

1135-VJ-2736      **Amit A Savkar\*** ([amit.savkar@uconn.edu](mailto:amit.savkar@uconn.edu)), 341 Mansfield Road U1009, Storrs, CT 06269.

*Mixture model approach of classifying students based on their performance in differential calculus.* Preliminary report.

Over the last three years, we have collected data on each question (item) on each of the summative assessments given in our first-semester differential calculus course. The questions on these assessments test the students' ability to solve problems that involve concepts in limits, derivatives, and applications of derivatives. It has been theorized that these items explain the variance in three factors which are being measured. Using a mixture model with a three-factor structure and latent class analysis to classify students, it is possible to classify the students based on their performance on these items into high, medium, and low ability class. All of the items were graded using partial credit. I will present the results from a simulation study on the effect of using different thresholds for modeling partial credit response in comparison with a dichotomous (multiple choice (right/wrong)) response on the classification of the students in the different classes. (Received September 26, 2017)