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Guided Discovery and Concept Development in Applied Calculus.

Business or Applied Calculus courses sometimes get a reputation for being "Calculus Lite" void of very much rigor. On many campuses they get second-class treatment - larger class sizes, more pure lecture from graduate students or adjunct instructors who may get little in the form of training or creative ideas for reaching students who need to understand the concepts of calculus and how they can be applied in disciplines outside math, physical sciences and engineering. These are students who need instead to be deliberately engaged with the concepts - given a chance to explore geometric, graphical, numerical and symbolic aspects of the subject in the context of biology, psychology, finance and marketing (just to name a few areas). It is very easy to adapt exercises in the textbooks into guided discovery activities that help develop the concepts (and give practice with the computational aspects) and encourage collaboration (which in turn can help build confidence among some of the more math-anxiety ridden members of the class). The presenter will share his approach, rubrics, course grading, and student feedback from his attempts to make the Applied Calculus course more meaningful and useful. (Received September 25, 2012)