

1014-Z1-1441 **Jose H Giraldo*** (jgiraldo@falcon.tamucc.edu), CAMS DEPT., 6300 Ocean Dr., Corpus Christi, TX 78412. *Should technology affect the order of topics toward a more effective learning?* Preliminary report.

Technology is being used more and more in the learning of mathematics. As a result of this I have questioned whether a different order in topics in differential calculus with a more geometric approach with support of technology will improve the learning of the subject. In this talk I will present the results of a study done in fall 2005 in a calculus I course using a more "natural" order of topics with a heavy conceptual approach, leaving the majority of the algebraic rules toward the end of the course. For instance, the linearization of a differentiable function is introduced immediately after the student understands that the derivative represents the slope of the tangent line. A great deal of time is devoted to the study of limits so this concept is used properly in later discussions. At this point the technology becomes a real tool. For example, after the student learns the concept of derivative they calculate the equation of the tangent line at any point without knowing the differentiation rules. The main question I address in this study is: Is a more geometric understanding of the concepts affecting the learning of the calculus concepts? The preliminary results come from students' written work, interviews, and test results from different sections. (Received September 28, 2005)