

SONET-MATH: Using Social Networks to Learn Mathematics

Abstract

In the summer of 2012 our group created a pilot program using a social network called “Discuzz” to enhance STEM education in a Calculus II class. Our goal in this ongoing project is to facilitate learning among the current generation of digital natives who compose our calculus classes. Our pilot course used social media as a tool to extend the classroom beyond the physical time and space that we met. In our report we detail the course structure we developed to maximize the benefit of using social media in the classroom.

Over the semester we studied how students used the social media to increase learning. Students chose study groups at the beginning of the semester and were given weekly collaborative assignments. The sociologist on our team surveyed students in our pilot course (our experimental group) as well as the students enrolled in the other summer sections of Calculus II (our control group) three times throughout the semester. Through these surveys we learned about students’ perspectives on the roles that they and the course structure play in their learning. Additionally, we studied the learning communities within the class and how students used social media to facilitate learning.

Our findings were a wealth of information. We learned how students use social media and the features that a social media site needs when used for STEM education. Our assessments showed a 42% increase in student learning based on grades and also a 42% increase in student learning based on a Pre-Test and Post-Test assessment given to the experimental and control groups. As this is an ongoing project, our first pilot helped refine questions we want our research to answer and goals we wish to accomplish when we run our next pilot and develop the social media program we will use in future classes.