future plans with her course colleagues at the annual department course assessment meeting.

### *Future directions*

In a conversation about this innovation with a colleague in late Spring 2014 I learned of an application “Explain Everything “ that can be used on an iPad that appears to work in a similar manner to the Bamboo pad+ SmoothDraw + Camtasia combination. My plan is to experiment with this app to see how it compares to other videos we have developed to date with the more complex arrangement of Bamboo pad and software.

While not directly related to this pedagogical innovation, I think that perhaps I was more open to adopting other technology tools during the semester. In particular, I incorporated two other tools for the first time during the semester that I had not otherwise planned for in advance. The tools were incorporated because I assessed that the various technology tools were the best way to assess/achieve the outcome I wanted for that topic.

Specifically, I utilized the Google docs function in order to quickly (between class meetings) solicit students to summarize the main points of a challenging class discussion and to obtain feedback on the direction for follow-up in the next class.

Secondly, as one of the course objectives for students, they are to collaborate in small groups in order to make a short presentation to the class on a specific topic. This semester the class was particularly large and I was concerned about the amount of class time the large number of group presentations would take in the last weeks of the semester. Again, I found a situation where Tegrity was a relatively easy, readily-accessible technology tool available to students for them to record their group presentations and watch those of their classmates outside of the class meeting time.