South Texas College

Math Today -- The World Tomorrow

Improving Student Success in Developmental Mathematics

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EXECUTIVE SUMMARY

South Texas College's (STC) Quality Enhancement Plan (QEP) addresses the low success rates in Developmental Mathematics courses. The current developmental math sequence involves three courses: Basic Mathematics (MATH 0080), Introductory Algebra (MATH 0085), and Intermediate Algebra (MATH 0090). According to Institutional data from the First-Time-In-College (FITC) students in the sequence, only 32% of those students were "college ready" within two years (Research & Analytical Services, 2009a).

The process of selecting the QEP theme was designed to be open and include all stakeholders of the College. After months of campus-wide meetings, and review of institutional research related to student learning, the QEP Planning Team identified the need to improve student success within the Developmental Math courses as the QEP topic. Therefore, the College's Quality Enhancement Plan calls for the redesign of the traditional Development Math three-course sequence (MATH 0080, MATH 0085, and MATH 0090) into a two-course sequence (MATH 0100 and MATH 0200) with expanded lab hours and a redesigned pedagogical approach, including increased lab time and computer-aided instruction. In addition, the proposed design incorporates required mandatory assessment, active learning techniques, and intensive student support services. Student success for the purpose of the QEP will be evaluated by the following goals:

- Ensure 70% of students meet at least 70% of the Developmental Math Program Learning Outcomes.
- Increase success rates of students in Developmental Math courses (as evidenced by grades of "C" or better or passing scores on Texas Success Initiative [TSI] approved assessments).
- Increase the First-Time-In-College (FTIC) percentage of students who become "college ready" in Mathematics to 50% (by earning a grade of "C" or better in the highest-level course in the Developmental Math sequence or achieving passing scores on TSI approved assessments) within a two-year period.
- Increase success rates in MATH 1332-Contemporary Mathematics (as measured by earning a grade of A, B, C, D, or P).
- Increase success rates in MATH 1414-College Algebra (as measured by earning a grade of A, B, C, D, or P).

A thorough literature review confirmed the College community's decision. According to Noel-Levitz (2005), research has indicated that one of the most serious obstacles to academic success has been students' inability to pass developmental mathematics coursework. Furthermore, research conducted by the Achieving the Dream (2006) initiative, reported that 71% of students in the 2002 Achieving the Dream cohort were referred to developmental math. This, coupled with the fact that most students do not complete a developmental sequence early on, reinforces the need of reforming developmental math remediation from a three-course sequence to a two-course sequence.

As the project is implemented over the initial five-year period, it will be modified according to the results of both formative and summative assessments conducted both internally and externally. The project is poised to transform student lives and the College culture by improving success in Developmental Mathematics.