Developmental or remedial education in general describes coursework and support services intended to help students unprepared for college-level work to eventually succeed in college-level courses. Here it refers specifically to a course, or, more often, a sequence of two to five courses, in reading, writing, and mathematics below the college level.\(^1\) Assessment for college readiness to determine the appropriate placement in one of these subjects is particularly important to community colleges because their open-access admissions policies and outreach to nontraditional students mean a much larger proportion of their students take developmental education courses than do those in other postsecondary sectors (Provasnik & Planty, 2008). In the 2009-10 academic year, over 99 percent of public two-year colleges offered developmental services, compared with 75 percent of public four-year colleges, 52 percent of private two-year colleges, and 66 percent of private four-year colleges (Snyder & Dillow, 2011, table 340). Developmental education is pervasive in community colleges, with an estimated 58 percent to 63 percent of students taking at least one developmental course (Adelman, 2005; Attewell, Lavin, Domina, & Levey, 2006; Bailey, 2009). It is costly to taxpayers, with community colleges spending up to $2.3 billion a year on developmental instruction (Bailey, 2009), and to students, who spend scarce time and money on courses that do not count toward certificates, degrees, or transfer. Students prevented from taking college-level courses may become frustrated or feel stigmatized by being labeled “not college-ready,” making them more likely to drop out before completing a program or transferring.

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\(^1\) In contrast, Adult basic education, General Educational Development, and English as a Second Language programs are not included here, because even though they include postsecondary coursework below the college level, they do not lead directly to a formal postsecondary credential or degree.
The developmental education placement process in community colleges is not easily summarized, but three recent studies (Collins, 2008; Dougherty & Reid, 2007; Perin, 2006) found that typically it begins with placement examinations at the time of enrollment. Most institutions select from a handful of standardized assessments for placement into developmental education, but there is considerable variation across and within states and even institutions with respect to which tests and cut-off scores are used (Bailey, 2009; Collins, 2008). Test publishers recommend using test scores in conjunction with other measures of academic readiness for course placement (Collins, 2008), but the use of auxiliary measures is not common among community colleges (Hughes & Scott-Clayton, 2011). Placement policies tend to focus on determining cut-off scores rather than tests’ validity or other aspects of the developmental education process (Collins, 2008; Hughes & Scott-Clayton, 2011). Nationally representative statistics on placement into developmental education are not currently available, but data from Achieving the Dream provide some indication. Among this sample of over 250,000 predominantly underrepresented minority and low-income community college students, 59 percent of beginning students were referred to developmental mathematics and 33 percent were referred to developmental reading on the basis of placement tests, past academic performance, or both (Bailey, Jeong, & Cho, 2010, p. 259).

After assessment, students deemed unready for college-level coursework in a particular subject are referred to a developmental course in that subject. As the indicators in this area reveal, however, many students never actually enroll in the developmental courses to which they are referred. In the Achieving the Dream sample, 27 percent of students referred to developmental mathematics and 30 percent of students referred to developmental reading did not enroll in the respective developmental courses within three years (Bailey et al., 2010, table 3). (Students’ success in initial and subsequent developmental courses and in college-level gatekeeper courses is discussed in the Progress area.)

Since developmental education in community colleges has high costs and low success rates, it is worth asking whether academically underprepared students who place into and take developmental courses would have had better outcomes had they started directly in college-level courses. The answer varies considerably depending on the subject (mathematics, reading, or writing), how researchers control for prior academic preparation and other factors potentially correlated with both placement into developmental education and subsequent academic success, and how far below college level the developmental students place. Among Achieving the Dream students referred to developmental education, 72 percent of students who disregarded the referral to developmental education and went straight into a college-level course passed that course, while only 27 percent of those starting in a developmental course eventually
passed the college-level course (Bailey et al., 2010, p. 261). This considerably higher success rate for students who skip developmental courses may reflect shortcomings in the developmental education placement process, or it may simply mean that these students believe they are more academically prepared than college advisors and academic policymakers recognize.

Other studies, which control statistically for various student characteristics, find no statistically significant effect of taking developmental courses on transfer to a four-year college (Adelman, 2005) or find mixed but generally positive effects of taking developmental courses on graduation within eight and a half years (Attewell et al., 2006).

Because correlational studies like these cannot account for unobservable factors like unmeasured ability and motivation, some researchers have turned to sophisticated statistical analyses to overcome this limitation (Bailey, 2009). Three recent studies employ a regression discontinuity design using placement test scores to compare students who score just above the cut-off and are placed in college-level courses with those who score just below the cut-off and are placed in developmental courses. Because the two groups are virtually identical in terms of measurable academic preparation in that subject, any difference in outcomes can be attributed exclusively to the effect of assignment to developmental education. Conclusions from studies in three states are mixed, but generally taking developmental courses has no consistent large positive or negative effect on outcomes such as persistence, passing college-level courses, earning certificates and degrees, transferring to four-year institutions, credit accumulation, or mean earnings after college (Boatman & Long, 2010; Calcagno & Long, 2008; Martorell & McFarlin, 2011). Another study used the method of instrumental variables to account for variations in the placement threshold for the community college closest to the student’s home. Results showed that placing into developmental mathematics was associated with earning more credits and higher rates of transfer to four-year colleges. There was no relationship to persistence or graduation, however, nor were there any appreciable positive or negative outcomes related to developmental English (Bettinger & Long, 2005).

For most community college students, placement and participation in developmental education is the first step after they have enrolled, but they also must complete these developmental courses as well as the college-level gatekeeper courses that follow. These and other intermediate measures of student progress are discussed in the next area.
References


Dougherty, K. J., & Reid, M. (2007, April). Fifty states of Achieving the Dream: State policies to enhance access to and success in community colleges across the United


