



Reforming Developmental Education to Better Support Students' Postsecondary Success in the Common Core Era

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Introduction

When first enrolling in college, most students are required to demonstrate their readiness for college-level work. Placement into credit-bearing courses in mathematics and English has traditionally been based on the results of standardized assessments alone, and students who do not score at the threshold designated by the college or by state policy are typically assigned to a developmental education¹ course. The theory behind this approach has been that students who are not quite ready for college-level work need to receive developmental support to prepare them to succeed in credit-bearing courses at a later date. Unfortunately, in practice, that trajectory does not always work as planned.

According to data from the U.S. Department of Education's 2009 Beginning Postsecondary Students Longitudinal Study, about 68 percent of students who began at a public two-year college took one or more developmental courses in the six years after their initial college entry (Scott-Clayton, 2012). However, these courses may not always be effective in helping students' success, as college completion rates are particularly low among students who are required to take developmental coursework (Dadgar, 2012; Martorell & McFarlin, 2011; Scott-Clayton & Rodriguez, 2012). Accordingly, policymakers and practitioners have begun questioning the effectiveness of current

developmental education systems, the process for assessing and placing students into developmental courses, and the design and makeup of the courses themselves.

Recognizing that developmental education has not always provided a sufficient gateway into college-level work, states across the country are looking closely at the number of students being placed into developmental education in their colleges and considering options for how to get more students into credit-bearing courses more quickly with the best chances for success. Placement practices for developmental education are particularly relevant right now for the states whose grade 11 students are taking the Common Core-aligned PARCC and Smarter Balanced assessments for the first time. With these students set to enter higher education in fall 2016, state systems are in a position to learn how well these new tests may predict college readiness and to further consider how to mitigate developmental education placements.

¹ This brief uses the term *developmental education*, which is also commonly referred to as *remedial education*.

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Developmental Education Reforms: Examples from the States

States and institutions are using several different models to reform their developmental education programs, with a focus on getting students into credit-bearing coursework more quickly. The different approaches to these reforms depend, in part, on the subject matter (mathematics or English), the local context, and the particular needs of the student population (Nodine, Dadgar, Venezia, & Bracco, 2013). For instance, the reforms may address the design of the developmental courses, when and where the developmental courses are offered, or how students are determined to be “ready” for credit-bearing coursework. See Box 1: Approaches to Reforming Developmental Education Curriculum and Placement Policies (page 3) for descriptions of some specific approaches to reforming developmental education curriculum and placement policies.

To address the challenge of large numbers of students being placed into developmental education and not enough moving on and succeeding in subsequent credit-bearing courses, several of the Core to College states have undertaken statewide efforts to redesign their developmental education programs. This brief describes two of these particular efforts and identifies some of the key lessons learned from these efforts to date.

Colorado

The Colorado Community College System (CCCS), comprising 13 institutions, is currently redesigning its developmental education program. In Colorado, as in many other states, a number of students who start developmental courses fail to complete a college degree. The goal of redesigning the CCCS program and curriculum is to “accelerate students by reducing the amount of time, number of developmental credits, and number of courses in the developmental sequence so students can be successful in a college-level course” (CCCS, 2013).

Redesigning the Developmental Education Program

A cross-institution developmental education task force spent 18 months studying approaches in other states as well as exemplar programs within the state. Drawing on successful examples across the country, including Baltimore County Community College’s model, the task force identified four key strategies to meet the needs of students in developmental courses: acceleration, contextualization, mainstreaming, and career pathways (programs of study). According to Marilyn Smith, a former community college faculty member and dean, and a member of the task force, the strength of Colorado’s approach was freedom and flexibility: the redesign team was not given a specific mandate of what to do or what the solution should look like. To better understand the problem, they reviewed data, including student responses to a survey from the Center for Community College Student Engagement as well as relevant student data from their own institutions. Each college was encouraged to try out innovative practices that met the needs of their students to move them more efficiently to enrollment in credit-bearing courses; some of these practices became part of the final, systemwide task force proposal.

In February 2013, the task force designed a new set of common English and mathematics developmental education courses, using backward design principles, based on what students need to know on their first day of a credit-bearing course. The aim was to get students into 100-level (entry-level) classes no later than their second term of college enrollment. For mathematics, the task force identified three different potential pathways for students (non-transfer, non-algebra transfer, and algebra) depending on their ultimate career goal or major area of interest, and created separate developmental courses for these different pathways. As of fall 2014, only these newly designed common courses were offered for those students requiring developmental education in all of Colorado’s community colleges.

Colorado’s new developmental education model uses a combination of aligned and accelerated courses

Box 1. Approaches to Reforming Developmental Education Curriculum and Placement Policies

Compress or Modularize the Content

One potential approach to redesigning developmental education curriculum is to compress curricular sequences, eliminating some of the layers of developmental education previously required. For instance, where a student might previously have been designated as needing two semesters of developmental English, a new course might be designed to fit that content into one semester, thus accelerating the student's path into credit-bearing courses. Research (Hern, 2010) has indicated that the more exit points a student has between enrolling in developmental education and subsequent credit-bearing courses, the more likely they are to drop out. The accelerated semester thus gives students one less chance to exit the system.

Another approach to redesigning developmental education curriculum is to “modularize” the content, which involves, for instance, taking a semester-long developmental course and dividing it up into distinct modules that address specific competencies or skills (Nodine et al., 2013). Through this modularization approach, diagnostic placement tests are used to determine the specific areas in which a student needs additional support to be ready for college-level courses. In modularization, students are required to focus only on those identified areas in which they need additional support—through customized intervention modules targeted to address the specific competencies or skills that they need to improve—and not on content areas that they have already mastered. Modularization is one way to provide a more targeted approach to developmental education that focuses on students' needs and enables them to get through the necessary developmental curriculum more quickly.

Transition Courses or Co-Requisites

Eliminating stand-alone developmental education courses at the postsecondary level is another strategy for reforming developmental education. One way to do this is by moving the developmental course into the senior year of high school. Senior year transition courses rely on determining a student's readiness at the end of grade 11. Students identified as needing additional support to be ready for college-level mathematics and/or English courses would enroll in transition courses during grade 12. These transition courses are specifically designed to get students ready for

entry-level credit-bearing courses, and students who demonstrate mastery of the content in these courses are then able to enroll directly into credit-bearing courses upon entering college.

Alternatively, developmental support can be provided to students while they are taking their first credit-bearing gateway courses. For instance, developmental support can be provided through a co-requisite course that a student takes concurrently with the correlating gateway course. These co-requisite courses provide additional support and detail in the academic area. Concurrent developmental support can also be given to students through additional tutoring or additional class sessions with the instructor of the gateway course.

Multiple Measures for Placement Decisions

Another way that states are reforming developmental education is by examining and updating the policies for how students are placed into developmental courses in the first place. Placement into college-level courses—particularly at the community college level—has traditionally been based on the results of standardized test scores alone. However, recent research has shown that standardized tests may not be the most accurate measure for placing students into credit-bearing courses—particularly when used as the sole measure for placement—and often result in “severe error” in which students are placed into developmental education when they could actually succeed in the college-level course (Belfield & Crosta, 2012; Scott-Clayton, 2012).

Researchers have identified the use of *multiple measures* as a way to increase placement accuracy, and have suggested that using multiple measures to inform placement decisions may more comprehensively support the transition from high school to entry-level, credit-bearing college coursework. Common multiple measures include, but are not limited to, additional test scores from alternate assessments, high school grade point average (GPA), high school grades in specific classes, life experiences, and counselor input and referrals (Bracco et al., 2014). Many states and institutions are experimenting with the use of multiple measures to inform placement decisions in an attempt to identify more students who might be ready for college-level courses than would be indicated by their scores on a single standardized test alone.

and co-requisite courses. Students testing *two levels below* college-ready have the option of taking one of the new compressed, accelerated courses. A supplemental lab is also available for courses at that level. Students who test *one level below* college-ready have the option of taking a college-level course along with a co-requisite supplemental lab.

Common course numbering—in which the same course numbers are used across all colleges within the Colorado Community College System—has eased the transition to this systemwide developmental education model.

A team from Rutgers University is conducting an evaluation of the redesigned program, including tracking students' successful completion (i.e., "C" or better) of gateway courses and student persistence over time. First-year study results comparing the performance of the students enrolled in the redesigned courses with students in traditional developmental courses suggest that the redesigned model is working (Feres et al., 2015). For example, students enrolled in the redesigned developmental mathematics courses achieved similar success rates to those enrolled in the old developmental mathematics sequence, but achieved those results in one semester rather than three years. Across all of the new developmental education offerings, the success rate was highest for students who took the English co-requisite course concurrently with the college-level writing course. Overall, Rutgers University's preliminary data on student achievement in the new co-requisite courses mirror national data for student achievement in co-requisite courses.

Developing a New Assessment for Placement Decisions

The Colorado Community College System is also in the early stages of implementing a new assessment that will use a range of measures that guidance counselors can use when placing students. Anecdotal evidence from faculty had suggested that results from ACCUPLACER—one of several assessments currently used by Colorado to determine placement decisions—led to students being over-placed

into developmental courses. The new assessment, which is in the process of being implemented as a replacement to ACCUPLACER, will capture a range of information, including students' non-cognitive skills, such as study skills, grit and persistence, and test-taking ability. It will also include benchmarking questions related to the newly redesigned course sequence. For example, English benchmarking questions will measure how well students can write an essay, write an argumentative response, and read a complex text. Mathematics benchmarking questions will be based on three mathematics pathways: applied mathematics, statistics, and algebra.

When validation studies are available for the PARCC and Smarter Balanced assessments, Colorado's new assessment and placement process will also take those scores into account. The new process also puts an emphasis on having an academic and career plan, meeting with an advisor, and letting students know what resources are available. The hope is that this new assessment and placement process will help narrow the gap between high school and credit-bearing courses and improve students' success rates in college.

There have been several implementation challenges with this redesigned system. Former Community College Coordinator of Developmental Education Bitsy Cohn says that advisory staff need to rethink how to use their limited time to take into account more complex student profiles. In addition, the new approach to "just-in-time remedial education" puts more weight on co-requisite courses linked to credit-bearing courses. This represents a significant culture shift that makes some faculty nervous. "Compressing and pushing faster is frightening for a lot of people," says Cohn. Faculty-to-faculty training, working closely to inform campus advisors, and developing effective communication vehicles for students and families will begin to address some of these issues.

North Carolina

The North Carolina Community College System (NCCCS) is one of the largest systems of higher

education in the country, with 58 institutions serving more than 850,000 students per year (NCCCS, 2015a). Concerns that more than 65 percent of its students were being placed into remediation prompted the NCCCS to examine the costs and efficacy of its developmental education system.

National research conducted by the Community College Research Center (CCRC) indicated that students who had been assigned to significant amounts of remediation were unlikely to complete their remedial sequence and enroll in a credit-bearing course (Morrissey & Liston, 2012). These findings, coupled with concerns about the high cost of remediation, spurred the NCCCS's 2009 adoption of a comprehensive Developmental Education Initiative that was led by NCCCS President Scott Ralls. The initiative created statewide policy teams focused on implementing strategies to increase the number of students enrolling in and successfully completing college-level courses. In addition to focusing on redesigning the developmental education curriculum, these teams considered changes to assessment and placement policy and worked closely with the K–12 sector on curricular alignment.

Redesigning the Developmental Education Curriculum

One of the key components of North Carolina's Developmental Education Initiative was redesigning the developmental education curriculum. The new state policy involved creating content-specific task forces that focused on redesigning the developmental education curriculum in English and mathematics; these teams included faculty from both developmental education and specific academic departments. To focus their work, they were given a set of guiding principles to consider as they redesigned the curriculum:

- » The new curriculum will be modular.
- » Developmental students will be able to complete the curriculum in an academic year.
- » The new curriculum will be flexible enough to allow students to complete their developmental

mathematics requirements at a pace appropriate to their needs and knowledge.

- » Diagnostic testing will assure appropriate placement into modules.
- » Each college will implement the new modular curriculum in a way that is appropriate for the needs and resources of the college.
- » The modules will be rich in context and conceptual understanding. (NCCCS, 2011)

The resulting mathematics curriculum includes eight four-week modules. Each module is sequential and includes a set of developmental learning objectives identified by the task force. The modules are structured to give students multiple opportunities at which they can exit from developmental education, depending on the college-level mathematics course that they intend to take. Therefore, some students only take the first four or five modules, while others take the entire eight-module sequence.

The redesigned developmental English curriculum includes three eight-week modules that integrate reading and English, which had previously been kept separate in the developmental curriculum.

Changing the Assessment and Placement Policy

In addition to the curricular redesign, the Developmental Education Initiative involved making changes to the NCCCS's assessment and placement policies. Because the CCRC research that NCCCS commissioned highlighted problems with the accuracy of the system's current placement methods, the NCCCS decided to both develop a new assessment and adopt a new policy that would consider multiple measures (beyond just a single assessment) for placement decisions.

In 2012, the North Carolina State Board of Community Colleges contracted with the College Board to develop a new diagnostic placement test to replace the ACCUPLACER and COMPASS and to help redesign the developmental education curriculum (NCCCS, 2015b). Faculty from across the state reviewed sample test items and received training on the new tests. The initial mathematics test was

revised based on feedback to better match the content of the new mathematics curriculum. The new North Carolina Diagnostic Assessment and Placement Test (NC DAP) for English launched in 2013 and the new mathematics test launched in 2014.

In addition to the new diagnostic tests, in 2013 the state approved the Multiple Measures for Placement Policy. For mathematics placement decisions, the policy calls for the use of “multiple measures for placement using high school transcript GPA from four high school mathematics courses (Algebra 1, Geometry, Algebra II [or the Common Core equivalent], and one additional mathematics course) and/or standardized test scores,” and establishes a hierarchy of measures for colleges to use to determine recent high school graduates’ readiness for college-level courses (North Carolina State Board of Community Colleges, 2013). NCCCS colleges could opt to begin implementing this policy as early as fall 2013. Required implementation has been pushed back to fall 2016, in part to allow colleges more time to improve their automated systems for uploading high school GPAs and grades from specific requisite courses (North Carolina State Board of Community Colleges, 2015).

Collaborating with Multiple Sectors to Strengthen Alignment

In July 2012, state leadership from the Department of Public Instruction, the NCCCS, and North Carolina public and independent colleges and universities (with later additions from the Office of the Governor, North Carolina New Schools, and the North Carolina Chamber of Commerce) created the NC Ready for Success Steering Committee. The steering committee’s goal was to “strengthen the alignment between sectors so that students experienced smoother transitions and were better prepared for post-secondary experiences” (North Carolina Ready for Success, 2013).

In 2015, the State Board of Community Colleges approved the NC Ready for Success Career and College Readiness Definition. This definition enabled North Carolina to have a common reference point

for what it means to be career and college ready and what the placement requirements are in each of North Carolina’s higher education institutions.

Practical Advice

Drawing from the experiences of Colorado and North Carolina and their efforts to reform their developmental education systems, below is practical advice for states that may be considering how best to undertake developmental education reforms.

Support from the ground up. Representatives from both Colorado and North Carolina noted the importance of utilizing “ground-up” approaches to these reforms. Getting the involvement and buy-in of faculty, particularly for curriculum redesign, is critical for the long-term success of any reforms that are implemented. In addition, it is important to have the support of upper-level leadership to push the new policies through.

Cross-sector collaboration. To effectively redesign developmental education, educators from both higher education and K–12 must collaborate and come to a common understanding of what is expected of students on the first day of credit-bearing courses. The North Carolina Ready for Success Steering Committee helped create widespread support for course alignment and redesign efforts, cross-sector articulation agreements, and cross-sector support for career and college readiness standards.

Link redesign to current gateway courses. When redesigning developmental education curriculum, it is critical to link the redesigned courses directly to gateway courses. Colorado utilized a “reverse-design” approach in which the task force first asked what students need to know on their first day in the credit-bearing gateway course, then designed the developmental and co-requisite courses to align with those requirements.

Consider the use of multiple measures for placement decisions. As the new Common Core–aligned

assessments come into play and as research indicates that the current assessments typically used for placement often have a high degree of placement error (Belfield & Crosta, 2012), states may want to consider updating their policies to allow for the use of multiple measures for placement decisions. The use of additional measures beyond just the traditionally used standardized assessment results, whether they are the Common Core–aligned assessments and/or additional measures such as GPA or recommendations from teachers or counselors, may enable greater numbers of students to enter directly into credit-bearing courses than was the case when using only the results of a standardized assessment to determine placement decisions.

Promote consistency with flexibility. In both of the state examples presented in this brief, the updated statewide systems and policies still allow for some flexibility at the campus level. For example, North Carolina’s definition of college and career readiness describes common placement practices for the community college system, but allows for local campus variation on the required cut scores used for placement into the public universities. In Colorado, individual colleges were encouraged to test out different innovations for revamping their developmental education practices based on what they felt would work best for their particular student populations.

Learn from what other states and institutions have done. In redesigning its developmental education program, Colorado looked very closely at the efforts already underway both within the state and across the country to find the model that would fit best. Colorado representatives advocate for anyone undertaking this type of reform to look at what others are doing, ask questions, and adapt the reforms as necessary to fit the particular state and system needs.

Use validation studies and data to understand the impact of reforms. Prior to redesigning their developmental education systems, both Colorado and North Carolina looked closely at their data to determine how many students were being placed

into developmental education and how successful these students were in moving on to credit-bearing courses. Utilizing relevant data is valuable not only for determining where there are problems with the current system that need to be addressed, but also for measuring whether students are having more success under the redesigned policies. In addition, validation studies that examine how well current assessments predict student success in gateway courses are crucial for understanding whether the current placement system is working or needs to be reformed.

Develop a deliberate communication strategy. Communication is another critical piece of the reform process. In North Carolina, a massive communication effort included statewide convenings, regular updates on the website, and communication outreach to campuses and prospective students.

There is no “quick fix.” As the work in Colorado and North Carolina illustrates, reforming a developmental education system can take many years. While no “quick fix” should be expected, states can begin in earnest to use the implementation of the Common Core and the new aligned assessments to examine the implications of updated curriculum and assessments for developmental education.

Now is an important time for states to examine the efficacy and efficiency of their developmental education efforts. Through the new Common Core–aligned assessments, a new set of scores will be available to states and institutions to consider in their placement processes. It is time for states to ask whether and how they will use these new scores for placement, and whether the developmental education systems currently in place will be sufficient to serve students who are identified as needing additional support for success in college-level courses. Colorado and North Carolina have begun to build systems in advance of the release of new Common Core–aligned assessment scores; other states should think hard about how the new scores will impact policy shifts for placement.

Bibliography

Belfield, C., & Crosta, P. (2012). *Predicting success in college: The importance of placement tests and high school transcripts* (CCRC Working Paper No. 42). New York, NY: Teachers College, Columbia University, Community College Research Center.

Bracco, K. R., Dadgar, M., Austin, K., Klarin, B., Broek, M., Finkelstein, N., Mundry, S., & Bugler, D. (2014). *Exploring the use of multiple measures for placement into college-level courses: Seeking alternatives or improvements to the use of a single standardized test*. San Francisco, CA: WestEd.

Colorado Community College System. (2013). *The developmental education redesign*. Retrieved from <http://www.cccs.edu/developmental-education/index.html>

Dadgar, M. (2012). *Essays on the economics of community college students' academic and labor market success* (Doctoral dissertation). Retrieved from ProQuest. (Accession Order No. 3506175).

Feres, B., Hoops, L. S., Smith, M., & McKay, H. (2015). *Results are (coming) in: First look at Colorado's scorecard for developmental education redesign*. Presentation at the National Association of Developmental Education annual conference, Greenville, N.C.

Hern, K. (2010). *Exponential attrition and the promise of acceleration in developmental English and math*. Retrieved from <http://www.rpgroup.org/resources/accelerated-developmental-english-and-math>

Martorell, P., & McFarlin, I. (2011). Help or hindrance? The effects of college remediation on academic and labor market outcomes. *Review of Economics and Statistics*, 93(2), 436–454.

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Morrissey, S., & Liston, C. (2012). *Reconsidering how to place students enrolling in North Carolina's community colleges* (North Carolina Community College System Office Academic and Student Services Policy Brief). Retrieved from <http://www.successnc.org/sites/default/files/initiative-docs/Multiple%20Measures%20Policy%20Brief.pdf>

Nodine, T., Dadgar, M., Venezia, A., & Bracco, K. R. (2013). *Acceleration in developmental education*. San Francisco, CA: WestEd.

North Carolina Community College System. (2015a). *About us*. Retrieved from <http://www.ncccommunitycolleges.edu/about-us>

North Carolina Community College System. (2015b). *SuccessNC: Developmental education initiative*. Retrieved from <http://www.successnc.org/initiatives/developmental-education-initiative>

North Carolina Community College System. (2011). *Developmental math modular curriculum*. Retrieved from <http://www.successnc.org/sites/default/files/initiative-docs/Final2012%20NCCCS%20DevelopmentalMathModules.pdf>

North Carolina Ready for Success. (2013). *Career/college readiness definition*. Retrieved from <http://www.ncreadyforsuccess.com/how-were-helping/alignment-initiatives/definition/>

North Carolina State Board of Community Colleges. (2015, March). *Multiple measures of placement*. Board Agenda, March 2, 2015, Attachment PROG 7.

North Carolina State Board of Community Colleges. (2015). *State Board of Community Colleges NC Ready for Success executive summary—Career and college readiness definition*. Retrieved from http://www.ncccommunitycolleges.edu/sites/default/files/state-board/program/prog_03_nc_ready_for_success_03-11.pdf

North Carolina State Board of Community Colleges. (2013). *State Board of Community Colleges placement policy*. Retrieved from <http://www.successnc.org/sites/default/files/initiative-docs/SBCC%20Placement%20Policies.pdf>

Scott-Clayton, J. (2012). *Do high-stakes placement exams predict college success?* (CCRC Working Paper No. 41). New York, NY: Teachers College, Columbia University, Community College Research Center.

Scott-Clayton, J., & Rodriguez, O. (2012). *Development, discouragement, or diversion? New evidence on the effects of college remediation* (National Bureau of Economic Research Working Paper No. 18328). Cambridge, MA: National Bureau of Economic Research.