

1125-G1-962

James R Eby* (jeb@blinn.edu). *In a traditional Calculus class, students explored several topics using Excel with data. This helped connect the topics with their Engineering classes and introduced integration early in the course.*

This presentation will focus on several IBL activities used in my traditional, first semester Calculus class will be discussed. All of the activities use data points to explore Calculus topics in a discrete setting using Excel. Some of the activities introduce the idea of a definite integral early in the class, to allow for a deeper understanding of the Fundamental Theorem of Calculus before it is formally introduced. In addition, some data will be presented that indicates students tend to think of more examples than simply continuous functions after working through these activities. Copies of all activities will be provided in electronic form. Topics included in the activities include: Limits, ARC compared with Instantaneous Rate of Change, directional limits, Mean Value Theorem, linearization of linear, exponential, and logistic functions, local extrema, concavity, Fundamental Theorem of Calculus, and the idea of accumulated compared with net change. (Received September 13, 2016)