At most U.S. colleges and universities, students’ end of term grades are reported in terms of grade-points, with letter grades represented as even increments on the zero to four scale. Yet much of mathematics coursework is graded on a percentage-based scale, upon which final letter grades are determined in a not always systematic manner. In this talk, I will outline why and how I changed my grading system for an undergraduate linear algebra course to a grade-point model. I will present sample student assignments and multi-semester student outcomes data to demonstrate the effects this administrative change had on student performance. I will also discuss how this policy change and my students’ responses to it affected how I view the activities of grading and providing feedback. (Received September 01, 2010)