**Flipping MATH 301-Introduction to Real Analysis**

by Kalman Nanes

During the most recent spring term, I participated in the Faculty Learning Community on Flipped Classroom Pedagogies, led by Sarah Leupen.  As a short summary of our activities, we spent the first few meetings discussing various established types of flipped classrooms.  We then spent some time discussing the projects that we were hoping to support with our FLC involvement.  Finally, we used a couple of sessions to talk about various classroom technologies that could facilitate these projects.

My personal takeaway has been an adaptation of some techniques I have already been using to a slightly more difficult setting.  To be specific, one of my usual courses, Math 301 (Introduction to Real Analysis), is the course where students first begin to learn to read and write in the discipline of mathematics - that is, they start to learn how to deal with proof-based mathematics.  In the 2013-14 academic year, I have been experimenting with the idea of treating this course explicitly like a writing course.  For each homework assignment, I require my students to write a first draft which they bring to class.  They then pass the drafts around in small groups and write peer commentaries on each other's homework problems.  Then they redraft the homework and turn in the final result along with the original drafts.  I supplement these discussions with boardwork presentations by the students.  We recoup the lost class time by flipping the classroom slightly - I collect reading quizzes on each section of reading before we cover the material in lecture.  These reading quizzes largely focus on understanding of main ideas and putting major theorems into students' own words.  My FLC goal was to adapt all of these techniques to the sam course in the radically shortened summer term.  Now that we are partway through this summer term, I can say that this goal seems to have been met - these techniques seem to be somewhat mitigating the difficulty of this course in the summer, although not as much as they do during the regular term.