

A Model for Redesigning Developmental Mathematics Based on AMATYC Standards and Basic Principles of Beyond Crossroads

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Abstract

Motivated by a state mandate to redesign the developmental mathematics program, faculty at Pellissippi State Community College started with a blank slate and created an applications-based curriculum supported by technology and collaborative learning. The AMATYC Standards served as a guiding force in all of the redesign decisions. Rather than a full emporium model, faculty insisted on classroom time for effective group activities and discussions to support conceptual learning as well as valuable college success skills. In the redesigned curriculum, relevant real-world application problems are used as introductions, integrated throughout the learning process, alternated with skill practice, and employed within assessments. Students engage in a variety of activities in multiple settings that include opportunities to construct knowledge through individual assignments and small group collaboration, to work with instructors and tutors to fill gaps in mathematics learning and deepen understanding, and to practice thinking and reasoning within the real world application problems. Student success rates have increased over time with the robust curriculum implementation and hybrid classroom design.



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