

Math Rules: The Art of Contextualizing MAT 060
Mitchell Community College, Statesville North Carolina
Executive Summary

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In an attempt to improve the student learning in developmental mathematics and subsequent mathematics courses, Mitchell Community College (MCC) has developed a Quality Enhancement Plan (QEP) entitled “Math Rules: The Art of Contextualizing MAT 060.” Since national research and feedback from internal and external constituents all point to mathematics as a major barrier to student success, the QEP identifies strategies to increase student knowledge of course competencies in developmental and curriculum mathematics courses. To further narrow the focus, MATH 060 or Essential Mathematics was selected as the more critical area because this course is an entry level course, has a significantly higher enrollment than other developmental or prerequisite courses, and has a low course completion rate and/or passing rate.

According to the Office of Institutional Research and Planning, of the 126 MCC students who enrolled in MATH 060 in fall of 2005, only 55.6% earned a grade of C or better, 14.2% failed the course, and 30.2% withdrew before the semester was over. The results from the spring of 2006 were even more revealing. Of the 79 students who enrolled in MATH 060, only 48.1% earned a grade of C or better. 17.7% failed the course, and 24% chose to withdraw from the course altogether. For those students who earned a “C” in MATH 060 and subsequently enrolled in MATH 070 the following semester, over 40% either failed or withdrew from the course. With this data in mind, the QEP team determined that critical to the success of the MATH 060 student is the transformation of the learning environment itself. Clearly, the traditional, instructional approach employed in most MATH 060 classrooms was not working for every developmental student. Rather, a pedagogical shift needed to occur, where the traditional method was exchanged for a flexible, contextual learning environment that emphasized real life applications of theoretical MATH 060 concepts.

In the contextual classroom, the developmental mathematics instructor is now a facilitator of student learning, acting as both a coach and a cheerleader who invites students to connect mathematical concepts to their everyday lives and identify the relevance of math at home, at work and in the community. The classroom is converted to a laboratory environment; desks are replaced with tables and manipulatives are employed to encourage student interaction and hands on activities. The value of contextual learning to developmental students is clear: the students now have a “hook” on which to place their new knowledge and a sense of why this new knowledge is important to their own personal growth and professional development.

Over the course of the five year plan, on-going assessment will occur to determine the success of contextual teaching and learning in the DE Mathematics classroom. Using data to inform the practice, contextual teaching and learning will eventually expand to other curriculum areas throughout the college.

