

Accelerating Academic Achievement: Paired Courses in Developmental Education

Two-year colleges across the country face significant challenges retaining their diverse student populations and helping them progress to graduation. A very important barrier is developmental coursework in reading, writing, and mathematics, to which a majority of entering students are referred. These lengthy course sequences, required before students can begin college-level work, can be daunting and often cause students to leave college before completing their developmental requirements. Developmental math, in particular, is a substantial stumbling block to college completion at institutions across the country.

For students at Texas State Technical College (TSTC) in intense two-year degree programs and certificates that often demand mastery of college algebra, supporting their success in developmental math has been recognized by the faculty and administration as a top priority. For the last several years, the faculty and instructional support staff at TSTC have developed and implemented new teaching and learning strategies for developmental math aimed at promoting student success in this area of particular vulnerability. Strategies to date have included increasing the frequency of active-learning activities, designing lessons aimed at decreasing math anxiety, more frequently incorporating real-world examples, and team-teaching developmental math courses by pairing math instructors with instructors from technical programs. Each of these interventions has resulted in modest gains in developmental math success.

The latest strategy implemented at TSTC to help students succeed in developmental math and reduce the attrition associated with these required course sequences is the pairing of developmental math courses with college-level math courses. This initiative, often called the co-requisite model, involves effectively combining the learning outcomes and course material from both courses into one cohesive course. Students who successfully complete this new course receive credit for their developmental math requirements, as well as for a college-level math course, in just one semester, representing a significant acceleration in completing degree requirements.

Acceleration is defined as the reorganization of instruction and curricula in ways that facilitate the completion of educational requirements in an expedited manner. Acceleration strategies are becoming

increasingly popular in higher education due to the mounting evidence that following the traditional sequence of developmental education courses is hindering community college students from progressing to college-level coursework and ultimately earning a credential.

Why Paired Courses?

Reduces time to completion. Recent research suggests that the faster students progress toward a credential, the more likely they are to complete college (Bowen, Chingos, & McPherson, 2009). Even when students do pass one developmental course, many choose not to enroll in their subsequent developmental education courses. Multiple factors, including competing work and family interests, discouragement, and differing self-assessments of ability, may play a role, but it is clear that the quicker students are able to get out of developmental education and into college-level courses, the more likely they are to persist. The accelerated, paired course, or co-requisite structure acknowledges the complicated lives of many students by purposefully reducing the time required to complete these academic requirements. For students referred to developmental education, reorganizing instruction and curricula to facilitate the rapid completion of educational requirements involves a departure from the multi-course sequence in favor of a streamlined structure that will ultimately better support students' college-level degree program learning objectives.

Reduces stigma. For many students, being assigned to "remediation" or "developmental" courses carries an associated negative stigma that fosters a feeling and attitude of being unworthy and not suited for college. In speaking with students at TSTC, the math faculty has found that this stigma is a common reason for students' poor performance and discontinuing enrollment in the developmental sequence. This phenomenon is consistent with evidence on the impact of test score performance labels at the high school level, which indicates that being labeled as a poor performer discourages students from enrolling in college (Papay, Murnane & Willett, 2011). Applying this trend to the higher education setting, it is likely that being assigned to remediation courses may send a message to students that they are not "college material." This is in line with Clark's (1960) description of a "cooling out" process in higher education, in which obstacles encountered by the student in college serve to gradually diminish their degree aspirations. This presence of discouragement or stigma is likely a factor in explaining Martorell and McFarlin's (2011)

finding that assignment to remediation negatively impacts college persistence. For the TSTC students who are placed directly into the paired course when they would otherwise have been placed in a traditional developmental math course, the stigma of being in remediation is greatly reduced or all together eliminated.

Supports college-ready students too. Given the high attrition rates in first college-level courses, often referred to as gateway courses, the redesigned curricula of the co-requisite model also benefits many students who are placed directly into the gateway courses. Indeed, student success data at TSTC have shown that college-ready students are succeeding in the college algebra courses that use the co-requisite model at a significantly higher rate than those students in the regular college algebra courses. These higher success rates, even among college ready students, are attributed to the extra support strategies available in the paired course model.

The Nature and Design of the Paired Course Model

The delivery of remedial content as a single semester co-requisite alongside college-level content can be accomplished in a variety of ways. However it is designed, it is critical that the remedial instruction is aligned and coordinated with the college-level course. At TSTC, these course sections of college algebra are equipped with two math teachers, one who specializes in college math and one who specializes in developmental math. The developmental math teacher is able to provide more individualized “just-in-time” support to students who need additional instruction in certain topics. Also, this co-teaching model allows greater overall student-instructor interaction.

Another innovation in these paired courses is the greater use of technology. The classrooms have been equipped with multiple large monitors so simulations and presentation material can be transmitted to students wherever they are located in the classroom. Additionally, these college algebra sections are scheduled with an extra hour of “lab” time. So, compared to the regular algebra course offerings, the students in the paired course sections have an extra hour of class time per week, and this time is devoted to working on homework under the watchful eyes of the instructors.

It is clear to most educators that there exists a major structural deficiencies in the traditional developmental education sequence—not the least of which is the multitude of exit points available to and taken by students—that seriously undermines academic achievement. The solution to this problem won’t come from a blanket solution like eliminating all developmental coursework, something that has actually been proposed by Complete College America (2012). While research is needed to understand the best way to provide students who arrive at college with the skills they need to succeed, simply eliminating remediation because many students don’t succeed is likely to result in a further reduction in both access and success. TSTC

recognizes that developmental education needs reform, and we are optimistic about the many exciting and innovative reforms being implemented in colleges all over the country, including the use of the paired, co-requisite model on our campus.

Kyle Massey, *Coordinator, Curriculum, Texas State Technical College*

For further information, contact the author at Texas State Technical College, 3801 Campus Drive, Waco, TX 76705. Email: kyle.massey@tstc.edu

Be sure to join Kyle and Garry Sigler, Chair, Mathematics, for a NISOD Webinar on this topic on Thursday, October 16.

Sign up at <http://www.nisod.org/webinars>.

References

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