Four years ago, we were charged with creating a new approach to mathematics for business management. After four years of development we found that the only way we could deepen our students’ conceptual understandings and promote their ability to make connections in real-world applications to the degree we envisioned was to create rhetorical occasions within which they could think and write. Having our students use mathematics in this way, a way that they had never before experienced, turned out to be equally transformative for us teachers. It changed our view of what we believed to be important about mathematics, of how students learn through technology, of how we think about students’ errors, and, above all, of how we assess our students. (Received September 13, 2004)