Lessons Learned in Developing a Blended Learning Environment for Mathematics Courses

In the fall of 2011, the president of Northern Arizona University set forth as a goal to have the Department of Mathematics and Statistics at Northern Arizona University begin offering several freshman-level mathematics courses in a “math emporium” setting. Essentially, this meant the content delivery for these redesigned courses would change from a traditional lecture course to one that would be web-based in nature, and students would spend a majority of their time in class working on the course content in a computer lab setting. The advantages to this style of learning are numerous: students are no longer constrained by issues of time and location, as they are able to work on the materials anywhere (where an internet connection exists) and at any time. Students can also spend a majority of their class time actively engaged in the learning process, rather than passively watching a teacher lecture about the topics they are to learn.

This paper will detail the lessons learned since the fall of 2011 in the redesign of three freshman-level mathematics courses, and the design of the physical space where the courses meet, the Lumberjack Mathematics Center. The redesign of a course, or the location of a space, wasn’t nearly as simple as it turned out to be, and it is the hope of the authors of this paper that they can help others considering a similar path to avoid many of the pitfalls, trials, and tribulations the authors experienced in the first two years of this project.