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*Course Redesign: Rethinking Instruction and Assessment in Developmental Mathematics by Taking Advantage of Computer Technology.*

The current status of developmental mathematics can be discouraging; much data shows that it is not enabling students to achieve their goals. It often delays or prevents their attainment of a college degree. Reform efforts seek to meet the varied needs of student populations, including those who have low skill levels, higher skill levels, and learners with a variety of abilities, while infusing “pizazz” of various sorts into courses in order to motivate students. However, many of these efforts are simply experiments with theories of change, the results of which are not known for a long time, and which have no clear vision of how to create significant and sustainable change. Successful reformed courses, on the other hand, seem to share five basic characteristics. They: 1) redesign the whole course, 2) encourage active learning, 3) provide individualized assistance for all students, 4) build upon ongoing assessment and prompt feedback (often automated), and 5) ensure sufficient time on task and monitoring of student progress. They aim at accelerating students’ progression through developmental education while improving learning outcomes and reducing their financial aid challenges. This talk illustrates one such reformed approach which takes advantage of computer technology. (Received August 29, 2012)