



Developmental education

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Background

Developmental education in community colleges aims to prepare students with inadequate academic skills for college-level courses, ultimately increasing graduation rates. However, the current system faces significant challenges and has alarmingly low success rates. More than half of all community college students are assessed as needing developmental (or remedial) reading, composition, and/or mathematics classes. Despite this widespread need, the majority of students referred to developmental education do not complete their prescribed sequence of remedial courses, nor do they persist to obtain a diploma or certificate. Some studies even suggest that participation in developmental education, particularly in math and English, may decrease students' odds of transferring to a four-year institution (Crisp & Delgado 2014).

Interventions and approaches

The literature identifies four broad types of interventions for improving students' progress through developmental education:

- 1) **Early action strategies:** These help students prepare for college-level work *before* they enter postsecondary education (Bailey, Jeong & Cho 2010). Promising models include dual enrollment programs (high school students taking college courses) and early assessment programs (testing high school students for college readiness and providing opportunities for skill development). Summer bridge programs, offering compressed developmental-level courses, also show promise (Rutschow & Schneider 2011).
- 2) **Acceleration Strategies:** These aim to shorten the time or content of developmental education courses to expedite student progress. Examples include fast-track courses (compressing curriculum into shorter periods), modularized courses (breaking down semester-long classes into competency-based units), self-paced courses, and mainstreaming into college-level courses (placing developmental students directly into college-level courses with additional supports; also known as the co-requisite model). Mainstreaming programs, like the Accelerated Learning Program (ALP) at Community College of Baltimore County, have shown substantial improvements in college-level course pass rates (Rutschow & Schneider 2011).



- 3) **Contextualized Instruction:** This involves teaching basic skills alongside occupational or college-content coursework. The goal is to make learning more meaningful and useful to students, promoting deeper engagement and skill transfer. Contextualized learning in vocational programs, such as Washington State's I-BEST program, has shown significant positive effects on credit attainment, persistence, and earning occupational certificates. Learning communities, which link developmental courses with college-level courses, have also shown positive, though more modest and often diminishing, effects on student engagement, belonging, and credit earning. Contextualized instruction and collaborative learning were more likely to be associated with positive outcome differences in the Developmental Education Initiative (DEI) (Rutschow & Schneider 2011; Quint et al., 2013).
- 4) **Supplemental Supports:** These enhance services for developmental learners, such as tutoring, advising, and student success courses. While rigorous research is limited, student success courses have shown promising results in increasing credits earned and progression through developmental education. Intensive advising and supplemental instruction have also noted some positive trends, though effects can be modest and dissipate over time (Rutschow & Schneider 2011).

In addition to these strategies, there are several other approaches that have not been rigorously tested and require further study. These include:

- 1) **Technology-aided approaches:** These use computer tutorials or online platforms to supplement instruction or structure accelerated courses. This includes using computer tutorials (e.g., MyMathLab, Plato, ALEKS) or online platforms to supplement instruction, provide online courses, or structure accelerated/modularized courses. Despite their popularity, rigorous research on their effectiveness is limited and shows mixed results (Rutschow & Schneider 2011).
- 2) **Tutoring and Supplemental Instruction:** Providing academic assistance through faculty, staff, peer tutors, or computer-assisted instruction. While rigorous research is limited due to self-selection bias and difficulty isolating effects, some promising trends are noted, particularly for students using learning assistance centers or receiving supplemental instruction (Rutschow & Schneider 2011).



- 3) **Advising (Intensive/Enhanced):** Reducing advisor caseloads to allow for more frequent, personalized attention, sometimes coupled with mandatory advising or early-alert systems. Rigorous research shows some positive results for students' retention and credit earning, though effects were modest (Rutschow & Schneider 2011).
- 4) **Student Success Courses:** Stand-alone, credit-bearing courses that introduce new students to college life, teach study skills, and provide tools for college responsibilities. Experimental studies have shown positive gains in credits earned and progression through developmental education, and quasi-experimental studies revealed long-term effects on degree earning and transfers, particularly for developmental-level students (Rutschow & Schneider 2011).
- 5) **Curricular redesign:** Radical reconsideration of curricula to focus on key career skills, like the Statistics Pathway (Statway), which aims to advance underprepared students through a statistics-based math curriculum in one year, shows great potential but is largely untested (Rutschow & Schneider 2011).
- 6) **Improved alignment between secondary and postsecondary education:** This involves integrating college expectations into high school curricula to reduce the need for remediation (Rutschow & Schneider 2011).
- 7) **Reform of Placement Assessments:** There is significant debate about the validity and benefits of current entrance exams, which can determine students' lengthy tenure in developmental education. There is a high priority placed on developing more nuanced and diagnostic placement methods that account for students' individual skill strengths and weaknesses, potentially using multiple measures beyond a single test score (Bailey, Jagers, and Scott-Clayton 2013).
- 8) **Improved Faculty Support:** A majority of developmental education classes are taught by adjunct faculty who may have limited training in instructing basic skills students and are often disconnected from departmental decision-making. Integrated professional development is crucial for faculty to implement reforms effectively (Rutschow & Schneider 2011).

- 9) **Focus on Pedagogy and Instructional Practice:** A key area needing more attention is how developmental content is taught. Research is needed on active learning, “constructivist” approaches, strategy instruction (e.g., PLAN, PORPE, self-regulated writing strategies), disciplinary literacy, and integrating reading and writing instruction to foster deeper engagement and skill transfer. While structural reforms are promising, a simultaneous focus on pedagogical improvement is critical (Perin & Holschuh 2019).

Related metrics and indicators:

To assess the success of interventions in developmental education, studies suggest evaluating a range of specific outcomes, often categorized to provide a comprehensive view of student achievement and progress. The literature emphasizes moving beyond simple descriptive statistics to more rigorous research designs, such as experimental and quasi-experimental studies, to establish clear causal links. Here are the key metrics used to measure success in developmental education:

- 1) **Completion of Developmental Coursework:** This is a fundamental measure of whether students successfully navigate the remedial sequence to which they are referred.
- 2) **Progression through developmental sequences:** Tracking students' movement through multiple levels of developmental courses.
- 3) **Time to completion:** Measuring how quickly students complete their developmental requirements, with an aim to shorten this timeframe. This is crucial as lengthy sequences can be a barrier (Edgecombe 2011).
- 4) **Success in College-Level “Gatekeeper” Courses:** This is a critical indicator of whether developmental education effectively prepares students for credit-bearing work. It includes passing the first college-level English or math course required for a degree (Quint et al. 2013).
- 5) **Credit Accumulation:** Total credits earned, including both developmental and college-level credits. College-level credits accumulated, focusing on credits that count towards a degree or transfer. Number of college-level courses attempted is also an indication of students' movement into higher-level coursework.
- 6) **Academic Performance (GPA):** Students' grade point averages, particularly in their initial semesters, can indicate their adjustment and success in college.
- 7) **Persistence and Retention:** Whether students continue their enrollment beyond the first term or year.

- 8) **Degree and Credential Attainment:** The ultimate goal of postsecondary education, this includes earning occupational certificates, associate degrees, or bachelor's degrees.
- 9) **Transfer to a Four-Year Institution:** For students in community colleges, transferring to a four-year institution is a key outcome indicating successful academic progression.
- 10) **Post-intervention proficiency test scores:** Examining whether students' skills improve enough to pass college exit exams or other standardized proficiency tests.
- 11) **Learning Gains and Skill Development:** Measuring improvements in specific academic skills, such as study skills, college readiness in math and reading, comprehension skills, and the ability to transfer learned strategies to new contexts.

While harder to quantify rigorously, studies note positive impacts on student engagement and sense of belonging within the institution or specific programs. Student motivation and perseverance are also considered important factors influencing success (Hodara et al. 2012).

Despite the identification of these metrics, the sources highlight significant challenges in reliably measuring the impact of developmental education. A recurring theme in the literature is the scarcity of rigorous, reliable research, particularly experimental designs, to conclusively demonstrate the causal effects of interventions. Many promising trends have not been replicated in other settings. A major methodological challenge is ensuring that comparisons between participating and non-participating students account for pre-existing differences in motivation or academic achievement. The effectiveness of developmental education needs to consider both its potential benefits (skill development) and its negative side effects, such as the time and financial resources consumed, and potential discouragement or "screening out" of students from the system. Studies that only focus on developmental education *completers* can overestimate positive effects because they exclude students who fail to complete the sequence, who are often less motivated or face more non-academic problems (Crisp & Delgado 2014).

Measuring success in developmental education requires a multifaceted approach that considers academic progression, attainment, and learning outcomes, while employing rigorous research methodologies to ensure the reliability and generalizability of findings (Okimoto & Heck 2015).

Supporting literature

[NOTE: Many of these sources are on file at RPIE as PDFs and can be shared on request]



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