

MAA MathFest 2013

ABSTRACT

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Serving the Under-Resourced Student in a University setting through Mathematics

Statistics show that open-access schools enroll many students with little or no numerical competency. A report referenced in the President's State of the Union address on January 25, 2012 states that in "many minority institutions of higher education, 80-95% of entering freshman are required to take remedial math, reading, and English. Even in these courses, the dropout rate is estimated to be around 70-80%." Studies have shown that of the students who place into pre-foundational math courses (some multiple semesters long), nearly 75% either will not pass the pre-foundational course (sequence) or, if they do pass, will fail at the next sequential credit-bearing course. At Trinity, not only did we completely redesign our pre-foundational courses, but we also limited the pre-foundational sequence to one semester, added a supplemental laboratory that is a student-centered, one-credit addition to the course, incorporated a rigorous adaptation of MyMathLab pedagogy in conjunction with Visual, Auditory and Kinesthetic (VAK) styled classroom lectures, and raised the standards of the course. The curriculum redesign objectives were to (1) improve retention, (2) maintain math course content integrity, and (3) develop students' self-efficacy. Results after several semesters have shown that, for students who complete the course, the pass rate is 80% and that pre-foundational math students' retention rate is 84%. Furthermore, for students who successfully complete the pre-foundational math course and move on to the sequential credit-bearing course, the pass rate is now approaching 80%. Our presentation will include a description of our standardized first year math courses, how we implemented them, and data collected over the last few semesters.