1162-97-112 **Mario Banuelos*** (mbanuelos22@csufresno.edu). *Investigating Validation Metrics for Statistical and Mathematical Modeling within Upper Division Courses.* Preliminary report.

In the context of supervised learning and assessing a mathematical framework, researchers rely on a variety of practices to validate models. In statistics, resampling methods provide a means to assess trained models' performance on unseen data, known as test data. In mathematical modeling, the comparison to data is essential to challenge previous assumptions. Rather than providing a set of procedures for students to follow after training or implementing their models, students will investigate the effects of different validation metrics with respect to model testing.

Specifically, I will discuss two different collaborative approaches in upper division math courses to explore validation set splits and model accuracy. Students explore the fraction of testing and training splits in regression problems and how that affects the test mean squared error. For the model accuracy activity, students work in groups to answer specific questions about model success, bias, and accuracy. Activities are implemented in RStudio and Python. Preliminary student feedback will also be discussed. (Received August 28, 2020)