# NEXTDEV CHALLENGE

## Getting Past Go

MAY 2013

## NextDev Challenge: Instructional Delivery

*The following brief is based on an online event hosted by the Education Commission of the States' Getting Past Go remedial education project. The NextDev Challenge solicited a wide range of program ideas that have the potential to improve developmental education outcomes. This instructional delivery brief is one of four that highlights innovative models and promising approaches that could help underprepared students achieve their postsecondary goals. The NextDev submissions analyzed in this brief contain one or more of the following elements: self-paced and accelerated curricula; division of curriculum into smaller, more manageable modules; sequencing courses to align content with student career aspirations; or, co-enrollment models that improve student success by compressing the developmental education sequence.*

A growing body of research and data show that the traditional methods of remedial instruction have been ineffective for many students. While the typical semester-based courses are helpful for some students, they are unnecessary and frustrating for others who need to learn or refresh specific skills.

Lengthy developmental education sequences can pose a significant barrier for students hoping to complete a college degree. Data from the Achieving the Dream initiative show that less than 30% of students in the lowest levels of remedial education will ever enroll in a college-level course.[1] Even a two-course developmental education sequence can deter students from progressing to and through college courses. A growing number of institutions have restructured developmental education programs and course sequences to address low student success rates. By tailoring remedial services to students' specific academic needs, many institutions are transforming how developmental education is delivered.

### Accelerated Programs

Accelerated programs abandon the traditional, semester-based model in favor of a compressed or self-paced curricular framework. In many cases, students once consigned to multiple developmental education courses can master competencies in one semester, easing the pathway toward enrolling in college-level courses.

Accelerated and compressed programs make particular sense for mathematics, given students' low success rates for completing a developmental sequence and advancing to and succeeding in college-level math courses.

Several of the NextDev top submissions include models that were designed to accelerate progress and improve student outcomes. Some of the programs are established and their success is well documented. Other submissions are still in the preliminary stages of data collection but present promising evidence that the initiatives are improving student outcomes.

- The *Do the Math* initiative at Tennessee' Chattanooga State Community College is a successful program that has been replicated at colleges nationwide. The program uses the emporium model, which replaces lectures with online software, intensive instruction, and individual assistance. The program is competency based and allows students to select their materials and work at their own pace. Do the Math uses a continuous enrollment system that allows students to complete multiple courses in a semester. Since the program's inception in 2007, students' pass rate in college-level math has increased by 58%.

- *The Pre-Statistics Alternative*, created by the California Acceleration Project, replaces the traditional algebra curriculum with college-level statistics. Developmental students are mainstreamed directly into the course and receive supplemental remediation as needed. The new curriculum compresses the developmental education sequences, combining two, four-hour courses. The course is being piloted at 16 community colleges across the state. Preliminary data show that participating students are completing their college math requirements two to four times faster than students in the traditional math sequence.

## Issues to Consider

Implementation of accelerated programs involves a significant investment in professional development to familiarize faculty with strategies for collaborative learning, as opposed to the more common lecture format. Faculty and institutional buy-in are essential to the success of these initiatives. Leaders from Do the Math also mentioned the initial investments associated with computer labs and classrooms. In addition, policy issues can pose a barrier to curriculum redesign. The California Acceleration Project warns that some four-year institutions may deem algebra as the only acceptable pre-requisite for college-level math, even if the statistical pathway is advantageous for non-STEM students.

## *Modular and Competency-Based Programs*

Modular and competency-based programs tailor instruction to meet students' individual needs and capacities. Modular designs divide the course curriculum into sections, allowing students to work through material at their own pace. The programs are competency based since students must master the content of each module before moving to the next level. Typically, a student's placement assessment score—and perhaps previous coursework—will determine the module at which they begin. In some cases, students can exit at different modules based on the skill requirements of their programs of study.

The following NextDev top submissions demonstrate promising outcomes using modular approaches:

- *Different Students, Different Strategies*: Developmental Mathematics at Florida's Miami Dade College-Kendall campus was designed under the guiding principle that students require specialized interventions. The modular strategy targets students' specific deficits and creates a customized course plan to address those areas. Students avoid spending time working on skills they already have mastered. Miami Dade reports that 76% of students (out of a total of 200) in the pilot program successfully completed the modules and all other course requirements, such as lab hours and the exit exam. The campus' comprehensive strategy also includes test preparation, accelerated courses, and co-enrollment classes.

- Pearson's *MyFoundationsLab* is an online competency-based program that targets adult learners of various skill levels. The program begins with an initial assessment, creating a customized modular pathway to guide students through skill domains where remediation is needed. Offered in 35 states and Canada, Pearson reports that it is beginning to collect promising data. For example, at Massachusetts' Quinsigamond Community College, from 2006 to 2010, pass rates of the college algebra students who used MyMathLab in a previous developmental math course increased from 60.8% to 65.2%.[2]

- *RAMP UP Math* at Massachusetts' Middlesex Community College is a modular, competency-based approach that uses MyMathLab technology developed by Pearson. Students progress through self-paced modules until they have completed all 12. Students are required to complete four modules per semester (i.e., four modules correspond to one semester-long course in the old developmental sequence), but have the opportunity to complete the entire sequence and advance to college-level work sooner. Preliminary data show that in 2010-11 fall-to-spring persistence increased to 60% for first-time RAMP-UP students, compared to 51% for students enrolled in the traditional math sequence. In fall 2011, 68% of students successfully completed the newly designed developmental sequence, compared to 52% of students enrolled in the traditional math sequence in 2010.

## Issues to Consider

The implementation of modular and competency-based strategies includes considerations of scale and cost. Miami Dade College cites faculty engagement and training as key to the successful implementation of such innovations. They recommend building strong lines of communication between advisement, faculty, and student lab areas to ensure seamless collaboration on program goals. RAMP UP noted the importance of departmental buy-in, administration support, and faculty's willingness to devote time and energy to the redesigned courses.

Budgetary issues also can present barriers. Institutions will need to devote resources to additional classroom space, labs, computers, and faculty. Competency-based and modular programs require curriculum and assessment redesign. Pearson has announced that later this year it will launch a version of MyFoundationsLab that can be purchased by students for home use, potentially decreasing costs for institutions.

## *Sequencing Redesigns*

Sequencing reforms involve modifying developmental curriculum to better align the coursework with a student's program of study. The models typically are designed to help students avoid unnecessary developmental education or to accelerate their progress into college-level coursework.

Students are more likely to wind up in remedial math than English or reading courses, and they often do not finish the developmental sequence, let alone advance to credit-bearing courses. In response, programs have been created to differentiate the math skills necessary for various degree pathways and tailor course placement to these requirements. Students pursuing a social science degree, for example, are more likely to need statistics than algebra or calculus. Without multiple math pathways, however, students' algebra skills remain the default determinant for course placement.

A few of the NextDev Challenge submissions are designed to address the hurdles that mathematics can present for students by rethinking the course sequences and requirements. For example:

- ✦ The *Statway™* and *Quantway™* initiatives from the Carnegie Foundation for the Advancement of Teaching were designed to accelerate developmental students through completion of college-level math courses in one year or less. Statway replaces the traditional developmental algebra math curriculum with a basic statistics sequence for students in non-technical–or non-STEM–fields. Quantway was developed as a pathway through quantitative reasoning. The programs also incorporate strategies to reduce math anxiety and increase motivation and persistence. The Statway program includes a network of 19 community colleges in five states. The first Statway cohort began in the fall of 2011. Fifty-one percent of the students successfully completed the developmental sequence and earned college credit within one year, compared to 6% of students in the traditional path. Quantway has seen similar results: 56% of the students completed the remedial sequence in one semester, compared to 21% of those in the traditional course.[3]

- ✦ *Developing Mathematical Thinking* at Texas' Austin Community College is a curriculum redesign that replaces the developmental algebra sequence for many students. The course has four units geared toward statistics and a collaborative learning framework. Students enrolled in the pilot course showed a completion success rate of 69%, compared to 48% for students enrolled in the traditional course. In addition, 71% of students who completed the pilot also successfully completed their subsequent course, compared to 64% for the general population.

- ✦ *Success for All in Developmental Math*, an initiative developed at Massachusetts' Bunker Hill Community College, prepares STEM students for challenging college coursework. The initiative combines strategies of sequencing reform and accelerated learning. The program framework aligns with the Carnegie Foundation's *Statway* and *Quantway* models. The program contains several elements, including a learner-centered instructional approach; project-based, real world learning; lab-based supports (e.g., *ePortfolio, MyMathLab*); and free test prep. In 2012, the initiative was scaled across all developmental math courses–results are pending.

## Issues to Consider

Implementing sequencing reforms involves a significant investment in the ongoing professional development of instructors, including the need to create strong faculty collaborations. Many of the top submissions cited a lack of faculty expertise in the field of statistics, for example. The Carnegie Foundation emphasized that faculty and institutional support of the ongoing improvement of materials and pedagogy is essential for the success of these initiatives. Further, the costs associated with developing student supports and procuring software could inform the choices that institutions make.

## Co-enrollment Model

A co-enrollment approach allows students to simultaneously enroll in a developmental education class and a college-level course of the same subject. The model provides supplementary academic support for underprepared students while they earn college credit and satisfy remedial requirements. The structure treats developmental education not as a pre-requisite, but as a co-requisite with credit-bearing coursework. Early data are promising and show improvements in course completion for both developmental and college-level courses, which translates into a shorter time-to-degree and money saved by students and institutions.[4]

Several of the NextDev Challenge top submissions incorporated co-enrollment strategies to increase student success. While the Accelerated Learning Program has developed a proven track record, other program results are preliminary but promising:

✦ The *Accelerated Learning Program (ALP)* at the Community College of Baltimore County uses small class sizes of fewer than 20 students to maximize opportunities for individual instruction. The writing classes are co-mingled: half are first-year, college-level students and half are developmental education students. After class, the remedial students receive an additional hour of focused instruction. Studies of the ALP indicate that 82% of the participating students passed the entry-level English 101 course, compared to 69% of non-ALP English students in a remedial course. Further, 34% of ALP students passed English 102, compared to 12% of non-ALP remedial students.[5] More than 90 postsecondary institutions have adapted the program, and Arkansas, Indiana, and Michigan are working on statewide redesign using ALP.

✦ The *Accelerated Developmental Writing Project* at Illinois' Lewis and Clark Community College also allows students to co-enroll in a developmental and first-year, college-level course with additional instruction. The college reports a 66.6% success rate for students co-enrolled in a college-level composition course and a developmental study skills course, compared to 64.7% success rate for students who were deemed college ready.

✦ Florida's *Miami Dade College–Homestead* campus has established a co-enrollment and learning community hybrid that assigns students to cohorts and targeted support. The college reports 85% success rate in reading, 73% success rate in writing, and retention rates of 98% from fall to spring. At the *Miami Dade College–Kendall* campus, students testing into higher levels of developmental education concurrently enroll in a college-level statistics course and receive "just-in-time" remediation. The program is based on the Carnegie Foundation's *Statway*. Preliminary results show a 59% success rate in the college-level statistics course. Both campuses are collecting data on the success of students participating in the redesign programs compared to those in traditional remedial instruction.

At least two other institutions that offered submissions to the NextDev Challenge indicated that their innovations were based on the Accelerated Learning Program (ALP) model. At this point, however, their programs are too new to report results or do not have a large enough sample size to demonstrate an impact on student success. Massachusetts' *Cape Cod Community College* uses an "intensive paired" system that matches developmental and college-level courses. Students meet for six hours a week. The first eight weeks cover basic skills, the last eight weeks cover the college-level content. *Boise State University* has created a new college-level English 101+ course, which mainstreams developmental students into the higher-level class while also enrolling them in a one-credit writer's studio that provides focused support.

## Issues to Consider

Co-enrollment programs will require investment in faculty professional development. Boise State University recommends adequate numbers of full-time faculty to ensure success with a co-enrollment curriculum. The Community College of Baltimore County cautions against credential conflicts in states that allow faculty with only a baccalaureate degree to teach developmental courses, as well as potential skepticism from faculty. Cape Cod Community College found that the extended time commitment of co-enrollment is challenging for some students.

## *Conclusion*

The programs highlighted in this brief demonstrate the variety and extent of developmental education redesign efforts that institutions and postsecondary systems are undertaking. The days of the one-size-fits-all approach to developmental education courses are disappearing as colleges pursue instructional models tailored to students' strengths and deficits. The results, even if preliminary, show great potential to help underprepared students overcome the hurdles of remedial coursework and maintain momentum toward a credential or degree. Institutions, postsecondary systems, and states should continue to explore, adopt, and evaluate promising remedial education redesigns, and to share lessons learned as they aim to significantly improve the success of developmental education students.

## Endnotes

1   Elizabeth M. Zachry and Emily Schneider, *Building Foundations for Student Readiness: A Review of Rigorous Research and Promising Trends in Developmental Education*, Prepared for the NCPR Developmental Education Conference: What Policies and Practices Work for Students? (New York: Teachers College, Columbia University, September 23–24, 2010, pg. 23), http://www.postsecondaryresearch.org/conference/PDF/NCPR_Panel%203_ZachrySchneiderPaper.pdf, (accessed May 17, 2013).

2   Michelle D. Speckler, *Making the Grade, V.5: 77 Data-driven Case Studies Illustrating How the MyMathLab Family of Products Supports Student Achievement* (Boston: Pearson, February, 2011, p. 22), http://myfoundationslab.pearsoncmg.com/sites/all/themes/accumfl/assets/pdfs/MTGv5%20FINAL%20to%20Post_Feb3.pdf, (accessed May 17, 2013).

3   Elena Silva and Taylor White, *Pathways to Improvement: Using Psychological Strategies to Help College Students Master Developmental Math* (Stanford, CA: Carnegie Foundation for the Advancement of Teaching, 2013, p. 5), http://www.carnegiefoundation.org/sites/default/files/pathways_to_improvement.pdf, (accessed May 24, 2013).

4   *Transform Remediation: The Co-Requisite Course Model* (Zionsville, Indiana: Complete College America, September, 2011), http://www.completecollege.org/docs/CCA%20Co-Req%20Model%20-%20Transform%20Remediation%20for%20Chicago%20final%281%29.pdf (accessed May 17, 2013).

5   Sung-Woo Cho, Elizabeth Kopko, Davis Jenkins & Shanna Smith Jaggars, *New Evidence of Success for Community College Remedial English Students: Tracking the Outcomes of Students in the Accelerated Learning Program (ALP)* (CCRC Working Paper No. 53) (New York: Community College Research Center, Teachers College, Columbia University, December, 2012, p. 7), http://ccrc.tc.columbia.edu/media/k2/attachments/ccbc-alp-student-outcomes-follow-up.pdf, (accessed May 17, 2013).

Please check out the NextDev Challenge website to review the summaries and evidence for the programs highlighted in this brief. Select Read and then search on the program title or institution. http://gettingpastgo.edthemes.org/

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