

1096-E1-2485 **Ellie Kennedy*** (ellie.kennedy@nau.edu). *A Flipped Classroom Study in Second and Third Semester Calculus.*

In Spring 2013, a study was done with 175 Second Semester Calculus students. Half of these students were taught via direct instruction and half were taught using a flipped classroom approach, where videos were utilized as lectures and classroom time was devoted to students working on problems in small groups and asking questions. Through survey data (MSLQ and SALG-M) and exam scores, the two different teaching methods were compared. In particular, learning gains, student perception of the effectiveness of the instructional approach, and student attitude towards learning mathematics were analyzed. In Fall 2014, a study was done with 140 Third Semester Calculus students. All of the students were taught using a flipped classroom approach. Learning gains, student perception of the effectiveness of the instructional approach, and student attitude towards learning mathematics were analyzed. This talk will discuss the details of the instructional methods and the results of the data analysis. (Received September 17, 2013)