Supporting Math Emporium Students' Learning Through Short Instructional Opportunities

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This study focuses on the concept of including traditional math classroom experiences in a math emporium course. The aim of the study is to gain an insight into the opinions of students about which emporium structure they prefer as well as which they believe they can be more successful in. Also, this study will analyze emporium students’ academic success in both scenarios. To accomplish these goals, two sections of Algebra II in the math emporium were offered the option to attend short instructional opportunities led by the instructor.

Key Words: Math Emporium, Classroom Research, Student Opinions, Algebra 2

A math emporium is a self-paced math course that is completed with the aid of an instructional software package, which includes computational exercises, videos, practice exercises, and online quizzes (Twigg, 2011). Students work on math problems and ask for help when needed. Virginia Tech pioneered the first math emporium and studies have shown positive effects in terms of attendance, pass rates, and performance on end-of-course exams (Taylor, 2008; Twigg, 2011). In general, math emporiums follow the Virginia Tech model with three major places of variation; attendance, weekly traditional meetings, and size of facility (Twigg, 2011). The idea of having weekly traditional classroom meetings is not one that all schools adopt. As previously stated Virginia Tech does not offer traditional classroom meetings, while other schools, such as the University of Idaho, have weekly focus meetings (The Polya, 2016).

This study focuses on the differences between a fully computer based instruction emporium and an emporium offering traditional classroom experiences. The U.S. Department of Education reported that there are advantages for blended learning and that “it was the additional opportunities for collaboration that produced the observed learning advantages” (U.S. 2010). An emporium that offers traditional classroom experiences is a type of blended learning and this study may be able to further support the claim that blended learning gives students an advantage.

The purpose of this study is to gain an insight into the opinions of emporium students at a public university in the Midwest as to which emporium structure they prefer, as well as which they believe they can be more successful in. In addition, this study will analyze the emporium students’ academic success when they become involved in traditional classroom experiences, called short instructional opportunities, versus those who continue to use the fully computer based emporium system. The research questions for this study are:

1. What is the nature of students’ perspectives of the benefits of incorporating short instructional opportunities into their emporium experiences?
2. How does attendance at the short instructional opportunities change over the course of the study?
3. What differences, if any, in student achievement were there between and among students who participated in short instructional opportunities and their peers?

Although the study is in the data collection stage, preliminary analysis suggests that at least sixty percent of students reported that having the opportunity to attend the hear the course material in a short instructional opportunity would aid in their success in the emporium.
References:


