

Executive Summary \ November 2019

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Findings from a National Survey and Interviews with Postsecondary Institutions

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CAPR \

CENTER FOR THE ANALYSIS OF
POSTSECONDARY READINESS





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Overview

Research has suggested that the traditional modes of delivering developmental education, or remedial courses designed to prepare students for college-level coursework, are ineffective and pose a significant barrier to college students' success. To improve them, many colleges, education systems, and states are pushing to reform current developmental education practices. Recent state policies mandating or recommending these reforms suggest that change is happening at a rapid pace, but few studies have looked at the scope and scale at which colleges may be implementing these changes on the ground.

To examine the reach and effectiveness of developmental education reforms, in 2014, MDRC and the Community College Research Center at Teachers College, Columbia University, established the Center for the Analysis of Postsecondary Readiness (CAPR), a research and development center funded by the U.S. Department of Education's Institute of Education Sciences. As one of three primary studies in CAPR, this descriptive study documents current developmental education practices used in broad-access two- and four-year colleges across the country. The findings are based on a 2016 nationally representative survey of public two- and four-year colleges and private, nonprofit four-year colleges as well as qualitative interviews with institutional and state leaders. This report examines the current state of practices in developmental education assessment, placement, instruction, and support services offered to students.

The study finds that although many colleges are continuing to use standardized tests to assess college readiness and multi-semester, prerequisite developmental course sequences, they are also experimenting with changes to these practices. For instance, a growing number of public colleges are using additional measures, such as high school grades, to assess college readiness. Additionally, many colleges are implementing instructional reforms, with the most prevalent being compressing developmental courses into shorter periods, offering diverse math courses that align with students' careers, allowing students to determine their own learning pace, and integrating developmental reading and writing instruction into one course. However, while experimentation is widespread, colleges are generally not offering these approaches at scale, with most of these reforms to developmental education instruction making up less than half of the college's overall developmental course offerings. Finally, the report finds that college leaders tend to identify a variety of factors as influencing their efforts to improve developmental education, including faculty input, research, practices at other colleges, and the availability of resources. However, state policy, and how schools implement these policies, appear to have a particularly strong influence on colleges' practices and the number of institutions that implement these reforms.

Acknowledgments

We thank the research staff of the Center for the Analysis of Postsecondary Readiness who supported the descriptive study. Thanks to Shanna Jaggars for initially setting up the study and helping get it off the ground. Alexander Mayer (MDRC) led the survey effort, and Leslyn Hall, a consultant for MDRC, coordinated the survey administration and documented the strategies used for data collection. Temple University Institute for Survey Research conducted outreach for the survey and all data collection, including the cognitive interview pretest. John Diamond and Daniel Handy (MDRC) processed, analyzed, and prepared the survey data for use in this report. Finally, Rebecca Natow with other staff from the Community College Research Center and MDRC led the qualitative interview effort, including developing interview protocols, conducting the interviews, and coding the interviews in Dedoose.

We are also grateful for everyone who provided us with feedback on this report, including James Benson at the Institute of Education Sciences; Alexander Mayer, Katie Beal, and Seth Muzzy (MDRC); Thomas Bailey, Thomas Brock, Nikki Edgecombe, Doug Slater, and Rebecca Natow (Community College Research Center); Hans Johnson (Public Policy Institute of California); and Tara Parker (University of Massachusetts Boston). In addition, we thank the publications staff at MDRC, including Alice Chasan (consultant), who edited the report, and Carolyn Thomas, who prepared the report for publication.

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The Authors

Executive Summary

Research has suggested that far more students are referred to developmental education courses than necessary, and that developmental education presents a monumental barrier to students' success.¹ For instance, national reports have shown that up to 70 percent of entering college students are advised to take developmental courses before entering college-level classes.² Additionally, research has shown that colleges' reliance on standardized tests to assess students' college readiness has resulted in many more students being placed into developmental education courses than is necessary — and that alternative information, such as high school performance, may more accurately predict college success.³ Furthermore, research indicates that the predominant mechanisms for delivering developmental education — multi-level, prerequisite developmental courses that can take multiple semesters or even years to complete — hinder students' progress, and large proportions of students fail to make it through these courses.⁴ As a result, practitioners and researchers have been experimenting with multiple ways to revise developmental education, with many practices showing promise for improving students' success.⁵

In recent years, many colleges, systems, and states have been quick to adopt these revised practices.⁶ For instance, in 2018, the Education Commission of States noted that 19 states now encourage or mandate colleges to assess entering students' college readiness by incorporating additional measures, such as students' high school grade point average (GPA), rather than depending solely on standardized test scores.⁷ Similarly, 15 states now recommend or require colleges to enroll students with developmental needs directly into college-level courses with supplemental supports, instead of requiring them to take multiple semesters of prerequisite developmental courses — a practice that was nearly unheard of before 2010. And such changes are percolating from sectors beyond the colleges themselves; political leaders in large states such as Texas and California have begun legislating statewide reforms to developmental education.

While state-led change has been occurring at a rapid pace, there has been little research on whether colleges are implementing these reforms and at what scale. In 2014, researchers at MDRC and the Community College Research Center (CCRC) at Teachers College, Columbia University, partnered to create a research and development center funded by the U.S. Department of Education's Institute of Education Sciences (IES), the Center for the Analysis of Postsecondary Readiness (CAPR), to examine the reach and effectiveness of developmental education reforms.⁸

¹Bailey, Jeong, and Cho (2010); Chen (2016); Zachry Rutschow and Schneider (2011); Barnett and Reddy (2017); Hu et al. (2019); Scott-Clayton (2012).

²Chen (2016); and Bailey, Jeong, and Cho (2010).

³Scott-Clayton (2012); Hodara, Jaggars, and Karp (2012); Belfield and Crosta (2012).

⁴Bailey, Jeong, and Cho (2010); Jaggars and Stacey (2014).

⁵See, for instance, Zachry Rutschow and Schneider (2011); Kalamkarian, Raufman, and Edgecombe (2015); Cho, Kopko, Jenkins, and Jaggars (2012); Scrivener et al. (2018); Logue, Watanabe-Rose, and Douglas (2016).

⁶Chen (2016).

⁷Whinnery and Pompelia (2018).

⁸For more information, visit postsecondaryreadiness.org.

As one of three primary studies in CAPR, this descriptive study is focused on documenting current instructional and assessment practices used in broad-access two-year and four-year colleges across the country.

In 2016, CAPR disseminated a survey to a nationally representative sample of broad-access two-year and four-year institutions, asking them to document the scope and scale of their developmental practices as of the 2015-2016 academic year. In addition, CAPR researchers conducted interviews with institutional and state leaders about their practices and the factors that influenced their developmental education decisions. This report provides the most recent nationally representative examination of the scope and scale of colleges' developmental education practices.

The key findings from the report are that most public colleges continue to use standardized tests to assess students' college readiness, though a majority also now use additional measures such as high school performance. Most colleges continue to rely on multi-semester, prerequisite course sequences to teach developmental education, although large numbers of colleges are also experimenting with reforms to these practices. Nevertheless, colleges tend to offer alternative developmental education instructional reforms as less than half of their overall course offerings. Finally, college leaders name a variety of factors as influencing their efforts to improve the outcomes of students with developmental needs, though analyses suggest that state policy can have an important influence on the number of colleges that implement these reforms.

What Are the Challenges with Developmental Education and How Is It Changing?

Assessing students' college readiness and placing students with skills below the college level into sequential developmental reading, writing, and math courses has been standard practice at broad-access two-year and four-year colleges for decades. Typically, these schools have relied on standardized tests, including exams used in college admissions such as the ACT or SAT or entering college placement exams such as the ACCUPLACER, to assess entering students' skills. Students testing below a certain score (which can vary from college to college) are generally deemed not college-ready and placed into developmental education courses in order to build their skills. Traditionally, colleges offered multiple levels of the courses and required students with lower test scores to complete each successive level to demonstrate their mastery of these skills and be eligible to take college-level courses. This process often means that students are taking multiple semesters or even years of developmental courses before being allowed entry into college-level courses.

Research from the past decade has shown that these practices are less than effective and may be hindering students' college success. For instance, reports have shown that standardized tests can be a poor predictor of students' college readiness in comparison with other measures such as students' high school performance — and thus result in many more students taking developmental classes than may need them.⁹ In addition, research studies have shown that very few students ever complete their developmental requirements, particularly if they are required to take

⁹Scott-Clayton (2012); Barnett and Reddy (2017).

them over multiple semesters, resulting in less than 40 percent of these students ever entering and completing their first college-level course.¹⁰

Given these findings, many practitioners and policymakers have been experimenting with ways to improve students' success in these courses by revising the assessment, placement, instruction, and supports for students in developmental courses.¹¹ These reforms range from changing the methods for assessing students' college readiness to include measures outside of standardized tests (reforms to assessment) to changing the structure, sequencing, content, or pedagogy used in developmental courses (instructional reforms) to providing students in developmental courses with additional support (reforms to student services and supports). Table ES.1 provides the names and definitions of the most popular types of developmental education reforms.

Table ES.1
Popular Developmental Education Reforms

Type of Practice	Definition
<u>Assessment reforms</u>	
Multiple measures assessment	Use of 2 or more measures to determine college readiness
High school performance	Measures that consider students' academic success in high school (such as high school GPA) to determine college readiness
Measures of motivation or commitment	Measures of students' behaviors and attitudes toward school and learning to determine college readiness. May be measured using an assessment such as the Learning and Study Strategies Inventory (LASSI).
Planned course of study	Measures that consider students' intended majors for placement in developmental education. Frequently used in multiple math pathways models.
<u>Instructional reforms</u>	
Compressed courses	2 or more developmental courses compressed into a shorter time period
Self-paced courses	Students complete lessons at their own pace; instruction is often computerized
Corequisite model	Students are placed directly into a gateway college-level course with additional supports
Learning communities	Students take 2 or more courses together as a cohort
Multiple math pathways	Diversified math designed to align with students' intended majors
Integrated reading and writing	Developmental reading and developmental writing combined into one course
<u>Student supports reforms</u>	
Tutoring or supplemental instructors	Targeted instruction or support
Student success courses or coaches	Individuals or courses help students learn about college life and introduce them to the supports available to promote their success
Computer-based learning sessions	Self-paced learning outside of class using computer-based instruction
Pre-matriculation program or boot camp	Programming before a student officially enrolls in college

¹⁰Bailey, Jeong, and Cho (2010); Barnett et al. (2018); Chen (2016).

¹¹Zachry Rutschow and Schneider (2011); Kalamkarian, Raufman, and Edgecombe (2015); Cho, Kopko, Jenkins and Jaggars (2012). See, also, Florida's and Connecticut's state policy changes regarding developmental education: Hu et al. (2019) and Turk, Nellum, and Soares (2015).

The CAPR Descriptive Study

The primary goal of the CAPR descriptive study is to understand the scope and scale of colleges' reforms to their developmental education assessment and placement practices as well as colleges' implementation of instructional and student support interventions designed to improve students' success. The study data come from a survey disseminated to a nationally representative, random sample of 1,055 broad-access two-year and four-year colleges, universities, and postsecondary systems; and interviews with 127 college faculty, staff, administrators, and system leaders from 83 different two-year and four-year colleges, college systems, and state-level higher education governing bodies. The survey was split into two nearly identical sections for math and for reading and writing and asked college leaders to reflect on their institution's or systems' practices and policies for developmental education assessment, placement, and instruction for the 2015-2016 academic year. The researchers disseminated the survey in spring 2016 and fall 2016 and achieved an overall response rate of 78 percent from public two-year and four-year institutions and private, nonprofit four-year institutions.¹²

Findings

This section details key findings from the CAPR survey and interviews.

- **Most institutions continue to use standardized assessments to measure students' college readiness; however, a growing number of public colleges are also using additional measures to assess college readiness, such as students' high school performance.**

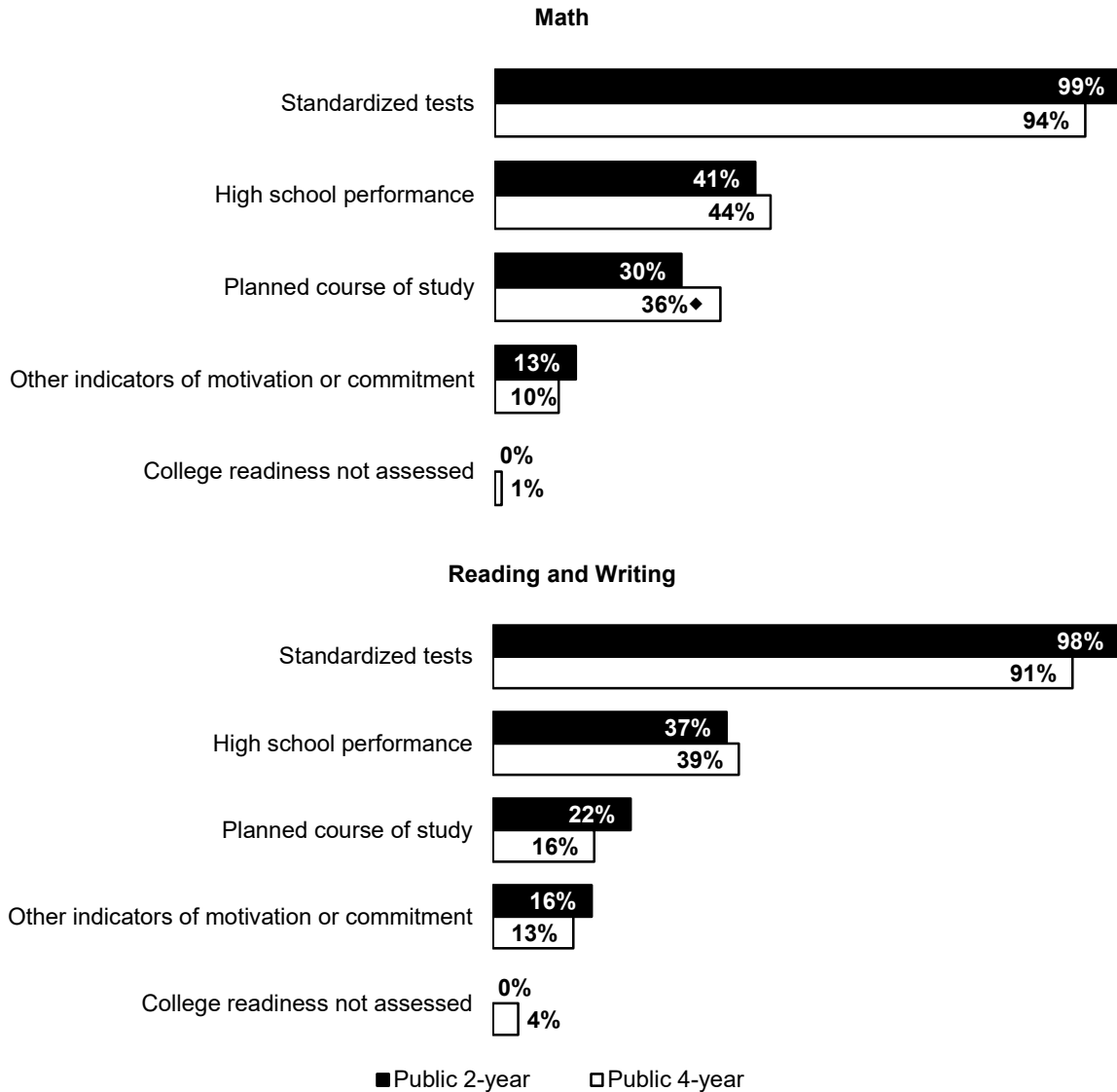
CAPR survey findings confirm that virtually all broad-access public colleges assess students' college readiness, and most continue to rely on standardized assessments to do so. Many public colleges (nearly 40 percent) use only one measure to assess students' skills and over 90 percent of these use standardized assessments exclusively. However, survey findings also reveal a 30 percentage point increase in the proportion of colleges using additional measures to assess students' college readiness since 2011, when the last nationally representative survey was conducted.¹³ As shown in Figure ES.1, the most common alternative measure used in assessment and placement decisions is high school performance, followed by colleges using students' planned course of study to guide placement into developmental math courses.

- **Most two-year and four-year public colleges offer developmental courses, though their prevalence is much higher at two-year colleges. Multi-semester, prerequisite sequences make up a substantial proportion of these courses at both types of institutions.**

¹²Because their response rates were very low, private two-year colleges and private, for-profit four-year colleges were excluded from the study.

¹³Fields and Parsad (2012).

Figure ES.1
Processes Used to Determine College Readiness Among Public Colleges,
Academic Year 2015-2016



SOURCE: Academic year 2015-2016 data are from the Center for the Analysis of Postsecondary Readiness institutional survey, fielded in 2016.

NOTES: Distributions may not add to 100 percent because categories are not mutually exclusive.

Rounding may cause slight discrepancies between tables and figures.

In some instances, multiple respondents completed a survey for an institution. In cases where multiple respondents answered for an institution, the maximum number of sections or students indicated is used for the analysis. For yes/no questions, if at least one respondent from an institution answered "yes," the institution is counted as having answered "yes." A diamond (♦) indicates that institutions' multiple responses to a question affected the reported value(s) for 5 percent of the sample or more.

The CAPR survey findings show that almost all broad-access public two-year (99 percent) and most public four-year colleges (about 83 percent) offer developmental education courses to students deemed underprepared; while the percentage of two-year colleges offering developmental education has remained steady, more four-year colleges offer developmental courses in 2016 than in 2000.¹⁴ Public two-year colleges offer over twice as many sections of developmental education on average (74 sections in math; 49 sections in reading and writing) as public four-year colleges (32 sections in math; 22 sections in reading and writing), which is noteworthy given that community colleges on average enroll slightly fewer undergraduate students than do four-year colleges.¹⁵ Both two-year and four-year colleges also tend to offer more sections of developmental math than developmental reading and writing sections. Additionally, a large proportion of two-year colleges (86 percent) and four-year colleges (67 percent) offer developmental math courses as multi-semester, prerequisite course sequences. Somewhat fewer (67 percent of public two-year colleges and 44 percent of public four-year colleges) offer multi-semester sequences in developmental reading and writing courses.

- **Many colleges are experimenting with different instructional approaches in developmental education, particularly among two-year colleges; however, these approaches tend to make up less than half of colleges' overall developmental course offerings.**

There are six different instructional approaches that are being offered at more than half of public two-year colleges (as shown in Figure ES.2). A majority of two-year colleges are offering at least one section of multiple math pathways, self-paced math courses; integrated reading and writing, corequisite courses in developmental reading and writing; and compressed courses in both subjects. Though somewhat less common, substantial proportions of four-year colleges also use these approaches. That said, these approaches are usually not scaled; most public colleges do not offer these approaches in half their sections of developmental education courses or more.

- **Both public two-year and four-year colleges offer multiple types of support services for students in developmental courses, particularly in developmental math, although their uptake is higher within two-year colleges.**

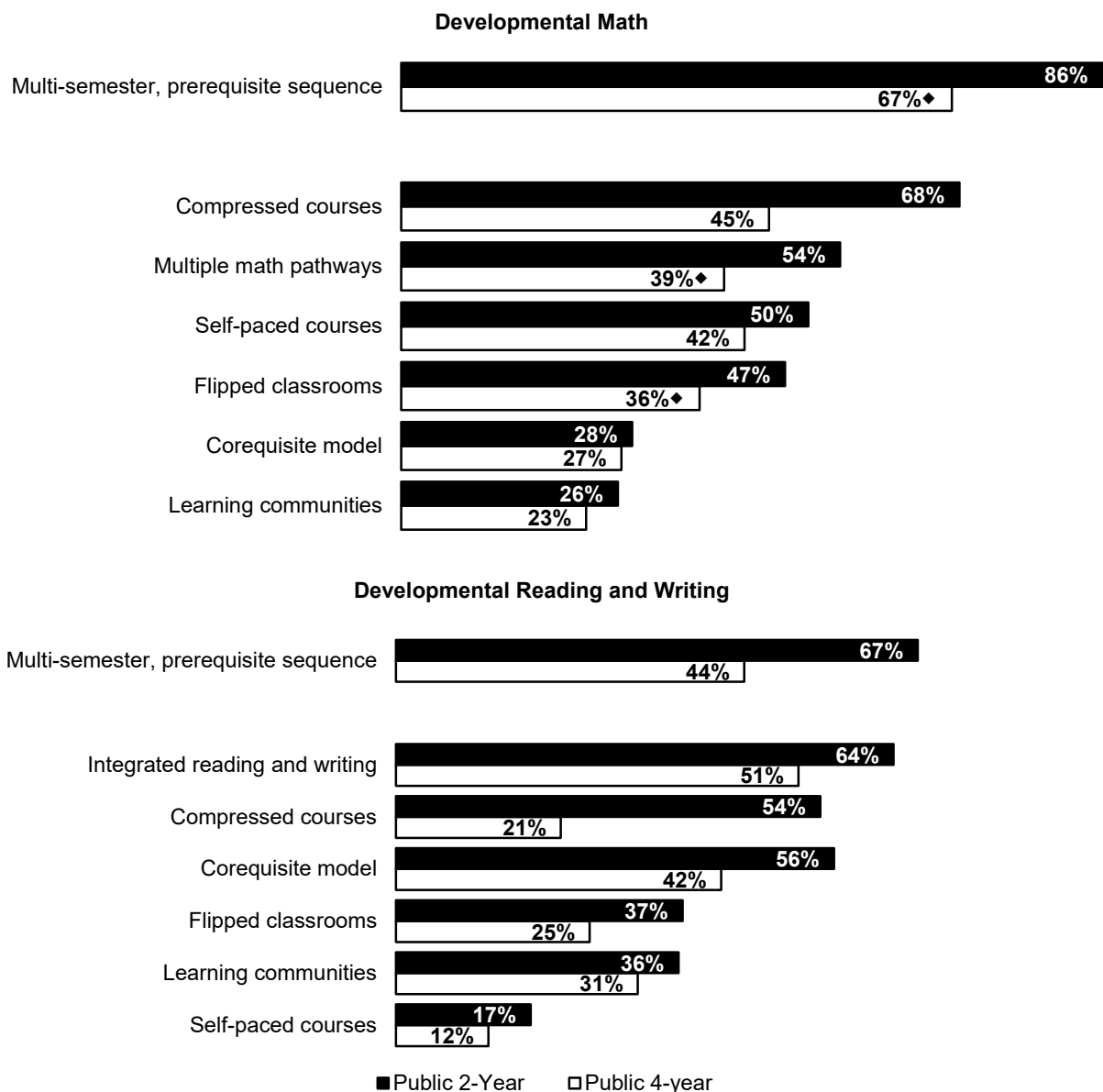
There are three different support services that more than half of two-year and four-year colleges offer to students in developmental math courses. (See Figure ES.3.) A large proportion of two-year colleges (56 percent) and four-year colleges (46 percent) also have pre-matriculation programs or “boot camps” for students identified as having developmental math needs, meaning that many colleges offer three or four different types of supports for these students. More than two-thirds of colleges also provide student success courses and tutors or supplemental instructors for students in developmental reading and writing courses.

¹⁴Parsad and Lewis (2003).

¹⁵According to CAPR researchers' calculations using data drawn in 2015 from the Integrated Postsecondary Education Data System (IPEDS), the average undergraduate enrollment among colleges in the survey sample was approximately 8,800 students for public four-year colleges and 7,400 students for public two-year colleges.

Figure ES.2

**Instructional Approaches to Developmental Education in Public Colleges,
Academic Year 2015-2016**



SOURCE: Academic year 2015-2016 data are from the Center for the Analysis of Postsecondary Readiness institutional survey, fielded in 2016.

NOTES: Values represent percentages among public colleges that reported offering developmental courses. Colleges were counted as using an instructional method if any respondent indicated that they used it in at least one course section.

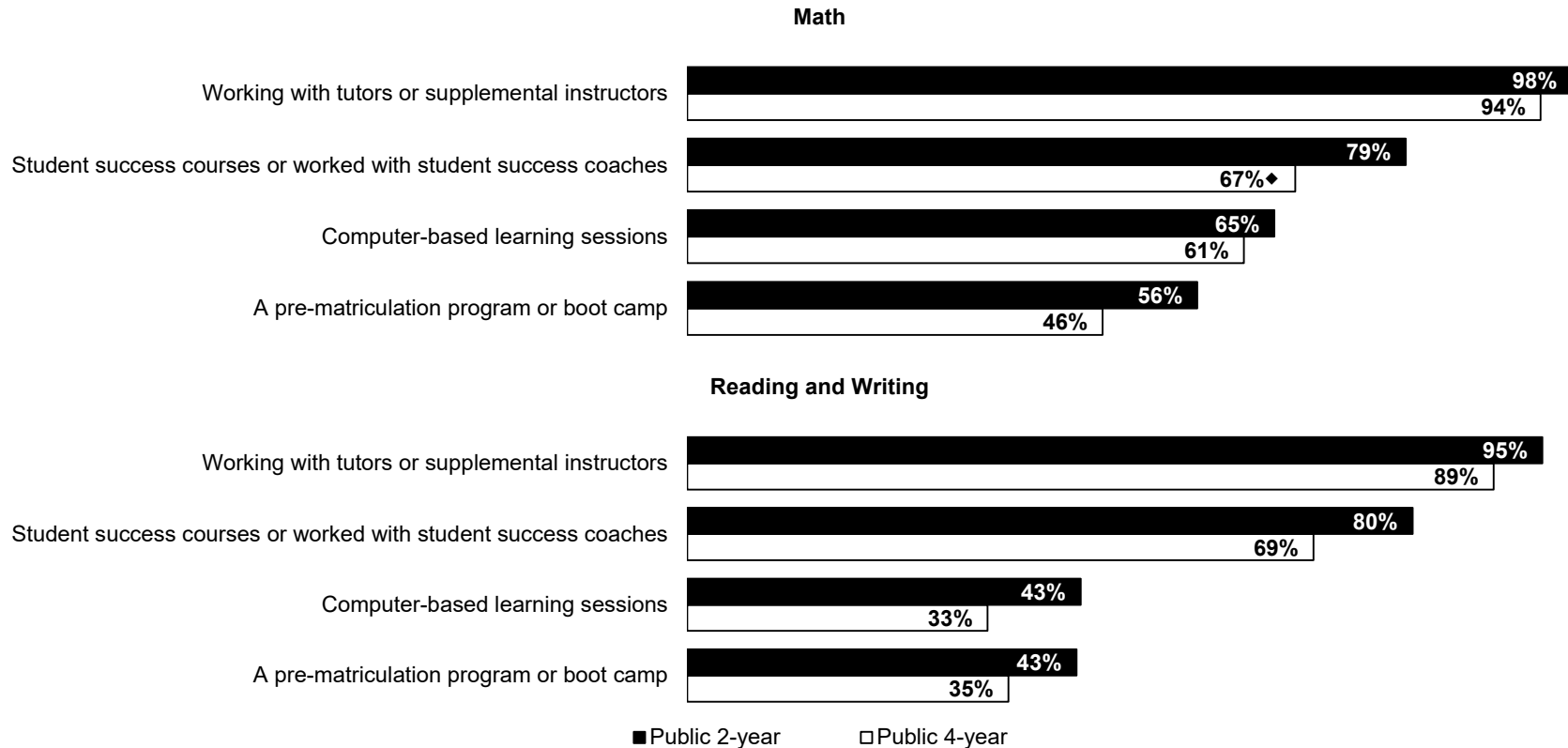
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Rounding may cause slight discrepancies between tables and figures.

In some instances, multiple respondents completed a survey for an institution. In cases where multiple respondents answered for an institution, the maximum number of sections or students indicated is used for the analysis. For yes/no questions, if at least one respondent from an institution answered "yes," the institution is counted as having answered "yes." A diamond (♦) indicates that institutions' multiple responses to a question affected the reported value(s) for 5 percent of the sample or more.

Figure ES.3

Percentage of Public Colleges with Students Identified as Underprepared in Math and in Reading and Writing Using Student Support Services, Academic Year 2015-2016



SOURCE: Academic year 2015-2016 data are from the Center for the Analysis of Postsecondary Readiness institutional survey, fielded in 2016.

NOTES: Colleges were counted as using a student support service if they reported any students using that service.

Distributions may not add to 100 percent because categories are not mutually exclusive.

Rounding may cause slight discrepancies between tables and figures.

In some instances, multiple respondents completed a survey for an institution. In cases where multiple respondents answered for an institution, the maximum number of sections or students indicated is used for the analysis. For yes/no questions, if at least one respondent from an institution answered "yes," the institution is counted as having answered "yes." A diamond (♦) indicates that institutions' multiple responses to a question affected the reported value(s) for 5 percent of the sample or more.

A greater percentage of community colleges also report larger proportions of students identified as having developmental needs using support services, compared with four-year colleges. Higher uptake is seen in public two-year colleges among every support service the CAPR survey asked about. For instance, 79 to 80 percent of public two-year colleges report using success courses or success coaches for students identified as having developmental needs in math, reading, and writing compared with 67 to 69 percent of four-year colleges.

- **Most colleges report a variety of factors as influences on their efforts to improve skills of students in developmental courses, with faculty input as the most commonly named factor and state policy the least.**

A majority of public two-year and four-year colleges report that each of the factors listed on the CAPR survey (faculty input, internal research, the availability of resources, practices at other colleges, external research, and state policies) are drivers of their developmental education practices. The most frequently cited factor at both two-year and four-year colleges is faculty input (at over 85 percent of colleges).¹⁶ At least 65 percent of two-year colleges also name each of the other factors on the survey as driving their efforts, with four-year colleges naming these factors slightly less frequently. Respondents cite state policy least often, though 58 percent or more colleges see state policy as important.

- **Analyses of the role of state policy in three states (Texas, Georgia, and Tennessee) suggest that state policy may have a more complex and influential role in colleges' practices than the overall CAPR survey results reflect.**

A larger proportion of public colleges in three states with mandated or recommended developmental education reform policies report state policy as an influence on their practices than seen in the overall survey results. However, colleges' actual implementation of these reforms varies. Colleges in states that mandated practices, revised course offerings, and developed accountability systems to check on colleges' implementation generally have higher levels of implementation of these recommended or mandated reforms than those that allowed colleges more discretion over implementation.¹⁷ Examples from three states suggest that state- and system-level policy may play a more complex and influential role in colleges' practices than the overall CAPR survey results reflect.

- **Developmental education is much less prevalent at private, nonprofit four-year colleges,¹⁸ and their implementation of different approaches to assessment, instruction, and supports varies.**

¹⁶The survey did not ask individuals to identify the importance of one driver over another.

¹⁷The survey sample was not stratified by state, meaning that the survey responses presented by state are necessarily not representative of all institutions within these states. Additionally, because of small sample sizes, survey responses reported by state have higher margins of error than the national sample.

¹⁸These results may not be as representative as the results for public two-year and public four-year colleges, as the response rates among private, nonprofit four-year colleges were lower (51 percent) than for public two-

Fewer broad-access private four-year colleges (41 to 54 percent) than public colleges require students to have a minimum level of skill before they enroll, and about one-fourth of private four-year colleges do not assess college readiness at all (compared with 0 percent of community colleges and less than 5 percent of public four-year colleges). When they do assess students' college readiness, about 40 to 47 percent use two or more methods to assess students' college readiness, with high school performance being the most commonly used additional method. About half of private colleges offer developmental reading, writing, and math as multi-semester, prerequisite sequences, which are less prevalent compared with public colleges. Private colleges are similar to public colleges in their use of integrated reading and writing courses as well as a number of different math approaches, including compressed courses, multiple math pathways, self-paced courses, and flipped classrooms. Private colleges were less similar to public colleges in their developmental reading and writing practices, with 30 percent or less offering compressed courses, corequisite courses, flipped classrooms, self-paced models, and learning communities in these subjects. Private four-year colleges used student support services less frequently than public colleges.

What Do These Findings Say About the State of Developmental Education Reform Now?

The findings from the CAPR survey and qualitative interviews suggest that much is changing in developmental education practice — and that much is staying the same. The following provides a brief summary of developmental education reform based on the findings from this study.

- **The pace of developmental education reform is increasing rapidly across the country.**

Large proportions of colleges are implementing practices, such as multiple measures assessment or multiple math pathways, which had barely been introduced to the field before 2012. These numbers have likely grown since the time the CAPR survey was disseminated in 2016, as states have been increasingly playing a larger role in recommending or mandating college practices. For instance, although the CAPR survey reveals that less than one-third of colleges had implemented corequisite reforms, a 2018 report by the Education Commission of States found that at least 15 states now recommend or mandate corequisite courses for all the colleges in their postsecondary systems.¹⁹ As such, reforms have likely become even more prevalent since the time of this survey.

- **Colleges are implementing more complex reforms.**

Many of the practices that colleges are implementing require substantial revisions to institutional or even state policies and practices. For instance, the use of high school performance in developmental education placement decisions can be highly challenging for broad-access

year colleges (86 percent) and public four-year colleges (90 percent). Thus, the survey responses for the private colleges may be less representative of national trends than the responses of public colleges.

¹⁹Whinnery and Pompelia (2018).

colleges that generally do not require high school transcripts for entry. Colleges must figure out new ways to obtain these data, which may entail new relationships with kindergarten-through-grade-12 schools or new data systems to process these measures, both of which may require lengthy negotiations and long periods of implementation.²⁰ Colleges also appear to be taking on deeper revisions to developmental course content and instruction, such as reforms that integrate different subjects or change the content of math classes. This is a shift from prior research showing that many reforms aimed to change the timing or sequencing of courses.²¹

- **Despite this, traditional practices continue in many places for many students.**

While much change is happening, findings from this study suggest that some elements of the developmental education landscape remain the same. For instance, a large proportion of public colleges continue to offer developmental courses as multi-semester, prerequisite sequences. Additionally, two-year colleges are more likely to offer these courses at scale, meaning that students entering two-year colleges are much more likely to be required to take these courses. As such, many students who take developmental courses may not be receiving the revised assessment, instruction, and support practices noted above.

What Are the Next Steps?

The following provides some suggestions for continuing to strengthen policymakers', practitioners', and researchers' efforts to improve the success of students in developmental courses:

- **Continue to improve the evidence of what works so that policymakers and practitioners can implement the programs and policies that have the greatest chance for improving students' success.**

The urgency in the field to improve the success of students enrolled in developmental education courses has led many institutions, systems, and states to push for reforms that have not necessarily been demonstrated to be effective in improving student outcomes. For instance, research indicates some reforms such as compressed courses, student success courses, and self-paced instructional models may be limited in helping students advance into college-level courses and, in some cases, may slow students' progress.²² These findings underscore the importance of getting clear evidence of effectiveness out to the field to ensure that the practices that have the most potential for improving student outcomes are implemented. Additionally, it suggests that practitioners and policymakers should try to remain nimble in decision making around differing reforms and be open to shifting practices as more evidence becomes available about what reforms may best improve student outcomes.

²⁰Barnett et al. (2018); Barnett and Reddy (2017).

²¹Edgecombe, Cormier, Bickerstaff, and Barragan (2013).

²²Kalamarkian, Raufman, and Edgecombe (2015); Karp and Stacey (2013); Weiss et al. (2011); Zachry Rutschow, Cullinan, and Welbeck (2012); Bickerstaff, Fay, and Trimble (2016); Fay (2017); Boatman (2012); Weiss and Headlam (2018).

- **Seize opportunities for more rigorous research that may arise from the slow pace of scaling.**

While experimentation with new practices is high, colleges are not, in general, implementing these reforms for large groups of students, which offers opportunities to test what types of interventions may be most effective. Practitioners and researchers could take advantage of the natural timeline often needed to implement new practices to do more rigorous analyses of the outcomes of students who receive a new intervention in contrast with those who do not. Finding natural marriages between these two interests represents one way that both practitioners and researchers may be able to advance the field more quickly — and effectively — toward improving student outcomes.

- **Build knowledge about how integrating multiple reforms together may improve student success.**

Recent research suggests that more integrated reforms, which bring together a variety of instructional and student support changes, may be promising, as studies of more comprehensive reforms to students' course-taking, supports, and financial assistance have been effective in improving students' academic progress and graduation rates.²³ However, research on the mix of practices that may be most effective is still relatively limited and should be a priority to provide the best information for the field.

- **Gain a better understanding of the drivers of colleges' reforms.**

This study reveals that multiple factors, ranging from faculty input to research to state policy, influence colleges' practices. However, the data do not allow for a deep investigation of how these drivers may interact and what types of drivers may best foster colleges' implementation. A more nuanced investigation of the interaction between and among these factors may help support further implementing and scaling of promising programs.

- **Learn more about what works for specific types of students.**

As the evidence on the effectiveness of different developmental education practices is building, leaders should prioritize conducting an analysis of which types of reforms may be best for different groups of students. For instance, providing strong services for traditionally underserved students and students with multiple developmental needs will be a particularly important part of this picture, given that broad-access colleges often serve large proportions of these students.²⁴

- **Strengthen the field's knowledge of how instruction may affect students' success.**

This study indicates that many colleges are experimenting with classroom-level reforms such as integrated reading and writing and multiple math pathways, but there is very little information about how changes to classroom practices may affect students' success. Research has

²³Scrivener et al. (2018); Sommo, Cullinan, and Manno (2018).

²⁴Visher, Cerna, Diamond, and Zachry Rutschow (2017).

shown that certain types of instructional reforms, such as those that provide more active learning environments for students or contextualization of math learning, hold promise for improving students' learning and academic and labor-market outcomes — while others, such as technology-based instruction, have more mixed effects.²⁵ These findings suggest that instruction may play an important role in students' learning and success and should be a priority in future research agendas.

- **Focus on learning more about private two-year colleges.**

Private two-year colleges' low response rates in this research study mean their practices remain relatively unknown. Given that these institutions enroll large numbers of low-income students and students of color, understanding the types of practices that they are implementing and their effectiveness should remain central to future work.²⁶

Summary

As part of the reauthorization of the Higher Education Act, which provides federal resources aimed at strengthening postsecondary education and financial assistance for students, Congress is currently (as of fall 2019) considering a number of provisions aimed at reducing the rates of postsecondary remediation and encouraging the adoption of evidence-based reforms. This report suggests that while many colleges have already moved toward the implementation of these practices, many more may be affected, as federal funding and support is tied to students' success. This is likely to have important implications for the many colleges that have not yet begun down the road of reform. Moreover, it underscores the urgency in understanding what reforms may be most effective and how they can be more widely implemented among the nation's colleges.

²⁵Logue, Watanabe-Rose, and Douglas (2016); Zachry Rutschow, Diamond, and Serna-Wallender (2017); Martinson, Cho, Gardiner, and Glosser (2018); Hodara (2011); Jaggars and Xu (2016); Jaggars, Edgecombe, and Stacey (2013).

²⁶Fry and Cilluffo (2019).

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