

Building College Readiness Before Matriculation

A Preview of a CUNY Start Evaluation

By Susan Scrivener and Alexandra W. Logue

ach year hundreds of thousands of students in the United States enter college academically underprepared. At community colleges, underprepared students are typically referred to developmental (remedial) courses to build their reading, writing, and mathematics skills. About three of every five community college students are referred to at least one developmental course.¹ Students who need developmental courses often struggle in college, and graduation rates for this group are disconcertingly low.²

Hoping to boost the success rates of its least prepared incoming students, in 2009 the City University of New York (CUNY) developed CUNY Start, an innovative developmental education program. Students who participate in CUNY Start delay college matriculation for one semester, beginning instead with a semester of noncredit, timeintensive instruction in reading, writing, and mathematics with a prescribed curriculum and instructional approach. The program also provides enhanced academic advising, tutoring, and a weekly "College Success" seminar designed to build the skills that can help students succeed in college. Students pay only \$75 for CUNY Start, including the textbooks. The program's short-term goal is to substantially reduce or eliminate developmental needs after one semester, while preparing students for college courses. Its long-term goal is to improve academic outcomes, including graduation rates.

CUNY Start is markedly different from the typical approach to developmental education and it has yielded promising results for participating students, according to CUNY's

internal analysis of the program.3 The federal Institute of Education Sciences is supporting a large-scale, random assignment evaluation, being conducted by MDRC, CUNY, and the Community College Research Center (CCRC) at Teachers College, Columbia University, to determine the effect of CUNY Start on students' academic success, compared with the usual courses and services offered at CUNY's community colleges.4 The evaluation will also examine how CUNY Start is implemented and its costs. The program is currently offered to incoming associate's degree seekers at CUNY's seven community colleges and two other CUNY colleges that offer both associate's and bachelor's degrees; four of the community colleges are participating in the evaluation.

THE CHALLENGE OF DEVELOPMENTAL EDUCATION

Postsecondary education provides an opportunity to build skills and offers a pathway to better jobs. In fact, postsecondary education is becoming increasingly important in the U.S. labor market. One study found that, by 2020, 65 percent of all U.S. jobs will require at least some postsecondary education, and that at the current rate of college-going and completion, the nation will fall short by 5 million qualified workers.5 President Obama has called on the nation to increase graduation rates substantially by 2020,6 and others in government, higher education, and philanthropy have echoed the call. Community colleges are open-access institutions, meaning that any individual who has a high school diploma or has passed a high school equivalency test can matriculate.



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These colleges therefore face a clear challenge: to continue to serve a broad array of students while trying to meet increasing expectations about boosting graduation rates and preparing workers for a shifting economy.

Graduation rates from community colleges are quite low overall, but they are even lower for students who need some remediation. Figure 1 shows graduation rates for full-time, first-time, first-year students who entered community college in the fall of 2011.7 Nationwide, 31 percent of those students graduated (earned an associate's degree) within three years. However, the three-year graduation rate for the subset of students who took at least one developmental course is less than half that — 13 percent. Similar to other urban community colleges, the overall graduation rate from CUNY's seven community colleges is lower than the national average — 17 percent of those students graduated within three years. In addition, at CUNY, 14 percent of students who were assessed as needing at least one developmental course (based on scores on CUNY Assessment Tests in reading, writing, and mathematics) graduated within three years. Not surprisingly, graduation rates are even lower for students with very low basic skills. At CUNY's community colleges, only 7 percent of students who were assessed as needing remediation in reading, writing, and mathematics ("high needs" in Figure 1) graduated within three years.

Traditional developmental education in community colleges often comprises multilevel, multisemester, noncredit course sequences in reading, writing, and mathematics. In that model students often do not finish their assigned developmental course sequence. The low rate of success for students who need developmental education courses has prompted many colleges and states to redesign remedial offerings with the goal of improving outcomes. Most commonly, reforms have taken one or more of the following approaches:

 Change the structure or timing of the developmental courses, including accelerating students' progress through developmental education by streamlining the courses.

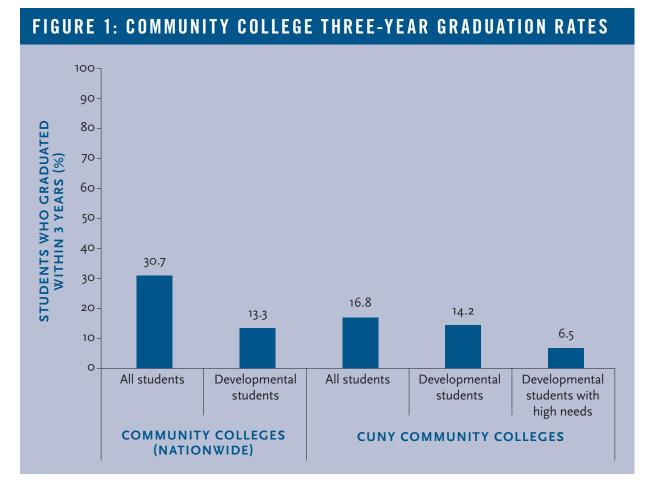
- Change the content of the courses.
- Change the *pedagogy* of the courses (how they are taught).
- Enhance the supports for developmental education students, such as academic advising and tutoring.

Research has found that some reforms in developmental education have had positive effects, but generally, the changes in students' academic success have not been substantial.⁹

In recent years, CUNY's leadership has focused explicitly on improving outcomes for students who need developmental education. CUNY's Accelerated Study in Associate Programs (ASAP) was found to be unusually successful in boosting graduation rates for students who needed some developmental education, but the program targeted students who needed only one or two developmental courses, not those with more substantial needs. 10 With the goal of making a big difference for students with very low basic skills, the architects of CUNY Start relied on all four of the reform approaches summarized above. As the next section makes clear, CUNY Start represents a very different way of helping entering students build their basic skills.

A POSSIBLE SOLUTION: THE CUNY START MODEL

CUNY Start began in 2009 as a small, intensive program that targeted students with a General Educational Development (GED) certificate and very low basic skills. In 2010 CUNY expanded the program to also serve high school graduates with low basic skills. CUNY Start was modeled after the CUNY Language Immersion Program (CLIP), which was developed for students who need to improve their academic English skills. Similar to CLIP, CUNY Start students defer enrollment in a CUNY degree



SOURCES: Ginder, Kelly-Reid, and Mann (2015); National Center for Education Statistics (2016); CUNY Office of Institutional Research and Assessment (2015); MDRC calculations based on data from NCES, NCES QuickStats (http://nces.ed.gov/datalab/quickstats), and CUNY.

NOTES: These statistics represent full-time, first-time students who entered 2-year institutions in fall 2011. For community colleges (nationwide), developmental students represent students who took a remedial or developmental course. Developmental students at CUNY community colleges represent students who were assessed as needing at least one developmental course based on initial skills proficiency on CUNY Assessment Tests in reading, writing, and mathematics. Developmental students with high needs represent CUNY students who did not pass the CUNY Assessment Tests in reading, writing, and mathematics.

program for one semester while acquiring college-level academic skills and know-how. Students pay only a \$75 fee, a fraction of the cost of even one traditional developmental course, so they can preserve their financial aid for future use.

At the core of CUNY Start's origins was a belief that students with substantial developmental needs are best served through an intensive, cohort-based model designed to build academic preparedness and college skills *before* matriculation. In a cohort-based model, a single group of students take all of their classes together. The following sections describe all the elements of the CUNY Start model, as designed (summarized in Box 1).

Course Structure

Typically, a CUNY community college student who is referred to developmental education is required to take a series of two to three noncredit developmental courses in reading, writing, or mathematics. These courses usually each meet three to six hours a week, and only after passing them is a student able to enroll in college-level, credit-bearing English and mathematics and sometimes other college-level courses. (For example, students who need developmental mathematics are often prohibited from enrolling in college-level science courses.) Completing developmental requirements can take several semesters, during which time students often simultaneously enroll in a limited range of college-level courses.

BOX 1. SUMMARY OF CUNY START MODEL

Course Structure

- 25 hours per week total (12 hours math, 12 hours reading/writing, and 1-hour College Success seminar)*
- Cohort model (a group takes all classes together)

Curriculum and Pedagogy

- · Prescribed curricula in math and reading/writing
- Topics taught in depth
- Uses active learning techniques
- · Math is taught conceptually and with applications
- Instructors model cognitive processes used in reading/ writing

Student Supports

- · College Success seminar
- Advising
- Tutoring and writing assistance

Staffing and Training

- · Professional development
- · Apprenticeship semester

Financial Model

- Students pay \$75 fee
- CUNY receives FTE reimbursement from New York State[†]
- Instructors are continuing education employees

Short-Term and Long-Term Benefits

- · Students defer matriculation and their use of financial aid
- Short term: More developmental needs satisfied
- · Long term: More college-level credits obtained

SOURCE

 $www.cuny.edu/academics/programs/notable/CATA/cti-cunystart.html \ and \ discussions \ with \ program \ staff.$

NOTE: *For part-time CUNY Start students, the course structure is 12 hours per week covering mathematics or reading/writing, including weekly advisement.

 $^\dagger FTE$ is full-time equivalent.

In contrast, CUNY Start attempts to condense the amount of time students spend preparing for college-level courses to one semester, so that students acquire needed academic skills and college know-how before they matriculate. Full-time students are in class 25 hours per week for 12 weeks, with the 25 hours comprising 12 hours of mathematics, 12 hours of reading and writing, and a 1-hour College Success seminar. (The part-time CUNY Start program totals 12 hours per week and addresses a single significant developmental need in mathematics or writing/reading for 10.5 hours per week; the remaining time is spent in advising.) If all of a student's developmental needs have not been addressed by the end of the 12 weeks, the student continues in CUNY Start for an additional three to six weeks.

Curriculum and Pedagogy

Traditional developmental education courses sometimes seek to cover a broad range of topics, in which competencies are taught in isolation and lack clear connections to collegelevel performance requirements. Further, traditional developmental course content can focus on academic skills assessment tests that students previously did not pass and must retake. In contrast, CUNY Start's highly prescribed reading/writing and mathematics curricula incorporate a number of researchbased practices for instruction of adults and older adolescents. CUNY Start instructors follow a reading/writing curriculum of more than 200 pages and a mathematics curriculum of more than 650 pages, both continually updated through feedback from CUNY Start instructors.

For example, traditional college-level and developmental courses often rely on lectures to teach students. However, CUNY Start positions students as active learners. Active learning sometimes results in more knowledge acquisition and retention than does the passive learning typified by lectures. In the CUNY Start model, instructors repeatedly ask students questions rather than making statements; "student talk" rather than "instructor talk" is the goal. Mathematical concepts are introduced using real-life examples, which students and instructors then discuss and extend to more abstract algebraic settings. Instructors might ask, "What's going

on here?" or "Is this always true, or is it a coincidence?" or "What could explain that?" Reading/writing instructors model the ways in which skilled readers form interpretations of text, helping students to understand the ways in which a text is purposefully constructed. Instructors might ask students, "Where does it say that in the text?" or "Are there other places that support what you're saying here?" or "Are there places that contradict that interpretation?"

Student Supports

Typical developmental education courses sometimes provide students with no accompanying supports other than the usual access to an all-purpose tutoring center. CUNY Start provides a College Success seminar, advising, and tutoring that together form wrap-around support to aid students with their academic and nonacademic needs. The mandatory College Success seminar is designed to help students develop the skills and dispositions necessary for academic success once they matriculate. The success seminar instructors also provide one-onone and group advisement, with an average caseload of 75 students. (The usual CUNY community college advisor caseload is many times that.) Academic supports include tutors and writing assistants, who help and support students both inside and outside the classroom.

Staffing and Training

Traditional developmental instruction is sometimes provided by part-time instructors who are hired for their disciplinary expertise but who receive limited or no training. CUNY Start recruits potential staff for content and pedagogical knowledge and for their openness to nontraditional instructional approaches. The program also requires staff participation in professional learning activities. According to the CUNY Start model, instructors and advisors who are new to the program must spend a paid apprenticeship semester observing and assisting lead instructors and advisors before

they are permitted to instruct or manage a student caseload on their own. Also in the CUNY Start model, professional development coordinators provide up-front and ongoing feedback and training. Together these supports are intended to ensure that instructors follow the program content and pedagogical approach and continue to develop as teachers.

Financial Model

CUNY is able to charge CUNY Start students only a \$75 fee because of additional differences between CUNY Start and traditional developmental education. Both result in reimbursement from New York State based on the number of students enrolled and the number of hours of class time. However, hourly instructional expenses are somewhat lower for CUNY Start. The total amount of the student fees and the full-time equivalent (FTE) reimbursement covers close to 70 percent of the total cost per CUNY Start student, 12 with the balance coming from CUNY's general funds.

Short-Term and Long-Term Benefits

A key element of CUNY Start is that its students defer enrolling in a college degree program for one semester in order to focus on satisfying all of their developmental needs quickly. This delay means that, in the short term (up to one academic year), students who are enrolled in CUNY Start can be expected to accumulate fewer college credits than students who are enrolled in traditional developmental courses; the latter group of students usually enrolls in college-level courses simultaneously with developmental courses. However, over the long term (more than one academic year), CUNY Start students might have higher retention rates (that is, they might be more likely to reenroll in future semesters), collegelevel credit accumulation, and graduation rates than students who enroll in traditional developmental courses. These advantages should accrue to the CUNY Start students because the traditional developmental route typically has low developmental course success rates, and CUNY Start students are much more successful at completing their developmental courses. There is a limited set of collegelevel courses that students can take before completing their developmental courses, so over the long term, students who have satisfied relatively more of their developmental needs should be able to take more credit-bearing (nondevelopmental) courses than can other students. Further, as explained earlier, because the fee for CUNY Start is only \$75, participating students can preserve their financial aid for future college-level courses.

CUNY START'S PROMISE AS AN INNOVATIVE PROGRAM

Before the present research began, CUNY conducted an internal, rigorous quasiexperimental analysis (known as a propensity score analysis, which compares carefully matched groups of students) to estimate CUNY Start's effects on student success. This 2013 analysis compared the outcomes of students who enrolled in CUNY Start with the firstsemester outcomes of a comparison group of students who did not enroll in CUNY Start, and who had similar demographic characteristics and levels of developmental need (need in mathematics plus need in at least one of the two other basic academic skill areas, reading and writing). Among CUNY Start students who needed developmental courses in writing, 62 percent reached college-level proficiency by the end of the program, compared with 26 percent of a comparison group of students (within a similar time period) who entered CUNY without first enrolling in CUNY Start. Similarly, 53 percent of CUNY Start students who needed developmental math courses reached collegelevel proficiency in mathematics compared with 10 percent of a comparison group.14

CUNY leadership began to see CUNY Start as a critical program for entering students with substantial developmental needs. At first, the program had enrolled approximately 150 students. However, after initial results seemed

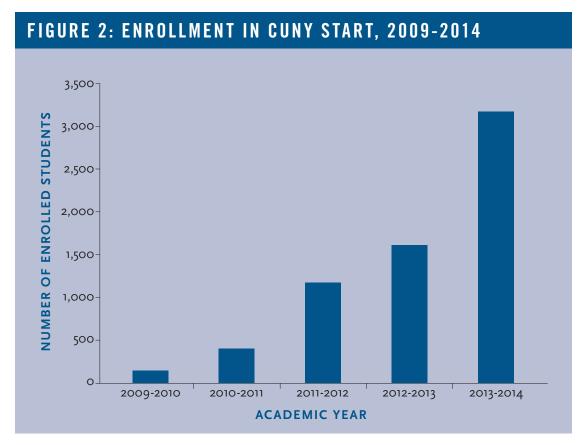
promising, a decision was made to expand it. By academic year 2013-2014, the year before the present research began, CUNY Start enrollment had reached over 3,000 students combined across the eight CUNY colleges that were then participating in the program (as shown in Figure 2).

Each fall alone, over 6,000 students enter CUNY with developmental needs in at least two of the three basic academic skill areas of reading, writing, and mathematics. Most of these students are eligible for CUNY Start. Given the program's already substantial enrollment and its potential for significant additional growth, the university's leaders wanted to obtain the most accurate evidence possible regarding the effectiveness of CUNY Start. They decided, therefore, to enter into a research partnership with MDRC and CCRC to conduct a random assignment evaluation of CUNY Start's effectiveness. Partnering with MDRC and CCRC has the advantages of an external, independent evaluation for CUNY Start.

WHAT IS THE EVALUATION EXAMINING?

The evaluation will provide rigorous evidence about the effect of CUNY Start on students' academic outcomes, relative to CUNY's traditional pathways for students who need significant developmental education. It will describe how CUNY Start is implemented and its associated costs. Specifically, the evaluation will answer the following key questions:

• What is the effect of CUNY Start on students' academic outcomes, compared with the colleges' usual courses and services, including the colleges' usual developmental education? Do the effects vary across student populations (for example, full-time and part-time students, students with different degrees of developmental need) and settings (individual colleges)?



SOURCE: MDRC calculations using CUNY Start official enrollment data from CUNY's Office of Research, Evaluation, and Program Support.

NOTES: CUNY Start enrollment data include both the full-time and part-time programs. In academic year 2013-2014, CUNY Start introduced a summer program in addition to the fall and spring semesters. Therefore, the graph includes summer 2014 with academic year 2013-2014.

- How is CUNY Start implemented, to what degree is it implemented with fidelity to the CUNY Start model, and to what degree are there differences between the program and the colleges' usual courses and services?
- What are the costs associated with CUNY Start, how do the costs compare with the costs of the usual courses and services, and is CUNY Start cost-effective?

To measure the effects of CUNY Start, relative to CUNY's traditional pathway, the evaluation is using a random assignment research design. Eligible, interested individuals were randomly assigned either to a program group, whose members have the opportunity to participate in CUNY Start, or to a control group, whose members cannot participate in CUNY Start but have the opportunity to participate in all of their college's usual courses and services. The

evaluation is comparing academic outcomes for the program group and control group over time to determine the *impact* of CUNY Start — or the differences in outcomes for the program and control groups. Because the two groups of students are similar at the outset, later differences in outcomes are very likely to indicate the effect of the program relative to CUNY's traditional pathway.

Both groups of students will be tracked for at least two years to determine the effects on reduction and elimination of developmental needs and on college-level credit accumulation. As discussed above, CUNY Start is expected to lower students' initial accumulation of college credits, compared with the usual services. If CUNY Start is more effective in reducing or eliminating remedial needs, it may lead to more academic success in the longer term than does traditional developmental education.

TABLE 1: Baseline Characteristics, CUNY Start Evaluation Sample Members

CHARACTERISTIC	SAMPLE MEMBERS
AGE IN YEARS (%)	
18 OR YOUNGER	32.8
19-20	30.5
21-22	12.7
23-29	14.8
30 OR OLDER	9.1
GENDER (%)	
FEMALE	57.1
MALE	42.9
RACE/ETHNICITY (%)	
ASIAN OR PACIFIC ISLANDER	9.7
BLACK	31.9
HISPANIC	44.3
WHITE	6.9
CURRENTLY EMPLOYED (%)	47.1
HAS CHILDREN UNDER 18 (%)	10.9
LIVES WITH PARENT/GUARDIAN (%)	79.7
SAMPLE SIZE	2,866

SOURCE: MDRC calculations using CUNY Start application data.

NOTES: Rounding may cause slight discrepancies in calculating sums and differences.

Race/ethnicity also includes other (including Native American), multiracial, and missing responses. These responses were excluded from the table because of the small percentage of sample members who identified in these categories.

This sample includes students from the first two out of three cohorts to be randomly assigned for the evaluation. Calculations for this table are based on the 2,866 sample members for whom CUNY Start Application data are available.

WHO IS IN THE EVALUATION?

The evaluation is taking place at four CUNY community colleges: Borough of Manhattan Community College, Kingsborough Community College, LaGuardia Community College, and Queensborough Community College. These four were chosen from among the seven community colleges that offer CUNY Start because they had operated the program for at least two years, had sufficient program infrastructure for continued implementation,

and were willing and able to participate in a random assignment evaluation. They are also the largest of CUNY's community colleges.

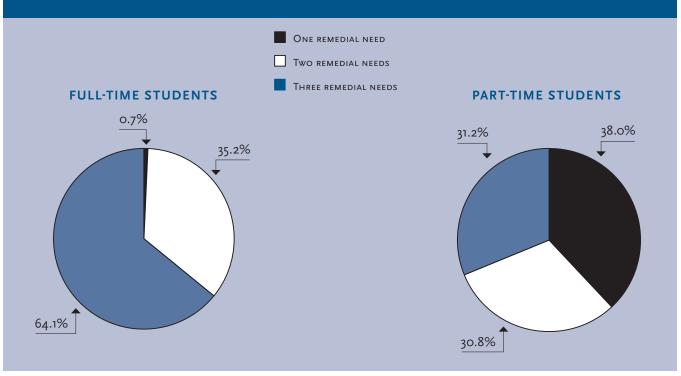
CUNY Start and the evaluation primarily target students who have earned fewer than 12 college credits and who have been assessed — usually based on scores on the CUNY Assessment Tests in reading, writing, and mathematics — as needing substantial remediation. ¹⁵ At the four colleges in the study, students who were assessed as needing remediation in mathematics and either reading or writing (or both) were eligible for the full-time CUNY Start program group and the corresponding control group. Students who needed remediation in one subject or more were eligible for the part-time CUNY Start program group and the corresponding control group.

Students were randomly assigned for the study in three groups, or cohorts: one before the spring 2015 semester, another before the fall 2015 semester, and another before the spring 2016 semester. Before each semester, CUNY Start staff at the colleges contacted eligible students to describe CUNY Start and the evaluation. Students who agreed to participate in the study signed an informed consent form and were randomly assigned to either the program group or the control group.¹⁶ Roughly three of every four eligible consenting students were assigned to the program group, and roughly one of every four was assigned to the control group. This breakdown allowed a maximum number of students to access CUNY Start while providing a large enough control group to determine the program's effects. The study sample includes approximately 3,830 students — around 2,995 program group members and 835 control group members.

Just before students were randomly assigned, they completed an application that included several demographic questions. Table 1 presents some selected characteristics of the sample members in the study. (Data are available for only the first two cohorts

FIGURE 3: REMEDIAL NEEDS BEFORE ENROLLMENT IN CUNY START, SPRING AND FALL 2015

Percentage of Students, by Number of Remedial Needs in Full-Time and Part-Time Program



SOURCE: Calculations from CUNY's Office of Research, Evaluation, and Program Support.

NOTES: The sample in this analysis includes part-time and full-time CUNY Start students who were enrolled in the spring or fall semesters of 2015. This sample includes CUNY Start students from the first two out of three cohorts to be randomly assigned for the evaluation.

of students, or about 75 percent of the full sample.) As the table shows, the students are relatively young — 63 percent were 20 years of age or younger — and 57 percent are female. The research sample is racially and ethnically diverse, reflecting the student body of the participating colleges: 32 percent of the students identified themselves as black and 44 percent identified themselves as Hispanic. Just under half of the students said they were employed at the time they entered the study. A small minority — 11 percent — said they had at least one child under the age of 18, and the vast majority — 80 percent — of the research sample reported that they live with their parents.

CUNY staff examined sample members' developmental needs before those students entered the study. (The analysis includes program group members — from only the first two cohorts — who enrolled in CUNY Start;

it does not include program group members who did not enroll in CUNY Start or control group members.)17 The analysis showed that virtually all the students — 96 percent needed remediation in mathematics, 77 percent needed remediation in writing, and 64 percent needed remediation in reading. Figure 3 shows the same students' total number of remedial needs. About two-thirds of the program group members in the full-time CUNY Start program needed remediation in all three subjects (reading, writing, and mathematics), and virtually all the rest needed remediation in two subjects. Among part-time CUNY Start students, about a third had three remedial needs, another third had two needs, and just over a third had one need.

WHAT'S NEXT?

The evaluation team is currently tracking students' academic outcomes. The team will track outcomes through 2018, yielding at least

two years of follow-up data for the full research sample.

For the implementation research, CCRC and MDRC are conducting field research at the participating colleges, which includes interviews with instructors and administrators, and observations of CUNY Start courses and traditional developmental courses. The team is also conducting surveys of CUNY Start instructors and traditional developmental education instructors, and of program group and control group students. The implementation research includes in-depth longitudinal interviews with a small group of program group and control group students to better understand their experiences and behavior over time. Researchers will also collect CUNY Start expenditure data and information about the four community colleges' usual spending per student to answer the evaluation's cost questions.

Several reports are planned to share findings on CUNY Start's effects for students, compared with the usual courses and services, and on its implementation and costs. During the evaluation period, participating CUNY staff will create a resource guide with information for other colleges that are interested in operating programs similar to CUNY Start.

The findings from the evaluation will be important for CUNY but also for other colleges, policymakers, and anyone who is interested in strategies for boosting the success of college students who have very low basic skills. Despite myriad attempts at developmental education reform, little has been rigorously evaluated and found to be particularly effective for students with substantial developmental needs. If CUNY Start is making a meaningful difference, it will be a model for others to consider.

NOTES

- 1 Bailey (2009).
- 2 See, for example, Attewell, Lavin, Domina, and Levey (2006).
- 3 Allen and Horenstein (2013).

- 4 IES is also supporting collaboration among MDRC, CUNY, and CCRC to develop a research agenda beyond the evaluation of CUNY Start. An important goal of the partnership is to help build CUNY's internal research capacity.
- 5 Carnevale, Smith, and Strolh (2013).
- 6 See, for example, American Association of Community Colleges (2009).
- 7 First-time students are students attending any institution for the first time at the undergraduate level; first-year students are students who have completed less than 30 semester hours of undergraduate work.
- 8 Bailey, Jeong, and Cho (2010).
- 9 See, for example, Hodara and Jaggars (2014); Zeidenberg, Cho, and Jenkins (2010); Edgecombe, Jaggars, Xu, and Barragan (2014); and Sommo, Mayer, Rudd and Cullinan (2012).
- 10 Scrivener et al. (2015); Linderman and Kolenovic (2012).
- 11 CUNY Office of Academic Affairs (2011).
- 12 In this study, FTEs indicate the number of full-time students plus the number of part-time students, standardized to a full-time basis. For example, 4 full-time and 3 half-time students would reflect 5.5 FTEs.
- 13 Allen and Horenstein (2013).
- 14 Allen and Horenstein (2013).
- 15 Although CUNY Start targets first-time students, the program does not turn away students who, for example, have taken and failed developmental courses in the past or students who are continuing their education after having stopped for some time.
- 16 Students could not enroll in CUNY Start unless they enrolled in the study at these colleges; control group students enrolled in the study but could not enroll in CUNY Start.
- 17 Later in the evaluation, MDRC will examine developmental need at baseline for all sample members.

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Building College Readiness Before Matriculation A Preview of a CUNY Start Evaluation

By Susan Scrivener and Alexandra W. Logue

raduation rates from community colleges in the United States are quite low overall, but they are even lower for the many entering students who need some remediation. This brief provides a first look at an evaluation of CUNY Start, an innovative developmental education program at the City University of New York that was designed to improve the success rates of its least prepared community college students. Participating students delay college matriculation for one semester, beginning instead with a semester of noncredit, time-intensive instruction in reading, writing, and mathematics; enhanced academic advising and tutoring; and a weekly "College Success" seminar. Students pay only \$75 for CUNY Start, including the textbooks. The evaluation will examine the effect of the program on students' academic outcomes compared with CUNY's traditional pathways for community college students who need significant developmental education. If CUNY Start is making a meaningful difference in boosting the success rates of students with very low basic skills, it will be a model for others to consider.