

1106-L1-2442

**Julie M. Skinner Sutton\*** (jmsutton@uta.edu). *The Influence of Dynamic Visualizations in Calculus Learning.*

Student success in calculus is of paramount importance and crucial in response to the need to produce more STEM graduates in the United States. Since incorporating dynamic visualization into the calculus experience provides a strategy for possibly increasing student understanding of the concepts in calculus, we investigate the role of dynamic visualization in calculus learning at the university level. The concept images and concept definitions held by students often create conflict as students create appropriate schema within calculus. We examine findings relating to uncontrollable mental imagery with regard to student understanding of derivative as a rate of change by comparing student interviews and experiences when interacting with dynamic visualizations in contrast to engagement with static exercises. Our results are from a study of nine students; four identified as visualizers and five as non-visualizers. Each student was assigned to interact either with dynamic visualizations or to work static exercises during a series of four interviews. Comparisons reveal the emergence of cognitive conflict and its resolution for those students encountering the dynamic visualizations but this resolution is not evident for those only engaged in static work. (Received September 16, 2014)