# COMMUNITY COLLEGE RESEARCH CENTER
# CCRC BRIEF

## Accelerating the Academic Achievement of Students Referred to Developmental Education

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Mounting evidence suggests that the traditional sequence of developmental education courses hinders community college students from entering college-level coursework and ultimately earning a credential. For example, using data from colleges participating in the Achieving the Dream initiative, an analysis by Bailey, Jeong, and Cho (2010) found that only 33% of students referred to developmental math and 46% of students referred to developmental reading completed their recommended course sequence within three years. Among students referred to the lowest levels of developmental education (or "remediation"; I use these terms interchangeably), only 17% of math students and 29% of reading students completed the entire sequence of three or more term-length courses. The traditional sequence of developmental courses undermines academic achievement in part because it has a multitude of exit points. Many students never enroll in the courses to which they are initially referred; others drop out between courses in the sequence. This has led a number of practitioners to experiment with restructuring the developmental sequence.

Acceleration is an increasingly popular strategy for improving the outcomes of students referred to developmental education. Advocates of acceleration argue that a greater portion of students may complete remediation and succeed in college-level courses if colleges either help them complete requirements more quickly or enroll them in higher-level courses while providing effective academic support. This Brief, based on a longer literature review, explores the evidence on the effects of acceleration, describes different acceleration models that are used with developmental education students, and discusses ways of dealing with challenges involved in implementing acceleration strategies.

Acceleration involves the reorganization of instruction and curricula in ways that expedite the completion of coursework or credentials. Many accelerated course formats require as many instructional contact hours as traditional classes, but those hours occur within a truncated timeframe. Although this Brief focuses on the application of this approach in developmental education, acceleration is ubiquitous in higher education, and there is an expansive literature describing its various manifestations, including summer school and other courses with non-traditional term lengths. For developmental education, acceleration involves a departure from the traditional multi-course sequence in favor of a more streamlined structure intended to better support students' learning objectives and to accommodate students' complicated lives by reducing the time required to complete academic requirements.

## Models of Acceleration

The review summarized here draws on a variety of sources, including articles, books, and dissertations dating back to 1990. In order to be included, studies had to present student outcome data on measures such as course success rates, sequence completion rates, grade point averages, subsequent course performance, or credential completion. While twelve relevant empirical studies were found, most of these did not include control groups, which limits the inferences that can be drawn from their results. A scan of the literature uncovered a variety of acceleration models, which are categorized below. (It is important to note that individual programs may integrate multiple design elements.) Excluded from this categorization are short-term intensive programs designed to improve students' performance on entry assessments so that they may bypass remediation.

### Course Restructuring

Many acceleration models restructure courses by reorganizing instructional time or modifying curriculum to reduce the time necessary to fulfill developmental education requirements. Course restructuring accelerates students' completion of the developmental education sequence by eliminating course requirements and incorporating content with stronger linkages to the college curriculum.

*Compressed courses.* Compressed courses allow students to complete multiple sequential courses in one semester. Typically, the content of a single course is compressed into a seven- or eight-week segment, which is followed immediately by the next course in the sequence, also taught in a compressed format. The instructional contact hours are the same as in a traditional 16-week course, so class periods tend to be longer and generally require instructors to modify lesson plans.

Learning outcomes for compressed courses are often comparable to, if not better than, learning outcomes for semester-length courses. Sheldon and Durdella (2010) compared the success rates of students who took compressed (i.e., 5–9 week) and full-semester (i.e., 15–18 week) courses in developmental English, reading, and math and found higher course completion rates (with a grade of C or higher) among students taking the compressed format. Preliminary (Brancard, Baker, & Jensen, 2006) and subsequent (Bragg, 2009) descriptive studies of the Community College of Denver's FastStart program analyzed longer-term student outcomes. FastStart offers a range of compressed and paired developmental education course options, combining two to four courses in a single semester. Brancard et al. (2006) concluded that FastStart students had

higher course completion rates than non-FastStart students. Bragg (2009) found that FastStart students completed more developmental math courses, earned more developmental math credits, and were more likely to pass college-level math courses. Bragg and Barnett (2008) also note that longer instructional blocks allow redundancies across the curricula to be reduced.

*Paired courses.* Paired courses link developmental and college-level courses with complementary subject matter, such as an upper-level developmental writing course and a college literature course. This allows students to begin to accrue college credit earlier than they would if they were required to complete developmental education first, eliminates exit points between courses that would otherwise be taken in different semesters, and makes basic skills instruction more relevant through linkages with the college curriculum. Students may also feel more like "real" college students and benefit psychologically from tackling higher-level coursework instead of rehashing high school content.

Paired courses may promote a level of connectedness and peer support that is absent from typical courses. According to Karp (2011), cohorts encourage persistence by helping students feel connected to school, and the relationships that develop in cohorts can provide students with access to information that may help them achieve their academic goals. Cohorts also are associated with stronger social relationships and improved retention in the learning communities literature (see, e.g., Engstrom & Tinto, 2008).

*Curricular redesign.* Curricular redesign accelerates student progression by decreasing the number of developmental courses students must take. Redundant content is eliminated, and the remaining curriculum is modified to meet the learning objectives of a particular intervention or academic pathway. For example, the curricula of multiple developmental education courses can be consolidated into a single-semester course.

Hern's (2010) comparison of a one-semester course and a two-semester sequence in developmental reading and writing at Chabot College found that a significantly higher percentage of students who took the accelerated course successfully completed their developmental English requirements, compared with students who enrolled in the traditional sequence. Hern also compared the outcomes of students enrolled in Statpath, an experimental course in developmental statistics at Los Medanos College, with the outcomes of students in the traditional developmental math sequence. Among students who were originally referred to the lowest level of developmental math, more than a third of Statpath students went on to complete college statistics, compared with only a small percentage of students who enrolled in the traditional sequence. While these results are promising, the conclusions that can be drawn from them are limited since the analyses are descriptive and do not control for observable student characteristics.

The conversion of developmental content into modules is another curricular redesign strategy. Since students may need to spend more time mastering certain competencies and less on others, modules may accelerate student progress by permitting a customized approach to learning, allowing practitioners to address particular skills. The use of modules also allows for a focus on only those competencies that are necessary for success in specific academic pathways (for example, some programs require more math skills than others). A study by South Texas College (2010) found that self-paced modules in mathematics yielded higher course completion rates than traditional courses, but the reliability of this study's results is limited due to its small sample sizes.

**Mainstreaming**

Mainstreaming strategies accelerate students' progress by placing students referred to developmental education directly into college-level courses. Colleges may choose to recruit students with higher developmental placement scores for mainstreaming programs, since those students are more similar to their college-ready peers. Mainstreaming may reduce the negative implications surrounding the distinction between developmental and college-ready students (Levin & Hopfenberg, 1991).

*Mainstreaming with supplemental support.* Mainstreaming with supplemental support involves placing students with developmental education referrals directly into introductory college-level courses and providing additional instruction through mandatory companion classes, lab sessions, or other learning supports designed to promote success in the college course. During these sessions, students may review concepts presented in the college course in greater depth, address particular skills necessary to complete an assignment, or preview upcoming lessons. Moreover, with college-ready and underprepared students in the same classroom, there are opportunities for students referred to developmental education to be exposed to the work habits of higher-achieving students and to engage with a more challenging and enriching curriculum.

Evidence suggests that mainstreaming improves short- and long-term academic outcomes for underprepared students. The Accelerated Learning Program (ALP) at the Community College of Baltimore County permits upper-level developmental writing students to enroll directly in English 101 while taking a companion course that provides extra academic support. Jenkins, Speroni, Belfield, Jaggars, and Edgecombe (2010) found that compared with non-ALP students, ALP students complete both the introductory college-level course and the subsequent college English requirement at a higher rate and attempt more college courses.

*Basic skills integration.* Integrating basic skills instruction into college-level courses is a form of contextualization and a means to accelerate student progress. Integration is designed to address students' academic deficiencies in instructional contexts that are more relevant than traditional developmental classes (Perin, 2011).

Washington State's Integrated Basic Education and Skills Training (I-BEST) program integrates basic skills instruction into college-level occupational courses that are jointly taught by career-technical faculty and basic skills instructors. The I-BEST model embeds basic skills education into a highly relevant context, workforce training, in order to make the learning more meaningful and expedite progress on college-level coursework. Findings by Jenkins, Zeidenberg, and Kienzl (2009) suggest that participation in I-BEST is associated with an increased number of college credits earned, persistence to the subsequent academic year, attainment of a credential, and achievement of point gains on basic skills tests.

## Challenges and Recommendations

The trend toward accelerating the academic progress of students referred to developmental education continues to gain momentum based on a limited but promising empirical evidence base. This section explores the challenges community colleges face in implementing acceleration programs and presents recommendations for increasing the availability of higher-quality acceleration models; creating the

conditions most likely to support successful adoption, implementation, and scaling; and generating rigorous and actionable data on the efficacy of acceleration.

## Assessment and Placement

The sorting function of the assessment and placement process reinforces the sequential structure of developmental education, which may hamper student progress. Most colleges rely on standardized tests to place students at the appropriate levels of instruction, despite well-documented evidence of the limitations of these instruments (Hughes & Scott-Clayton, 2011). Moreover, mandatory placement policies that require students to complete developmental education before pursuing advanced courses may undermine participation in accelerated pathways, particularly those mainstreaming models that attempt to place higher-scoring developmental students directly into college courses.

Research suggests that assessment and placement instruments and policies should be reconceived in order to match students more precisely with academic interventions that meet their needs (Hughes & Scott-Clayton, 2011). Test makers have responded to concerns about the limitations of placement tests by creating diagnostic assessments, but these remain infrequently used due to the additional time and costs required to administer them. Similar obstacles hinder the use of supplemental measures for course placement, such as high school transcripts or student interviews. State policymakers may nonetheless want to reconsider policies related to assessment.

## Course Development and Curricular Alignment

Strict system or college guidelines regarding course content and sequencing can undermine attempts to implement acceleration models, particularly those models that rationalize curricula or do not adhere to the traditional developmental education sequence. Courses designed to more closely align with degree program pathways or the college curriculum more generally may include content that varies significantly from the traditional developmental curriculum. While better alignment may improve outcomes (Jenkins, 2011), variability in comparable-level courses among developmental education offerings may generate confusion regarding the best course-taking options for students.

Although they may be constrained by policy, academic administrators, faculty senates, and other course-monitoring bodies within colleges may want to consider reevaluating what students in developmental education are asked to learn and why. In instances where there is no clear connection between required content or desired skill development and the college-level curriculum, practitioners should consider rationalizing content and seeking means to accelerate student progress. Regular audits of courses and degree program requirements are recommended to ensure that students are not being asked to master out-of-date concepts or demonstrate irrelevant skills.

## Student Recruitment

It can be challenging to recruit students to participate in accelerated programs. Entry assessment results are often the only data point used to determine the appropriateness of an educational pathway. The effective marketing of accelerated developmental education alternatives—both to students and to those who help them decide which courses to take—is underemphasized. Pre-term information sessions with counselors could help to steer more students to appropriate courses. Communications to students through email, text message, and announcement boards could highlight developmental education alternatives and direct students to counselors and program staff for further information. Moreover, the use of more actionable assessments can provide advisors and students with additional feedback, which may enable them to make better placement decisions (Hughes & Scott-Clayton, 2011).

## Faculty Resistance

Faculty members may be resistant to change, which can affect their willingness to participate in accelerated instructional reform. Many may believe that developmental education students need slower-paced instruction or that academic standards are inevitably lowered in compressed courses. The dearth of rigorous research on student outcomes gives acceleration advocates little hard evidence to quell this skepticism.

Faculty resistance may be reduced if faculty feel that they have a role in leading instructional reforms. Institutions can encourage faculty to participate in acceleration efforts by developing faculty inquiry groups to evaluate reforms and using their results to further improve programs.

## Financial Sustainability

The imperative for improved student outcomes is coming at a time when community colleges are facing serious budget challenges. Colleges should consider rigorously assessing innovations in order to identify, sustain, and expand funding for those associated with superior student outcomes. Policymakers and practitioners may find cost-effectiveness analyses particularly useful when making resource allocation decisions. The availability of rigorous analysis of the cost per successful student can be used in conjunction with student outcome data to determine whether it is appropriate to scale up or discontinue acceleration models.

## Administrative Logistics

Certain acceleration models present logistical challenges by virtue of their programmatic features. For example, compressed courses, which sometimes have class periods lasting as long as four or five hours, may produce significant course and room scheduling problems. Models that mainstream a small number of students into a college course may struggle to find space to conduct the companion course. The use of non-traditional instructional spaces, such as small-group study rooms at libraries and conference rooms, is emerging as a potential solution to the space constraint issue.

The lack of flexibility of student information systems can also pose a challenge. Self-paced modules, for example, can be problematic from a record-keeping perspective if not explicitly apportioned by credit and if students do not complete all of the modules in a 16-week semester. While grades of "Incomplete" or "Re-enroll" can serve as placeholders in the system, they do not allow administrators to accurately assess students' progress. Increasingly, though, vendors are willing to work with state systems and colleges to ensure that their products meet the dynamic needs of end-users.

## Actionable Research

While acceleration strategies are gaining in popularity, research evidence on acceleration remains thin and may not represent the diversity of programs in operation. Currently, the

most commonly used outcome measures focus on academic progression rather than student learning, and there is little data on the institutional contexts that support the use of acceleration.

A strong evidence base is critical to the legitimacy of acceleration and should reflect relevant research questions and rigorous methods, providing information about the effectiveness of acceleration as well as issues that institutions encounter during implementation. In order improve the empirical evidence base for acceleration and clearly indicate whether it negatively impacts academic standards, it is recommended that institutions develop department-wide learning outcomes for specific courses measured by common assessments (Jenkins, 2011). The rigorous evaluation of those learning outcomes across course formats can more effectively address questions about student outcomes and academic rigor. Further, a focus on pedagogical improvement is needed to improve understanding of the factors that influence student performance. Researchers should conduct classroom-based fieldwork that catalogs, analyzes, and evaluates instructional practice.

## Conclusion

The evidence on acceleration, while limited, is promising, and acceleration is gaining popularity as a means to improve outcomes for students referred to developmental education. Yet colleges often face obstacles to implementation, including rigid assessment and placement policies, curricular misalignment, recruitment challenges, faculty resistance, unsustainable funding, and logistic impediments. After implementation, challenges persist throughout the scaling process, which has financial and human resource implications and can require substantial changes to policy regarding placement, course content, or course sequencing as well as shifts in expectations for students and faculty.

Despite these challenges, the evidence on acceleration and the growing interest in this strategy should encourage practitioners, policymakers, and researchers to think boldly about how to improve the current course delivery system in community colleges. To reach the ambitious credential completion goals set by the Obama administration and the philanthropic community, institutions will need to radically rethink current policy and practice, challenge institutional norms, and be willing to reallocate resources to unconventional interventions that are shown to enhance academic achievement.

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