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**Tanya Berezovski** (tberezov@sju.edu), St. Joseph's University, Department of Mathematics, Philadelphia, PA 19131, and **Tyler Gaspich\*** (tg450283@sju.edu). *Using Dynamic Geometry Software to Foster Students' Understanding of Vectors.*

Fundamental linear algebra concepts such as scalar multiplication and vector addition require students to have strong computational skills and the ability to visualize. While computational algorithms are more accessible, visual representations prove to be rather difficult to many freshmen. In this study we investigate the impact of using The Geometer's Sketchpad on students' understanding of fundamental concepts of linear algebra. The intervention consists of a set of dynamic geometry activities. These activities range from simple tasks on the definition of a vector to conceptually challenging tasks on multiple representations of vectors, targeting students' understanding of vectors. Pre/post-tests were administered to measure the change in participants' knowledge. It is found that the designed dynamic geometry tasks provided students with experimental and modeling tools, and allowed them to deepen their conceptual knowledge. Several specific activities and their benefits, including instructional and assessment, will be presented. (Received September 13, 2011)