

Spalding University Quality Enhancement Plan Increasing Student Ability to Use Mathematical Skills to Solve Problems

Spalding University's Quality Enhancement Plan (QEP) is designed to specifically address the challenge of increasing student ability to use mathematical skills to solve problems and successfully complete college algebra. After instituting a math placement policy and requiring college algebra as the general education requirement, the QEP grew out of this focus on improving quantitative literacy skills of our students.

The key feature of the QEP is the creation of a new mathematics course, Intermediate Concepts in Algebra, Math 104, as a prerequisite for College Algebra, Math 113. Instructional design options were researched, and our delivery system of six modules with expanded contact hours was developed to ensure the success of our students. Math 104 consists of a highly interactive style of instruction that includes a teaching assistant in the classroom with the instructor, experiential activities and group work, computer-assisted instruction, low student/faculty ratio, and expanded tutoring. This course is a vehicle to assist the student in developing the ability to demonstrate the application of mathematical concepts in everyday life situations, in continuing successfully with academic studies, and, ultimately, in graduating from the University.

Multiple outcome-based measures are used to assess the success of the QEP and to provide future recommendations for continuous improvement. Course assessment methods of student learning outcomes include weekly pre/post tests and completion of a culminating capstone problem created by faculty across the curriculum. Assessment of student affective outcomes includes the pre/post score on the Abbreviated Math Anxiety Scale, weekly journal entries, and quantitative rating of levels of confidence anxiety. At the University level, assessment tools include ACCUPLACER pre/post assessment, cohort and achievement baseline comparisons, course grade of C or better in Math 113, standardized norm-referenced testing through Measure of Academic Proficiency and Progress (MAPP), graduating student survey, and faculty survey. The QEP Advisory Committee conducts both formative assessments of data and an annual summative assessment of data at the course and university levels. Formative assessment occurs after each session the course is offered. The information obtained from the formative assessment serves to inform the QEP Advisory Committee regarding specific student attainment of the learning outcomes and overall course management issues that might need to be addressed.

Our QEP, which has created an innovative educational environment, fosters student learning and confidence, ensures student engagement and success, and begins at the student's current level of mathematical competency. Importantly, this student learning and increased skill promotes greater competence, both currently and in the future, of the student learners in their community, as workers, and even in their citizen and family roles.

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