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**Robert Talbert\*** (rtalbert@franklincollege.edu), Department of Mathematics and Computing, Franklin College, 101 Branigin Boulevard, Franklin, IN 46131. *Inverting the Linear Algebra Classroom.*

Linear Algebra is a difficult course for some students because it involves significant amounts of both conceptual and mechanical knowledge. In a traditional classroom structure, this knowledge is initially *transmitted* to students through lectures, and then the knowledge is *assimilated* by students through group work, problem sets, and the like. The flaw in this arrangement is that the activity that is simplest from a cognitive standpoint – transmission – takes up the majority of class time, while the much more complex assimilation phase occurs primarily outside of class. Hence, students often find themselves working on tasks that require the greatest amount of instructor intervention precisely when that intervention is least effectively available. One way to ameliorate this problem is to use an *inverted classroom* structure, in which the transmission phase takes place outside of class, leaving class time free to be used on activities in the assimilation phase with direct instructor supervision. In this talk, we examine some ways the inverted classroom structure has been implemented in linear algebra through the use of screencasting and activities involving Wolfram|Alpha and MATLAB. (Received September 22, 2010)