1154-Q1-747 **Timothy A Lucas*** (timothy.lucas@pepperdine.edu). *Mobile Apps for Exploring Ordinary and Partial Differential Equations.*

I introduce two mobile apps developed by faculty and students at Pepperdine University that allow users to explore numerical methods and graphical solutions to ordinary and partial differential equations. *Slopes* contains activities for investigating slopefields, phase planes, oscillations and explicit numerical methods. *Waves* allows users to plot and animate Fourier series as well as solutions to the heat and wave equations. The name of the app originates from the technique of expressing solutions as a linear combination of sine and cosine waves. Both apps are currently available for iPhone and iPad. One advantage of using these apps is that iPhones and iPads are highly portable and feature larger touch screens that allow students to view and manipulate content easily. Research based on observations of mathematics courses at Pepperdine University has shown that students are more willing to collaborate and share their results when using tablets such as the iPad (Fisher, Lucas et al. 2013). The intuitive interfaces of *Slopes* and *Waves* invite students to fully immerse themselves in the world of differential equations so that they can understand the concepts from not only algebraic, but also graphical and numerical perspectives. (Received September 10, 2019)