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RAISING THE FLOOR

New Approaches to Serving the Lowest-Skilled Students at Community Colleges in Texas and Beyond

Community colleges, faced with large numbers of students entering with very low math skills, are responding with a variety of reforms. One of these involves restricting developmental courses to students who score at the ninth-grade level or higher.

A recent study found that an astounding one in three Americans between the ages of 16 and 65 lack the skills needed to succeed in middle school math, let alone high school math.¹ Undeterred, and encouraged by open admission policies, many of these individuals opt to pursue education at community colleges. But once enrolled, students are confronted with a high-stakes placement test of their math skills, such as ACCUPLACER.² The scores on these tests distinguish between students whose math skills are below twelfth-grade proficiency levels and those who are deemed “college ready.” Nationwide, more than half of community college applicants fail to make that “college ready” cut and must start their college education by passing at least one “developmental,” or remedial, course before they can attempt the college-level courses required to earn a credential.³ Many students must take a sequence, sometimes as many as four courses, to be deemed college ready.⁴ As a result, on many campuses, the majority of math classes offered are in developmental education and the majority of instructors teach these classes.

Sadly, few of these students ever make it through the sequence, much less earn a credential. And those whose scores are the lowest have the least chance of doing so. More than 50 percent of students in need of two or more developmental courses do not complete these courses within a three-year period, primarily because they drop the courses or never enroll in them.⁵ Only about 20 percent of students needing at least two developmental courses successfully complete a college-level math course within their first three years, a rate that drops to 10 percent for students in need of three or more developmental courses.⁶ It is the sheer length of this

1 Goodman et al. (2013).

2 The same situation applies to students with low scores on reading and writing placement tests. This study, however, addresses only students with low math test scores.

3 Attewell, Lavin, Domina, and Levey (2006); Bailey, Jeong, and Cho (2010). In some colleges, students may be able to enroll in some courses without passing the placement test or the developmental course.

4 Bailey, Jeong, and Cho (2010).

5 Bailey, Jeong, and Cho (2010).

6 Bailey, Jeong, and Cho (2010); Zachry Rutschow and Schneider (2011).

sequence of courses that is arguably one of the primary reasons for the persistently low nationwide college completion rates.

The combination of large numbers of students entering college with very low math skills and their very low chances of moving on to college-level courses, let alone earning a credential, has fueled important policy changes affecting how this population is served, at both the state and college levels. Whether motivated by the desire to improve aggregate completion rates, the hope that a different way of instructing students will yield better outcomes, or the need to reduce costs, some reforms, as discussed below, simply adjust the cut scores to allow fewer students into the developmental math program (“raising the floor”) or allow more students to attempt college-level math (“lowering the ceiling”).

In 2014 the Texas Higher Education Coordinating Board (THECB) implemented major changes in how the lowest-scoring students should be placed and served in community colleges. After adopting a new placement test, the state raised the cut score for placing students in developmental education and eliminated the lowest-level developmental math course. Colleges were then permitted to choose among several options for how to serve the lowest-scoring students who would otherwise have enrolled in that course. These changes affected tens of thousands of students across the state in ways that have yet to be fully understood.⁷ In fact, the policies were controversial because it was not and still is not clear whether these changes would improve completion rates, make them worse, or maintain the status quo.

MDRC is conducting a study of how two of the largest community colleges in Texas responded to these policy changes at the state level, and how low-scoring students who applied to these institu-

tions in the policy’s first year are faring under the new rules. Houston Community College (HCC) and Tarrant County College (TCC) developed two distinct programs: HCC offered a four-week “bridge course,” administered by its mathematics department, for students whose math proficiency was below ninth grade. In contrast, TCC chose to offer such students a noncredit, open-ended computer lab, administered by its Continuing and Industry Education program, where students could work at their own pace for as long as they needed to attain ninth-grade proficiency. This study uses both qualitative and quantitative data to answer the following five research questions:

- 1 How did staff members and students understand the state policy changes concerning placement?
- 2 To what extent did the colleges implement their new programs serving students below the cutoff for developmental math?
- 3 How did the experiences of students who scored below the cutoff compare with what they would have experienced had they been assigned to developmental math courses?
- 4 Among students who placed just below and just above the cutoff for developmental math, are there differences in their (a) progress to and through developmental math courses, (b) success at college-level math, (c) persistence through college, or (d) attainment of any credentials (including short-term certificates)?
- 5 Among the HCC students in the sample who were no longer enrolled as of fall 2016, what were their reasons for dropping out? Was their math placement a factor in their decision?

⁷ At Houston Community College and Tarrant County College alone, at least 10,000 students were affected in one academic year.

The results from this study on the impact of these changes on student outcomes such as course completion and credits earned will rely on a technique known as regression discontinuity analysis.⁸ This method will indicate whether the outcomes are different for students whose scores are just below or just above the cut score depending on whether they are placed into the lowest level of developmental math or a pre-developmental math program, such as the boot camp at TCC or the bridge course at HCC.

Findings from the impact study and detailed findings for the other research questions will be published in 2018. This brief offers context for the study by describing the two programs in Texas community colleges, the state guidelines that made them happen, and how other states and colleges are reforming their approaches to serving low-scoring students. It also offers some demographic information about the students in the impact study and previews early implementation findings likely to inform state and college efforts to put similar policies in place.

THE CONTEXT

The Texas Success Initiative

Before 2014, community colleges in Texas offered numerous levels of developmental math, with

some colleges mandating that their lowest-skilled students pass as many as four developmental math courses before enrolling in college-level math courses. Under the new policy, Texas required that students with skills below ninth-grade proficiency be directed away from developmental course work and instead be offered non-course-based options, such as programs at community-based organizations and zero- or low-credit workforce programs.⁹ This change was part of the Texas Success Initiative (TSI), a state-legislated program aimed at improving student success in college.

The THECB introduced the policy in conjunction with a new TSI Assessment, which could identify skill levels below college level.¹⁰ The TSI Assessment begins with a set of questions that are intended to distinguish between college-ready students, or those whose score indicates math skills at or above twelfth grade, and students who are not college ready. Those scoring below the college-ready cutoff on the TSI Assessment are then given the TSI Adult Basic Education (ABE) Diagnostic Assessment, which can detect skill levels as low as pre-first grade and as high as twelfth grade.¹¹ Based on their score on the ABE Diagnostic, students are placed into one of six levels: ABE Levels 1 and 2 are designated for students with zero through third-grade skills; ABE Levels 3 and 4 are designated for students with fourth-

8 Regression discontinuity analysis is a rigorous nonexperimental approach that can be used to estimate impacts when program eligibility is based on exceeding a designated numeric rating.

9 Technically, the THECB does not have the authority to “require” colleges to implement these changes. However, for all practical purposes, the changes were mandatory; colleges that did not comply faced important disincentives, such as not receiving funding for non-course-based options.

10 College for All Texans (2017).

11 Soon after these guidelines were published, some colleges and the THECB staff noted that the ABE label was not entirely accurate. Although ABE-funded programs were among those recommended by the state as appropriate for serving students scoring at ABE Levels 1-4, some programs did not receive ABE funding. Some materials from the state began to put ABE in quotation marks. This brief avoids the label “ABE” in reference to students and instead uses the label “low-scoring students” to indicate the population of interest in this study.

through eighth-grade skills; and ABE Levels 5 and 6 are designated for students with ninth- through twelfth-grade skills.¹²

The THECB also developed a three-tiered set of recommendations for serving students within these ABE designations. Students scoring at ABE Level 5 or 6 (demonstrating skills at the high school level) could take developmental courses. Students scoring at ABE Level 3 or 4 (skills at the upper elementary through middle school levels) would be barred from developmental education courses. Instead, colleges were asked to develop Basic Academic Skills Education (BASE) interventions for these students, such as non-course-based options. Finally, students scoring at ABE Level 1 or 2 (skills at the lower elementary school level) and students lacking a high school diploma were to be referred to community-based organizations or federally funded ABE programs.¹³ Notably, students at ABE Levels 1 to 4 were no longer eligible to receive the Pell Grant or other federal financial aid, unless they enrolled in another course that was Pell eligible.¹⁴

While the THECB set standard cut scores all colleges were expected to adopt, it allowed each college to choose the particular program it would offer to low-skilled students. The THECB provided a number of examples for these interventions, including three-week, intensive basic-skills “boot

camp” and one- to three-hour weekly tutorials.¹⁵ In addition to these suggestions, the THECB made other recommendations aimed at addressing the needs of these students, who before would have enrolled in developmental courses. First, they recommended that Texas develop a statewide online referral service for colleges to use when directing students toward noncollege programs. Second, they recommended that the Texas State Legislature increase funding for ABE interventions in order to support the non-course-based options for BASE students as well as students referred to ABE programs.¹⁶

Other States’ Efforts to Reform How Low-Scoring Students Are Served

While Texas is one of many states engaged in major reforms of developmental education, as of 2017, only a few states are implementing wholesale reform aimed at the lowest-scoring students. Most states have focused on reforms targeting higher-skilled students — those who test near college-level proficiency — and pushed for these students to accelerate their progress in reaching proficiency through enrollment in corequisite courses, courses compressed into a short time frame, or individual modules of a curriculum as needed. Additionally, though many states have established standard “cut scores” for college-level placement and provided recommendations for

12 Texas Higher Education Coordinating Board (2014a).

13 Though developmental education courses and ABE courses both have served low-skilled students, ABE programs have traditionally been reserved for students who did not have a high school diploma. Additionally, ABE and developmental education programs have typically had differing funding streams, regulations, and accountability systems.

14 The information in this paragraph comes from Texas Higher Education Coordinating Board (2014b).

15 Texas Higher Education Coordinating Board (2014b).

16 Texas Higher Education Coordinating Board (2014b).

restructuring developmental education, as Texas did, few states or their governing boards have the authority to mandate these changes at all colleges within their states or systems. Instead, colleges in most states can, at their own discretion, institute their own policies around developmental education, including setting the number of developmental education courses offered in a sequence and the cut scores or standards for placement into these courses, as well as the structure, format, and content taught. Of the 39 states that have system- or statewide policies for developmental education,¹⁷ only seven states mandate changes for all colleges in their system: Texas, Florida, North Carolina, Virginia, Colorado, Connecticut, and Missouri.¹⁸ In some of these states, these mandates have come from changes to state law or policies rather than from a higher education governing board, and colleges and systems have had to adapt to the new regulations.¹⁹

Florida has implemented perhaps the most drastic of these changes: In 2014, state policymakers passed a law stating that recent high school graduates could not be forced to take a placement

test or enroll in developmental courses, which ultimately meant that low-skilled students could enroll directly into college-level courses. This new policy resulted in an overall decline in developmental math enrollment from 38 percent to 22 percent statewide.²⁰ North Carolina and Virginia implemented more modest reforms, which broke developmental math courses into one-credit modules that students take at their own pace based on their skill needs. Lower-skilled students could take these courses,²¹ but they would need to complete most or all of the modules to make it through the developmental courses successfully.²²

Although these states' policies affected low-skilled students, only four states (including Texas) have sought to create a floor below which low-skilled students are placed in other programs or services rather than developmental courses. Texas's attempts to raise the floor for developmental education are similar to Colorado's, Connecticut's, and Missouri's approaches; indeed, all four states have developed similar types of "preenrollment" alternatives for lower-skilled students. For instance, Colorado reduced the number of developmental

17 Education Commission of the States (2014).

18 Through an internet scan, MDRC researchers reviewed the policies and rules related to governance of two-year and four-year colleges in each of the 39 states identified by the Education Commission of the States to determine whether (1) the higher education governing entity had the power to write policies, rules, or regulations for all colleges in its systems or state; (2) the policies specified assessments and cut scores that colleges were required to use when placing students into developmental or college-level courses; and (3) specific policies had been outlined for the placement of or programming for low-skilled students.

19 The states are Florida, in Senate Bill 1720 (Hu et al. 2016); Connecticut, in CT General Assembly (Public Act 12-40) (Senserrich 2014); and Missouri, where House Bill 1042 requires colleges to implement "best practices in developmental education" (Missouri Department of Higher Education 2015).

20 Hu et al. (2016).

21 Virginia's and North Carolina's policies around low-skilled students are somewhat unclear, as some wording indicates that students below a certain skill level will be directed to outside programs. However, other parts of their policies note that low-skilled students can take multiple modules.

22 Kalamkarian, Raufman, and Edgecombe (2015).

courses in math (as well as in reading and writing) to a one-semester course and barred colleges from using federal financial aid for students in courses teaching skills below the high school level.²³ Instead, Colorado colleges can choose to offer “soft landing” non-course-based options for lower-skilled students, such as referral to an ABE program (funded by the state’s 2014 Adult Education and Literacy Act) or placement-test preparatory classes. The state mandated that Colorado’s 16 community colleges implement these revisions by 2014, though colleges had options on the timing of the rollout.²⁴ As of 2015, most colleges had undertaken one of three types of programs for low-skilled students: online tutorial packages; test prep boot camps, which attempt to help students build their skills to retake the college placement exam; or referrals to other community agencies, such as workforce development offices or ABE programs.²⁵

Beginning in 2012, Connecticut introduced its own three-tiered reform of developmental education, whereby students were provided preparatory options depending on their skill level. The highest-scoring students were to be placed into corequisite courses, college-level courses with a linked support course. The middle tier of students were to receive intensive developmental courses for only one semester. Finally, colleges were to develop preenrollment programs for the lowest-

scoring, “transitional” students who required more than one semester of remediation. Colleges could not use federal financial aid for students taking these preenrollment courses; instead, the state encouraged colleges to connect these students with ABE programs.²⁶ Despite this guidance, most Connecticut colleges implemented two- to five-week boot camps to prepare students to retake the ACCUPLACER assessment and steered away from referring students to ABE programs.²⁷

In Missouri, in 2012, the House passed Bill 1042, which requires “all public two-year and four-year higher education institutions to replicate best practices in remediation,” and developed a task force within the Missouri Department of Higher Education (MDHE) to further define what best practices entailed.²⁸ The policy recommended a number of reforms, including the establishment of minimum levels of literacy and academic competence to enroll in developmental education courses. If students scored below these levels, they should be offered other types of non-course-based options to improve their skills. The MDHE and the colleges were expected to work together to establish the minimum standards that must be met, but, as of January 2017, they had not yet adopted specific standards or practices.²⁹ In a 2017 report to the legislature on the colleges’ implementation of these best practices, however, the MDHE noted that one

23 Michael and McKay (2015).

24 Colorado Community College System Developmental Education Task Force (2013).

25 Michael and McKay (2015).

26 In order to facilitate these changes, Connecticut policymakers passed a law in 2013 allowing ABE programs to serve students with high school diplomas.

27 Senserrick (2014).

28 Missouri Department of Higher Education (2015).

29 Missouri Department of Higher Education (2017).

college had implemented a threshold for English and math, while three other colleges were “strongly recommending” that low-scoring students enroll in Adult Education and Literacy programs.³⁰

Finally, though only a few states are mandating a floor for lower-skilled students, some colleges in other states have implemented or are considering these types of programs. For instance, a community college in Hawaii has implemented boot camps for low-skilled students,³¹ while Kansas’s Developmental Education Working Group recommended that the Kansas Board of Regents research ABE pathways for low-skilled developmental education students.³² Texas is, in other words, at the forefront of implementing new approaches to serving low-skilled students. As such, this study of two Texas colleges’ implementation of non-course-based options for low-skilled students — and how students fare under these changes — will help provide much-needed information on the successes and challenges of these programs.

TWO COLLEGE PROGRAMS DESIGNED TO SERVE LOW-SCORING STUDENTS

With a grant from the Institute of Education Sciences, MDRC began laying the groundwork in 2014 for a study of these “raising the floor” policies. MDRC proposed to use a regression discontinuity design, as described in the introduction, to assess the effect of the THECB recommendations on students who scored just above or just below the cutoff point that divided students into two groups: one directed to developmental math and

the other directed to alternate services. Due to the requirements of regression discontinuity analysis, MDRC looked for colleges that met a specific set of criteria:

- 1** Large numbers of students placing into Levels 4 and 5 on Texas’s ABE Diagnostic
- 2** Reasonably strict and standardized placement and advisement rules and practices
- 3** Plans for providing on-campus services for students who scored at Levels 3 and 4
- 4** Availability of data on student placement and academic outcomes

As noted, two large multicampus institutions were selected for the study: Houston Community College (HCC), which operated a four-week bridge course, and Tarrant County College (TCC), which operated an open-ended boot camp for students. According to a survey conducted by the THECB, these two program models were also adopted by many other Texas community colleges, which ensures that the study findings will have relevance beyond these two institutions.

MDRC researchers conducted on-campus visits at both colleges beginning in spring 2015 to gather information from college administrators and staff members about their placement rules and practices. Two additional visits were conducted to more formally document changes in the programs and to gather more in-depth material. During these visits, MDRC interviewed representatives from the colleges’ academic affairs, advising, place-

30 Missouri Department of Higher Education (2017).

31 Kaua’i Community College, University of Hawai’i (2017).

32 Kansas Board of Regents Developmental Education Working Group (2014).

ment, and math departments and conducted focus groups with math and workforce instructors as well as with students enrolled in these courses. In addition, MDRC researchers observed several math classrooms and labs at both sites. MDRC also collected administrative data on student placement test scores and subsequent academic performance.

Houston Community College Bridge Course

Starting in 2015, HCC replaced the lowest-level developmental math course with a four-week bridge course in response to the new guidelines put forth by the THECB. As shown in Figure 1, the bridge course, taught by math instructors, was offered to any student who scored at or below Level 4 on the ABE Diagnostic. While all students who scored at or below Level 4 were technically eligible for the bridge course, students who scored at Level 1 or 2 were encouraged to enter other programs, either at the college or in the community. The bridge course was offered during the first four weeks and the second four weeks of each 16-week semester. If students failed the bridge course during the first four weeks, they could attempt it again during the second four weeks. Once students passed the bridge course, they were allowed to move on to the eight-week developmental math course (Math 0409) in the same semester (Weeks 9-16) or during a future semester.³³ As Figure 1 illustrates, students who scored at Level 5 or 6 on the ABE Diagnostic were allowed to enroll directly in the developmental math course.

Most bridge course sections were offered two days per week, for two hours per class. A few sections

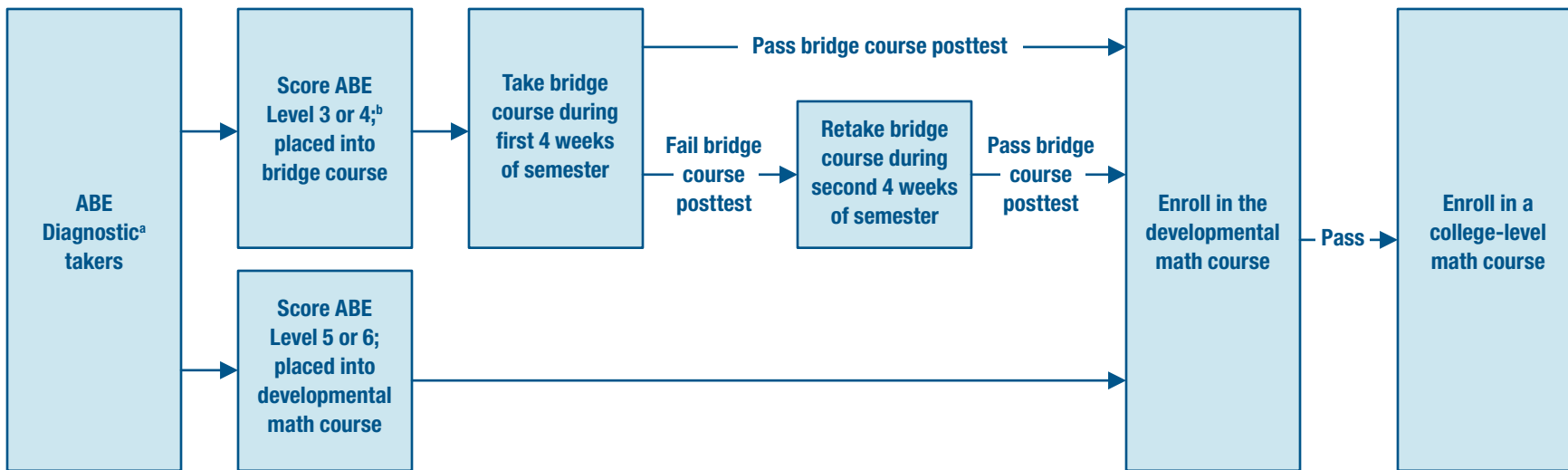
had a four-hour, once-a-week format. The bridge course content was intended to reinforce basic math concepts such as fractions, decimals, and percentages. The classes were taught mostly by adjunct faculty members from the math department. Although there were no standard textbooks or syllabi uniformly used across the bridge course sections, some instructors worked together to share worksheet packets, online videos, and other instructional materials.

When asked about their reasoning for implementing the bridge course, most HCC administrators mentioned their belief that four weeks of remediation would be sufficient to move most students to attain ninth-grade proficiency levels. They also expected that the bridge course would reduce the total amount of time students spend in remediation: Instead of taking two 16-week developmental math courses as was the case before, students could complete the four-week bridge course along with the eight-week developmental math course in just one semester. Some math instructors disagreed with this reasoning, expressing concern that four weeks would not be enough time to improve students' math skills to the extent needed for the next course. As will be described in more detail in the final report, this concern turned out to be at least partly well founded: Students participating in focus groups as well as some instructors who were interviewed felt that four weeks was too short a time to master enough of the material.

Still, administrators made the critical assumption that students who passed the bridge course would enroll in the developmental education course within the same semester. As the final report will discuss in more detail, this transition occurred

33 Generally, Math 0409 courses were offered in both the first half of the semester (Weeks 1-8) and the second half of the semester (Weeks 9-16).

FIGURE 1
THE BRIDGE COURSE AT HOUSTON COMMUNITY COLLEGE: MATH ASSESSMENT, PLACEMENT, AND ENROLLMENT PATHS



NOTES: Students who pass the bridge course within the first eight weeks of the semester can take the developmental math course in the second eight weeks of the semester.

^aThe Adult Basic Education (ABE) Diagnostic Assessment is a component of the Texas Success Initiative (TSI) Assessment.

^bWhile students who scored at ABE Level 1 or 2 have been permitted to enroll in the bridge course, they are generally advised to seek other options, such as nondegree programs, which often do not require math remediation.

infrequently, especially during the fall 2015 semester, when the program was first implemented. Students who passed the bridge course frequently failed to enroll in the developmental education course, either because they were not aware of the opportunity, could not find an open section of developmental math, or could not find an open section that fit into the rest of their class or work schedules. Beginning in the spring 2016 semester, to make the transition from the bridge course to the developmental education course smoother, HCC's math department began scheduling the bridge course sections and the developmental education course sections in alignment, so that the same instructor taught both courses sequentially and in the same time slot. Additionally, bridge course instructors were encouraged to explain to their students how to register for the developmental education course and to provide their students with automatic enrollment permissions to reserve a seat in a specific section should they pass the bridge course.

Tarrant County College Boot Camp

TCC was an early implementer of the new state placement policy guidelines. Beginning in fall 2013, the college offered what it decided to call a "boot camp." The boot camp was a noncredit, open-entry, open-exit computer lab program for students with any remedial needs in math, reading, or writing. The program allowed students to work independently and at their own pace in the computer lab, using Plato, a popular instructional software. By allowing students to work at their own pace at times that worked for their schedules, TCC administrators banked on students making steady progress and reaching ninth-grade proficiency.

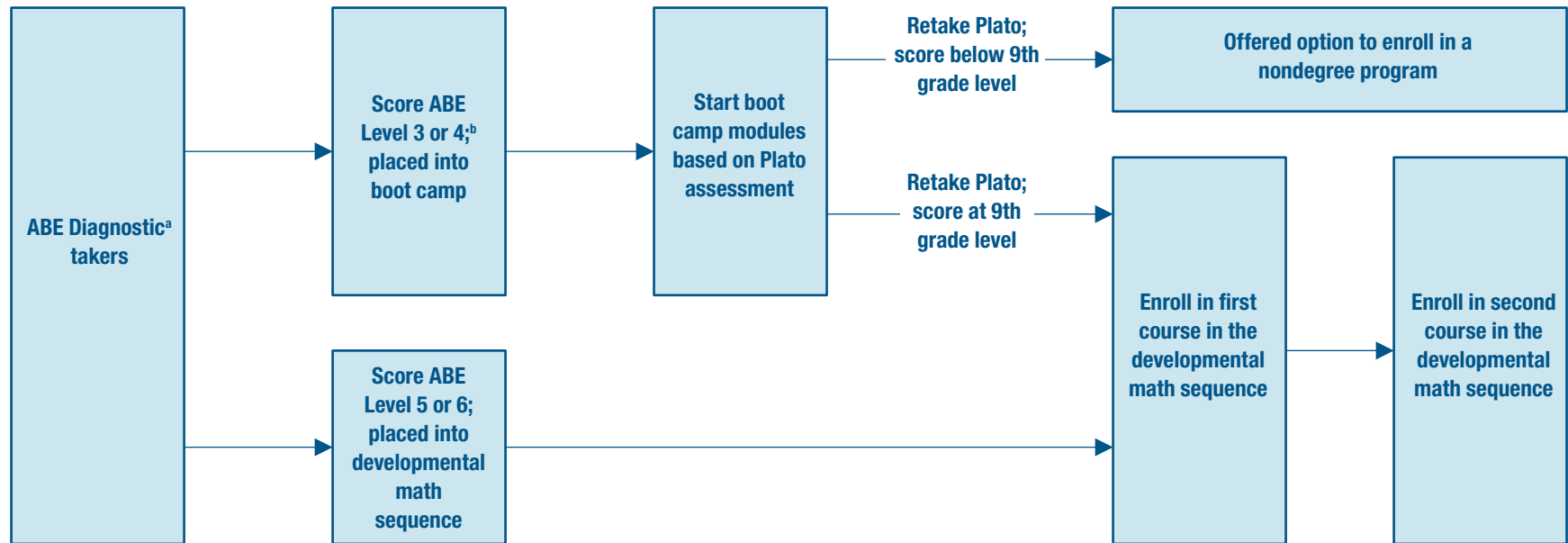
As seen in Figure 2, TCC students who placed into ABE Levels 3 and 4 were directed by advisers to enroll in a boot camp section. (As at HCC, stu-

dents who scored at ninth grade or above, equivalent to Level 5 or 6 on the ABE Diagnostic, were eligible to enroll directly in the developmental math course.) Once enrolled, students could take a series of online modules appropriate to their skill level as measured by the ABE Diagnostic. As students completed a module, they would automatically receive an assessment embedded in the program software. If they passed the assessment, they could proceed to the next module; if they did not they were directed to repeat the module. Students could easily see the progress toward their goal: ninth-grade proficiency, indicated by a score of 900 or above on the Plato assessment. Students who attained this score during the semester had the opportunity to enroll in the first course in the developmental math course sequence. Since the majority of the sections for the first developmental math course also took place in computer labs, students who successfully completed the boot camp were permitted to register in that course during the same semester, in the same time slot as their boot camp, as long as there were open seats. However, TCC struggled initially to meet the demand and accommodate the boot camp completers during the semester, thereby potentially slowing down these students' progress through developmental math.

Boot camp students who gave up or failed to attain a score of 900 after repeated attempts were offered other options, including noncredit, short-term ("Level 1") certificate courses, which typically do not have minimum placement test scores.

Boot camp courses were run by TCC's Community and Industry Education program, which operates with different funding, instructors, and administrators from the developmental and college-level programs at TCC, an arrangement similar to that at most community college systems. Community and Industry Education programs are generally

FIGURE 2
THE BOOT CAMP AT TARRANT COUNTY COLLEGE: MATH ASSESSMENT, PLACEMENT, AND ENROLLMENT PATHS



NOTES: ^aThe Adult Basic Education (ABE) Diagnostic Assessment is a component of the Texas Success Initiative (TSI) Assessment.

^bWhile students who scored at ABE Level 1 or 2 have been permitted to enroll in the boot camp, they are generally advised to seek other options, such as nondegree programs, which often do not require math remediation.

TABLE 1
STUDENTS' HIGHEST ABE
DIAGNOSTIC MATH SCORES
JANUARY 2014 - DECEMBER 2015

tuition-free but offer neither college credit nor financial aid. Boot camps were offered during blocks of one and a half to two hours, five (and later six) days of the week. At first, labs were open from morning to late in the evening, and students could show up whenever they wanted. Later, the college decided to shift to a more traditional course schedule format. Although students had to register for a specific day and time, they were permitted to use the lab anytime it was open.

Two boot camp instructors, one math teacher and one reading and writing teacher, were generally available in the labs to provide one-on-one help to students. The instructors had access to a printout of students' test results, so they knew where students should focus to address their skill deficiencies. In addition to the instructors, special boot camp advisers were available to offer support to students. Not only did they try to motivate students to regularly attend their scheduled lab time, they sometimes offered academic and career counseling and provided referrals to other campus or community services. However, despite these efforts, attendance was weak and sporadic. College staff members speculated that students were unmotivated to work hard in a class that earned them no credit and did not count toward financial aid eligibility.

CHARACTERISTICS OF STUDENTS AFFECTED BY THE TEXAS POLICY

As described above, the new policies on placement of low-scoring students relied on the ABE Diagnos-

ABE DIAGNOSTIC LEVEL (%)	HCC	TCC
1	0.1	0.2
2	1.0	1.4
3	6.9	7.9
4	38.9	33.9
5	53.0	56.5
6	0.1	0.1
Sample size	6,481	4,900

SOURCES: MDRC calculations using Texas Higher Education Coordinating Board report data and other data provided by Houston Community College (HCC) and Tarrant County College (TCC). Derived from data provided by the College Board. Copyright © 2013-2016 The College Board. www.collegeboard.org.

NOTES: ABE Diagnostic = Adult Basic Education Diagnostic Assessment.

Students who received a Texas Success Initiative (TSI) Assessment score above 335 or who were designated as being college-ready in math under the TSI at any point between January 2014 and December 2015 are excluded from this table. Students for whom no information was available other than test scores are likewise excluded from the table.

tic, which grouped students into ABE Levels 1 to 6. Table 1 shows that around the time the new THECB policy was going into effect, approximately 6,500 students at HCC and 4,900 students at TCC scored within the ABE 1-to-6 range for math, and more than 90 percent of these students scored at Level 4 or 5, the levels that span the crucial cutoff between developmental math and alternate services.³⁴

Who are the students whose test scores placed them close to the cutoff for developmental educa-

34 The student counts and percentages in Table 1 are estimates only, as some students' placement into Levels 1 to 6 could change over time. Changes could occur in part because the students were allowed to retake the TSI Assessment at both HCC and TCC at any time. The students included in the table are expected to be substantially similar to the group of students that will ultimately constitute the regression discontinuity sample in a later report, but they may not be identical.

TABLE 2
STUDENT DEMOGRAPHIC CHARACTERISTICS

CHARACTERISTIC (%)	HCC			TCC		
	All Students Enrolled 2015-2016	Students with ABE Math Score of 5 ^a	Students with ABE Math Score of 4 ^a	All Students Enrolled 2015-2016	Students with ABE Math Score of 5 ^a	Students with ABE Math Score of 4 ^a
Female	53.5	60.6	67.4	57.1	58.4	62.4
Race/ethnicity						
Black	28.1	45.0	60.1	18.4	22.8	40.8
Hispanic	32.5	38.7	25.2	28.4	39.2	30.9
White	16.4	8.9	5.5	41.3	29.1	18.4
Other ^b	17.8	6.0	7.5	7.5	5.5	5.5
Missing	5.2	1.4	1.7	4.3	3.5	4.4
Limited English proficiency	5.0	4.7	10.1	0.2	0.4	0.8
Economic disadvantage ^c	81.2	98.7	98.7	27.5	57.1	63.1
Single parent	5.9	16.5	19.5	NA	NA	NA
Sample size	101,157	3,435	2,521	117,155	2,768	1,662

SOURCES: MDRC calculations using Texas Higher Education Coordinating Board (THECB) report data and other data provided by Houston Community College (HCC) and Tarrant County College (TCC). Derived from data provided by the College Board. Copyright © 2013-2016 The College Board. www.collegeboard.org. The “All Students Enrolled” columns use 2015-2016 data reported to the THECB as part of the Perkins Basic Grant Program for state fiscal year 2017.

NOTES: NA indicates that data were not available.

Students are grouped into columns according to Adult Basic Education (ABE) Diagnostic Assessment math scores reported between January 2014 and December 2015.

Students who received a Texas Success Initiative (TSI) Assessment score above 335 or who were designated as being college-ready in math under the TSI at any point between January 2014 and December 2015 are excluded from this table.

Up to 10 percent of TCC students who scored at Level 4 on the ABE Diagnostic were missing values for the characteristics shown above. Fewer than 5 percent of students from other groups were missing values for characteristics.

^aTo minimize missing values, percentages for limited English proficiency, economic disadvantage, and single parent in these columns include all students who were ever flagged as these, respectively, at any point between January 2014 and December 2016 in the available data.

^b“Other” includes Asian, Pacific Islander, Native American, multiracial, and international students.

^cEconomic disadvantage status may be calculated using various factors, including students’ annual income, eligibility for food stamps or certain other public assistance programs, or receipt of a Pell Grant. Different colleges may use different factors; numbers may not be comparable between colleges as a result (Texas Higher Education Coordinating Board Educational Data Center 2016).

tion, and therefore potentially on different trajectories toward college completion? Table 2 shows demographic data for these students as well as for the overall population of HCC and TCC. Compared with the overall student population, students

at Levels 4 and 5 were more likely to be black, less likely to be white, and more likely to be female. Moreover, at HCC, low-scoring students were more likely to be flagged as economically disadvantaged and to report being a single parent. This pattern

also describes the differences between students at Levels 4 and 5. Level 4 students were more likely to be black, female, economically disadvantaged (though at TCC only), or a single parent (at HCC only) than students who placed at Level 5. This distribution suggests that these student characteristics may be correlated with placement level. The final report will explore the relationship between students' demographic characteristics and the effects of the new placement policies on academic outcomes such as course or program enrollment and completion.

SUMMARY

Texas is among a handful of states that have recently enacted policies that attempt to address the low success rates of students who enroll in community colleges with very low scores on math placement tests. Rather than simply place students whose math skills are below ninth-grade level in the first of a sequence of developmental math courses, as has been the custom, these new policies raise the floor for developmental education by redirecting these students into alternate programs offered on campus or in the community.

The programs at HCC and TCC represent relatively new and untested but popular approaches for serving low-skilled students when access to developmental education is restricted to higher-skilled students. Both the four-week bridge course and the boot camp of computer-assisted, self-paced labs are meant to give students the instruction they need to reach and, it is hoped, pass the first level of developmental math. The stakes are high: If they fail to pass the sequence of developmental math courses, they are usually barred from enrolling in the college-level math courses they need to earn a credential or to transfer to a four-year college or university.

While a great deal of research has documented the low success rates of low-scoring students in community colleges throughout the United States, research has yet to address the experience of students who are routed into these alternate programs. This study will be among the first to shed light on whether raising the floor of developmental education in this way helps or hurts such students.

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