

1135-H1-1472 **Theresa Laurent*** (tlaurent@stlcop.edu) and **Jamie Pace**. *Designing Pre-Class Activities for a Flipped Calculus Course Based on Learning Theory Principles.*

This presentation will review Lev Vygotsky's Zone of Proximal Development (ZPD) and how it was used as a basis for the development of pre-class assignments in an applied calculus course. The authors will discuss the five-year process of refining these assignments to meet the needs of the students and make class time more productive. The content, structure and evaluation of these assignments evolved as a result of analyzing students' participation and class preparedness. The authors will discuss how decisions were made on the content of videos and how they adapted that content to meet the needs of students with diverse backgrounds. Methods for assessing student understanding of pre-class content and methods for motivating students to complete these activities will also be discussed. (Received September 22, 2017)