

1145-H1-1116 **Jason R Elsinger***, jelsinger@flsouthern.edu. *Using mastery-based assessment in lower level mathematics courses*. Preliminary report.

In order to learn science and mathematics with a deep understanding, one needs to work problems and ask questions while receiving consistent feedback. We desire our students to experience this practice-feedback loop to improve their abilities and confidence. However, grading schemes which use a weighted average of numerical scores assigned to assessments have several features that are antithetical to this learning cycle.

Standards based grading is an innovative grading scheme which is based on a student's mastery of course learning outcomes or standards. Final grades are determined by the instructor's choice of specifications for each letter grade. One key feature is that students can initiate re-assessment opportunities which can replace earlier marks. In this talk, I will describe the standards based grading framework and how I have adopted it to several mathematics courses including statistics, linear algebra, and differential equations. I will also describe the many benefits observed, and efficient ways to implement the scheme including keeping a grade book and how to set up office hour re-assessments. (Received September 19, 2018)