A Matter of Degrees

Practices to Pathways

High-Impact Practices for Community College Student Success

CCCSE
Center for Community College
Student Engagement

Acknowledgments

Contents

It's Time to Redesign

Today's nationwide focus on college completion is central to both individual and societal success. For individuals, attaining a credential has become essential to earn a livable wage and support a family. In addition, as each person's educational attainment increases, so does his or her capacity to contribute to the economy, his or her community, and the democratic process.

Community colleges—which educate most of the students who are statistically least likely to earn degrees—are at the heart of improving college success, and a number of community college leadership organizations have pledged to improve college completion rates.

The need is evident: Approximately 80% of students in the Survey of Entering Student Engagement *(SENSE)* 2013 Cohort report having a goal of earning an associate degree. However, 54% of students who start at two-year public colleges earn a certificate, earn a degree, or are still enrolled in college six years later (Horn & Skomsvold, 2011).

Recently, the American Association of Community Colleges (AACC) highlighted the sector's commitment by issuing a dramatic call to increase completion rates, and many colleges are stepping up efforts to meet this challenge.

The Center for Community College Student Engagement has spent more than 10 years providing colleges with data they can use to understand and improve the educational experiences of their students. With today's reality of growing demand for higher education, constrained budgets, and greater accountability, acting on such data is more important than ever. Colleges have to make difficult choices about time, money, and other resources. And every one of those decisions should be guided by a single question: What action will help the most students succeed?

A Matter of Degrees: Practices to Pathways is the third of three reports that are part of the Center's special initiative, Identifying and Promoting High-Impact Educational Practices in Community Colleges. The first report defined and described 13 promising practices in community colleges. The second report examined the relationships between participation in the practices and student engagement.

This report focuses on the critical next-level challenge in community college work: strengthening student success by identifying the educational practices that matter most and integrating them into coherent academic and career pathways *for all students*. Toward that end, this report offers exploratory analyses of relationships between high-impact practices and student outcomes.

> "Student pathways provide a visible, flexible, and sustainable roadmap for a student's journey through the educational experience. The same pathway can also frame the college's strategic plan so that what colleges do is what students do, and what students do is what colleges do."
>
> *Terry O'Banion*
> *President Emeritus*
> *League for Innovation in the Community College*
> *Chair of the Graduate Faculty*
> *National American University*

From Practices to Pathways

In 2004, the Center published *Engagement by Design*, a call for colleges to be intentional about their educational practice—to make engagement inescapable. That same year, the first 27 Achieving the Dream colleges launched intensive efforts to improve outcomes for large numbers of students. Ten years later, many colleges are doing valuable work, but rarely at the scale needed for substantive improvements.

As a result, colleges and states are looking at new ways to promote more fundamental redesign of students' educational experiences. Examples of these initiatives include Completion by Design, led by colleges in Florida, North Carolina, and Ohio; Texas Completes, led by Lone Star College System; and the Roadmap Project, which was led by the Association of American Colleges and Universities (AAC&U) and included 22 community colleges.

In 2010, proud of the progress colleges had made, but recognizing the need for them to do more—a lot more—AACC, the Association of Community College Trustees (ACCT), the Center, the League for Innovation in the Community College, the National Institute for Staff and Organizational Development, and Phi Theta Kappa in a unified action signed a statement of commitment to increase student completion rates.

Since then, AACC has convened a 21st-Century Commission on the Future of Community Colleges and issued a bold call to action: "Increase rates for completion of community college credentials (certificates and associate degrees) by 50% by 2020, while preserving access, enhancing quality, and eradicating attainment gaps across groups of students" (American Association of Community Colleges [AACC], 2014, p. 3).

The Center supports this goal and continues to assist colleges as they work to attain it. In fact, the evolution of the Center's work mirrors the evolution of colleges and their practices—from the earliest focus on using data to today's efforts to meet AACC's recent call to action.

Beginning to use data to evaluate discrete practices. More than 10 years ago, the Center began providing data about discrete educational practices as well as about clusters of related practices through the development of benchmarks, which group survey items into conceptually related areas of engagement (e.g., active and collaborative learning). Colleges use those data to do more of what works well in classrooms and in student services. These relatively isolated efforts, however, typically are not implemented at a scale sufficient to affect college completion rates.

Advancing to assessing complex practices. Next, the Center began providing new analyses to help colleges understand more complex practices, such as *first-year experience*, *student success course*, and *learning community*. Some of these practices help students build relationships with their peers, faculty members, and others on campus. Some make academic support and intensive time on task inescapable. Some help students set goals and identify the pathway to their achievement. And in some cases, practices are integrated so students benefit from the synergy of multiple high-impact experiences.

The first and second high-impact practices reports focused on these more complex practices. *A Matter of Degrees: Promising Practices for Community College Student Success* provided a description of the practices and a first look at data on promising practices from multiple perspectives.

A Matter of Degrees: Engaging Practices, Engaging Students presented notable differences in engagement between students who participate in each practice and students who do not participate. When notable differences exist, a practice can reasonably be labeled *high impact* with regard to engagement. The report also provided participation rates for each practice and showed that while many colleges may implement a given practice, small percentages of students experience them.

Today's need: using data to implement institutional change. If community colleges are going to make substantial progress on college completion, they need institution-wide change.

In this report, the Center looks at the relationships between participating in high-impact practices and student outcomes as well as the effects of participating in multiple practices. Colleges should examine which practices are most effective for their students and use that information to reshape the experience of every student on their campuses.

It is time for colleges to step up from small-scale, discrete practices to rethinking how they use their resources—and to making high-impact practices inescapable for all students. It is time to redesign the college experience.

Pathways: Fewer Choices and Inescapable Engagement

Recently, colleges that want to move beyond incremental improvement, particularly Achieving the Dream and Completion by Design colleges, have been developing pathways. A pathway is "a highly structured, coherent educational experience that is built around and through an area of study" (AACC, 2014, p. 11).

Through intentional design, pathways incorporate engagement into a rational, research-based experience for every student. In this way, effective pathways can guide students to completion—and to success.

Pathways typically serve to integrate multiple high-impact practices and make them inescapable. They offer multiple entry points so students can enter the pathway at various levels of college readiness and also re-enter over time as needed to advance to subsequent levels of skill and knowledge certification. And pathways use contextualized education, which teaches skills—such as in a developmental education or student success course—in the context of each student's area of interest.

By their nature, pathways reduce the number of choices students have to make, particularly when they first enter college. Today's community college students must choose from dozens of majors and hundreds of course options. Having this many choices is not serving them well. Indeed, for most students it is interfering with having a coherent—and complete—college experience.

Current brain science research shows that people experience anxiety and frustration when they face too many choices and, as a result, are more likely either to make poor decisions or to retreat from the situation altogether (Begley, 2011). For community college students, a poor choice about which classes to take can mean the difference between earning a credential and dropping out: "Lack of structure in many community colleges is likely to result in less-than-optimal decisions by students about whether and how to persist toward a credential" (Scott-Clayton, 2011, Abstract).

Pathways provide the structure that can help more students succeed. "Community college students will be more likely to persist and succeed in programs that are tightly and consciously structured, with relatively little room for individuals to unintentionally deviate from paths toward completion" (Scott-Clayton, 2011, Abstract).

> "Completing college is the result of successfully navigating a multitude of smaller decisions from start to finish. But for many college students, finding a path to completion is the equivalent of navigating a shapeless river on a dark night—and the wider the river, the more difficult it can be to find the way."
>
> *Judith Scott-Clayton*
> *Assistant Professor of Economics and Education and*
> *Senior Research Associate*
> *Community College Research Center*
> *Teachers College, Columbia University*

The High-Impact Practices

The 13 high-impact practices, as well as the structured group learning experiences classification, are described below.

Orientation. Orientation may be a single event or an extended structured experience to familiarize students with one or more of the following: college resources, services, policies, and organizations; building a network of support; and developing an academic plan and individual goals.

Accelerated or fast-track developmental education. Accelerated courses or fast-track programs in developmental education are learning experiences designed to help students move more quickly through developmental coursework in order to move on to college-level work.

First-year experience. A first-year experience or freshman seminar is a course or a combination of in-class and out-of-class activities offered to students during their first term or first year at college.

Student success course. A student success course is a course specifically designed to teach skills and strategies to help students succeed in college (e.g., time management, study skills, and test-taking skills).

Learning community. A learning community involves two or more linked courses that a group of students take together.

Academic goal setting and planning. This type of advising creates a clear path to help students reach their educational goals. Defining this path is the work of academic goal setting and planning.

Experiential learning beyond the classroom. Experiential (hands-on) learning—such as internships, co-op experience, apprenticeships, field experience, clinical assignments, and community-based projects—immerses students in content, and it encourages them to make connections and forge relationships.

Tutoring. Tutoring is academic assistance that is provided outside of class, either in a one-on-one setting, in a group setting, or via technology.

Supplemental instruction. Supplemental instruction typically involves a regularly scheduled, supplemental class for a portion of students enrolled in a larger course section. Supplemental instruction may be taught by the class instructor or a trained assistant, often a former student who was successful in the class.

High-Impact Practices Improve Student Outcomes

The data analyses on pages 9–27 report positive relationships between high-impact practices and three student outcomes:

- Completion of at least one developmental education course with a grade of C or better
- Completion of at least one gatekeeper course with a grade of C or better
- Persistence (fall-to-spring and fall-to-fall)

For the two course-completion outcomes, the analyses examine performance in math and English for developmental students only. For persistence, the analyses include both fall-to-spring and fall-to-fall persistence for both developmental and non-developmental students.

The report also includes analysis of participation in one or more of the five high-impact practices classified as structured group learning experiences: *orientation, accelerated or fast-track developmental education, first-year experience, student success course,* and *learning community.*

Participation in each high-impact practice is related to an increased likelihood of success in at least one of the outcomes for at least one group of students. And participation in multiple structured group learning experiences also is related to the likelihood of course completion for developmental students.

This synergy underscores the value of pathways. The more engaging practices students experience, the more likely they are to reach key milestones. Current evidence from the literature and college practice shows that one powerful way to ensure that students have opportunities to benefit from high-impact practices is to intentionally build many of these practices into every student's educational experience.

Assessment and placement. Assessment and placement includes placement test preparation experiences, academic skills assessment, and proper course placement.

Registration before classes begin. Registration before classes begin is being registered for all courses prior to the first class day.

Class attendance. Class attendance is instructors' stating a policy that requires students to attend every scheduled class session for the courses in which they are enrolled and that has consequences for not attending. (Institutional policy can require instructors to take this action.)

Alert and intervention. Academic alert and intervention is a systematic process whereby instructors alert someone at the college when students in their classes are struggling academically, and that person contacts the students in an effort to get them the assistance they need.

Structured group learning experiences. The Center classifies five high-impact practices as structured group learning experiences: orientation, accelerated or fast-track developmental education, first-year experience, student success course, and learning community.

Learn More About High-Impact Practices

The section of the Center website devoted to the high-impact practices initiative (www.ccsse.org/center/initiatives/highimpact) provides background, context, and resources that help explain the data provided in this report. These supporting materials include the following:

- Characteristics of community college students, including the barriers to success that colleges must help students overcome
- The Center's two previous reports on high-impact practices: *A Matter of Degrees: Promising Practices for Community College Student Success* and *A Matter of Degrees: Engaging Practices, Engaging Students*
- Design principles for effective practice—guidance for making engagement intentional and intensive
- Campus discussion guide—key questions to prompt thoughtful conversations informed by data
- The Center's survey instruments and special-item sets focused on the practices
- References
- Full analysis details and results

Methodology

Analyses conducted

Two sets of models were used to investigate relationships between student participation in high-impact practices and student outcomes: course-completion models, which focus on the relationship between practice participation and successful completion of a course (developmental education or gatekeeper) with a grade of C or better; and persistence models, which focus on the relationship between participation in a high-impact practice and persistence (fall-to-spring and fall-to-fall).

This report provides results showing that participation in high-impact practices is related to an increased likelihood of successfully attaining a milestone target (e.g., fall-to-spring or fall-to-fall persistence). Other results, contrary to expectations, suggest that participation in certain high-impact practices is related to a decreased likelihood of successfully achieving some of these milestones. For a complete summary of all results and a discussion of the methods used to clean and analyze the data, visit www.ccsse.org/hip3.

Data and statistical models

The data used in this report are from 12 colleges. These data include 2011 and 2012 *SENSE* and Community College Survey of Student Engagement *(CCSSE)* responses for which student identifiers were matched with student course-level data. The data were aggregated, depending on the analysis, to one record per term per student (persistence models) or one record per student (completion of developmental education and gatekeeper models).

The persistence models applied a discrete-time hazard model (a form of survival analysis) using the term-level data through the students' fourth term at the college (the maximum time necessary to establish fall-to-fall persistence). This analysis examined the likelihood that a student who participated in a high-impact practice would persist to the spring or subsequent fall term. Logistic regression was used in the analysis of the course-completion models to examine whether participation in a high-impact practice was related to successful completion of a developmental education or gatekeeper course.

Criteria for significance tests

Past Center reports on high-impact practices investigated relationships between institutional practices and student behaviors measured by the *SENSE* and *CCSSE* instruments and survey benchmark scores. Inasmuch as these data were collected at a fixed point in time (i.e., cross-sectional data), Center researchers used a rigorous and conservative standard to evaluate the relationships among the data. This report examines relationships between behaviors reported at one point in time through the surveys and student outcomes that are temporally removed from the time students participated in a practice or behavior. Therefore, this report employs a more liberal significance criterion of 0.10 or lower.

Odds ratios

The report presents findings for each statistically significant positive relationship between a high-impact practice (or multiple practices) and one of the three outcomes. Each finding is presented as an *odds ratio*—the likelihood of attaining the goal for students who experience or participate in the practice.

For example, *SENSE* results indicate that an entering developmental student who participates in orientation is 2.14 times more likely to complete a developmental English course than are students who do not participate in orientation when controlling for all other variables in the model.

Each odds ratio finding is presented with its N (the number of students in the analysis) and its associated p value. The criteria for inclusion in this report were that the model Wald chi-square was significant at $p \leq 0.10$ and the p value for the high-impact practice variable was less than or equal to 0.10.

Findings related to persistence are presented with two Ns—one for the number of students in the analysis and one for the number of academic terms in the analysis.

> "Allowing students to cobble together their own programs from a long list of distribution requirements—as is often the case with general education offerings—increases the risk that students will take a grab-bag of disconnected courses that do not enable them to build their skills as they progress through the curriculum. Mapping out program pathways using clearly defined learning outcomes for coursework tied to program learning goals can help to ensure the sort of curricular coherence that research suggests helps students build skills over time."
>
> *Davis Jenkins*
> *Senior Research Associate*
> *Community College Research Center*
> *Teachers College, Columbia University*

For each set of results presented, the odds ratio reported is for the relationship of the practice with the outcome, controlling for all of the other variables in the model. Other variables in the analyses include enrollment status, age, and first-generation status. Depending on the outcome measure, additional variables were included. For a detailed description of the methodology employed, visit www.cccse.org/hip3.

Data sources and respondents

Findings are based on data from *SENSE*, *CCSSE*, and matched student record data from 12 community colleges.

- *SENSE* is administered during weeks four and five of the fall academic term in classes most likely to enroll first-time students. It focuses on students' experiences from the time of their decision to attend their college through the end of the first three weeks of the fall term. The survey collects data on practices that are most likely to strengthen early student engagement. Entering students are those who indicate that it is their first term enrolled at the college where the survey is administered.

- *CCSSE*, administered in the spring, surveys credit students and gathers information about their overall college experience. It focuses on educational practices and student behaviors associated with higher levels of learning, persistence, and completion.

The following tables indicate the distribution of size and location of the institutions included in these analyses.

Institution Size

	Student Record Data		2012 3-Year Cohort
Size	COUNT	PERCENTAGE	PERCENTAGE
Small	3	25%	44%
Medium	2	17%	26%
Large	1	8%	19%
Extra Large	6	50%	11%

Institution Urbanicity

	Student Record Data		2012 3-Year Cohort
Location	COUNT	PERCENTAGE	PERCENTAGE
Urban	6	50%	20%
Suburban	2	17%	22%
Rural	4	33%	58%

The respondent characteristics tables on page 8 illustrate the distribution of respondents used in these analyses. For each survey *(SENSE* and *CCSSE)*, they show characteristics of the 2012 three-year cohort; the colleges that provided student record data; and the analysis data set, which includes only those respondents who provided valid student identifiers.

SENSE and *CCSSE* respondents who provided identifiers are more likely than the entire 2012 three-year *SENSE* and *CCSSE* cohorts to be classified as developmental. *CCSSE* respondents are more likely than the entire 2012 three-year *CCSSE* cohort to be between 18 and 24 years old. While the results are valid for the sample of students included in the analyses, generalizability may be limited by the distribution of student respondents and an overrepresentation of large, urban colleges in the student record data set. This limitation does not mean that the results are not meaningful, but simply that a larger and more representative data set may produce different results.

SENSE Respondents

Respondent Characteristic	2012 *SENSE* 3-Year Cohort	Institutions That Provided Student Record Data	Analysis Data Set (matched student record data)
Enrollment (less than full time)	27%	31%	28%
Traditional age (18–24)	82%	83%	82%
Sex (female)	56%	56%	58%
Developmental students	64%	70%	70%
First-generation students	43%	43%	41%
Race/Ethnicity			
American Indian or other Native American	2%	1%	1%
Asian, Asian American, or Pacific Islander	4%	4%	3%
Native Hawaiian	< 1%	< 1%	< 1%
Black or African American, Non-Hispanic	17%	18%	21%
White, Non-Hispanic	54%	45%	54%
Hispanic, Latino, or Spanish	19%	28%	17%
Other	4%	5%	4%
N	102,265	6,883	4,296

Percentages may not total 100% due to rounding.

CCSSE Respondents

Respondent Characteristic	2012 *CCSSE* 3-Year Cohort	Institutions That Provided Student Record Data	Analysis Data Set (matched student record data)
Enrollment (less than full time)	28%	32%	28%
Traditional age (18–24)	64%	67%	71%
Sex (female)	57%	58%	59%
Developmental students	53%	57%	58%
First-generation students	34%	34%	34%
Race/Ethnicity			
American Indian or other Native American	2%	1%	1%
Asian, Asian American, or Pacific Islander	5%	5%	4%
Native Hawaiian	< 1%	< 1%	< 1%
Black or African American, Non-Hispanic	13%	13%	13%
White, Non-Hispanic	62%	50%	64%
Hispanic, Latino, or Spanish	14%	26%	14%
Other	4%	4%	4%
N	453,093	10,624	4,631

Percentages may not total 100% due to rounding.

Developmental and non-developmental students

The analyses presented in the report disaggregate persistence findings for developmental and non-developmental students, who are defined as follows:

- For *SENSE*, developmental students are those who reported that they were enrolled in a developmental math, reading, or writing course. Students who reported that they were not enrolled in a developmental math, reading, or writing course are classified as non-developmental.

- For *CCSSE*, developmental students are those who reported that they had taken or planned to take a developmental math, reading, or writing course. Students who reported they had not taken nor planned to take a developmental course are classified as non-developmental.

"We are seeing an ever-rising skills demand in the workplace. At the same time, there is a perception among employers that colleges are not graduating students who are work-ready. Effective pathways require educators to partner with employers . . . to discern the critical competencies that graduating students need."

Julian Alssid
Chief Workforce Strategist
College for America at Southern New Hampshire University

Completion of at Least One Developmental Education Course With a Grade of C or Better

Approximately 62% of U.S. community college students take at least one developmental education course within six years of their initial enrollment (RTI International, n.d.). At some colleges, the percentage is even higher.

For too many students, traditional developmental education is a terminal roadblock to success. If they cannot successfully complete developmental work, they cannot move on to college-level work, earn a credential, and/or transfer to a baccalaureate institution. And they will not be prepared for employment that requires college-level reading, writing, and math skills.

Improving outcomes for developmental education students is essential for increasing college completion rates. As part of this effort, many colleges are redefining developmental education by requiring fast-track approaches, limiting the time students can spend in developmental education, and offering—or requiring—brush-up modules before placement tests. While this brush-up instruction is not course-based, it can effectively replace developmental education for some students.

Understanding Outcomes Tables and Participation Pie Charts on Pages 9–25

Each table should be viewed with its accompanying pie chart; together, they provide two types of information about the same group of students. The table shows the likelihood of a certain group of students (e.g., developmental students) having a particular outcome based on whether they participated in a particular high-impact practice. For the same group of students, the pie chart shows the percentage of participants and non-participants.

For example, the first pie chart shows that 77% of 2,896 *SENSE* developmental students participated in orientation, and 23% did not participate. The corresponding table indicates that among those same 2,896 *SENSE* developmental students, those who participated in orientation were 1.88 times more likely to successfully complete a developmental math course than were the 23% of *SENSE* developmental students who did not participate in orientation.

ORIENTATION

OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
any orientation	**1.88 times** more likely	a developmental math course	N=2,896 p<0.0001
any orientation	**2.14 times** more likely	a developmental English course	N=2,896 p<0.0001

than were students who did not report participating in any orientation.

Source: SENSE-linked student record data (entering students)
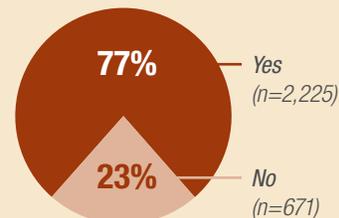
CCSSE developmental students

who reported participating in	were	to successfully complete	
any orientation	**1.51 times** more likely	a developmental math course	N=1,773 p=0.0002
any orientation	**1.61 times** more likely	a developmental English course	N=1,773 p<0.0001

than were students who did not report participating in any orientation.
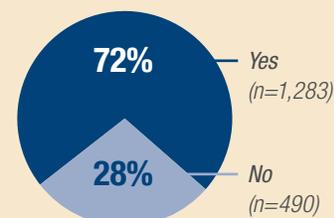
Source: CCSSE-linked student record data

PARTICIPATION

SENSE developmental students (N=2,896)

77% Yes (n=2,225)
23% No (n=671)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students (N=1,773)

72% Yes (n=1,283)
28% No (n=490)

Source: CCSSE-linked student record data

ACCELERATED OR FAST-TRACK DEVELOPMENTAL EDUCATION

OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
accelerated or fast-track developmental education	**1.81 times** more likely	a developmental English course	N=847 p<0.0001

than were students who did not report participating in accelerated or fast-track developmental education.

Source: SENSE-linked student record data (entering students)
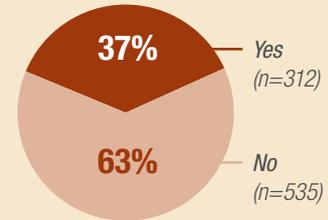
CCSSE developmental students

who reported participating in	were	to successfully complete	
accelerated or fast-track developmental education during their first academic term	**2.40 times** more likely	a developmental English course	N=1,219 p<0.0001

than were students who did not report participating in accelerated or fast-track developmental education during their first academic term.
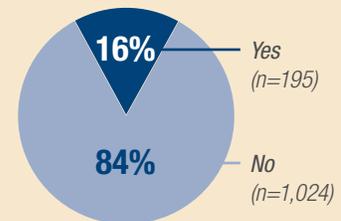
Source: CCSSE-linked student record data

PARTICIPATION

SENSE developmental students (N=847)

- 37% Yes (n=312)
- 63% No (n=535)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students (N=1,219)

- 16% Yes (n=195)
- 84% No (n=1,024)

Source: CCSSE-linked student record data

"After my first semester [in a traditional developmental education course], when I didn't do really well, I said, 'I don't really think I'm cut out for college.' My second semester, I took the [fast-track developmental education courses] for math and English, and I absolutely loved it. It just completely turned [my college experience] around."

Student

FIRST-YEAR EXPERIENCE

OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
a first-year experience	**3.65 times** more likely	a developmental English course	*N=847* *p<0.0001*

than were students who did not report participating in a first-year experience.

Source: SENSE-linked student record data (entering students)
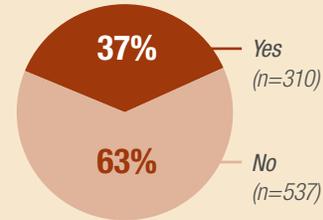
CCSSE developmental students

who reported participating in	were	to successfully complete	
a first-year experience during their first academic term	**1.24 times** more likely	a developmental math course	*N=1,736* *p=0.0646*
a first-year experience during their first academic term	**2.44 times** more likely	a developmental English course	*N=1,736* *p<0.0001*

than were students who did not report participating in a first-year experience during their first academic term.

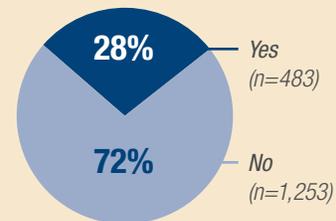*Source: CCSSE-linked student record data*

PARTICIPATION

SENSE developmental students *(N=847)*

37% — Yes (n=310)
63% — No (n=537)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students *(N=1,736)*

28% — Yes (n=483)
72% — No (n=1,253)

Source: CCSSE-linked student record data

STUDENT SUCCESS COURSE

OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
a student success course	**1.40 times** more likely	a developmental math course	*N=2,834* *p<0.0001*
a student success course	**4.49 times** more likely	a developmental English course	*N=2,834* *p<0.0001*

than were students who did not report participating in a student success course.

Source: SENSE-linked student record data (entering students)
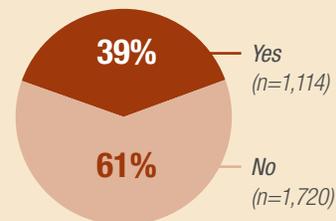
CCSSE developmental students

who reported participating in	were	to successfully complete	
a student success course during their first academic term	**5.22 times** more likely	a developmental English course	*N=1,737* *p<0.0001*

than were students who did not report participating in a student success course during their first academic term.

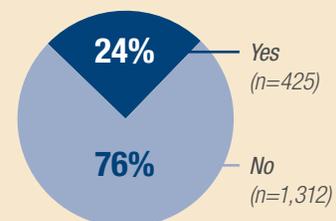*Source: CCSSE-linked student record data*

PARTICIPATION

SENSE developmental students *(N=2,834)*

39% — Yes (n=1,114)
61% — No (n=1,720)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students *(N=1,737)*

24% — Yes (n=425)
76% — No (n=1,312)

Source: CCSSE-linked student record data

LEARNING COMMUNITY

OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
a learning community	**2.58 times** more likely	a developmental English course	N=2,803 p<0.0001

than were students who did not report participating in a learning community.

Source: SENSE-linked student record data (entering students)
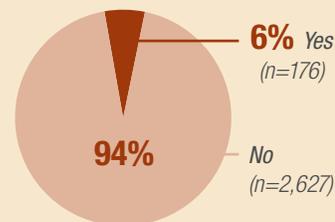
CCSSE developmental students

who reported participating in	were	to successfully complete	
a learning community during their first academic term	**1.59 times** more likely	a developmental English course	N=1,734 p=0.0024

than were students who did not report participating in a learning community during their first academic term.
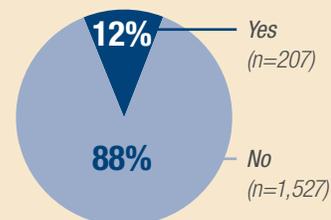
Source: CCSSE-linked student record data

PARTICIPATION

SENSE developmental students *(N=2,803)*

6% *Yes (n=176)*

94% *No (n=2,627)*

Source: SENSE-linked student record data (entering students)

CCSSE developmental students *(N=1,734)*

12% *Yes (n=207)*

88% *No (n=1,527)*

Source: CCSSE-linked student record data

"The best part about the [learning community] program to me was the joint assignments. . . . All three of my professors came together outside of the class and discussed how we were doing in class, and I think that kind of motivated you a little more."

Student

"The [student success] class helped me learn about me . . . [about] my learning styles. . . . I work a job 30 hours a week, and when I did the time-management homework assignment, it really opened my eyes up to how much time I have in a week. I never looked at life like that."

Student

ACADEMIC GOAL SETTING AND PLANNING

OUTCOMES

SENSE developmental students

who reported	were	to successfully complete	
that an advisor helped them set academic goals and create a plan for achieving them	**1.26 times** more likely	a developmental English course	*N=2,921* *p=0.0020*

than were students who did not report receiving such assistance.

Source: SENSE-linked student record data (entering students)

CCSSE developmental students

| who reported	were	to successfully complete	
that an advisor helped them develop an academic plan before the end of their first academic term	**1.33 times** more likely	a developmental math course	*N=1,204* *p=0.0239*
that an advisor helped them develop an academic plan before the end of their first academic term	**1.33 times** more likely	a developmental English course	*N=1,204* *p=0.0205*

than were students who did not report receiving such assistance during their first academic term.
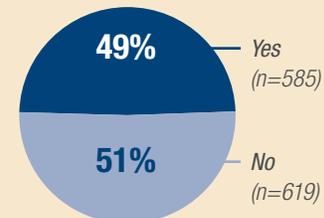
Source: CCSSE-linked student record data

PARTICIPATION

SENSE developmental students who received assistance with developing academic goals and a plan for achieving them *(N=2,921)*
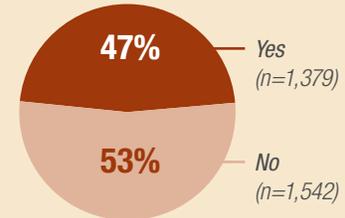
47% Yes (n=1,379)
53% No (n=1,542)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students who received assistance with developing an academic plan *(N=1,204)*

49% Yes (n=585)
51% No (n=619)

Source: CCSSE-linked student record data

> "Advising at this college is like having an extended family. I really felt like they took exceptional interest in what you were looking to do [so you could] fulfill your goals."
>
> *Student*

TUTORING
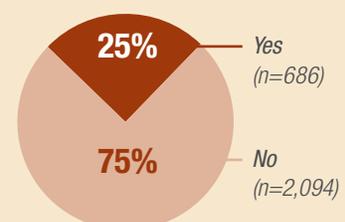
OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
face-to-face or online tutoring	**1.23 times** more likely	a developmental English course	*N=2,780* *p=0.0219*

than were students who did not report participating in tutoring.

Source: SENSE-linked student record data (entering students)

> "The writing center and the tutors—[they are] my number one ally."
>
> *Student*

PARTICIPATION

SENSE developmental students *(N=2,780)*

25% Yes (n=686)
75% No (n=2,094)

Source: SENSE-linked student record data (entering students)

SUPPLEMENTAL INSTRUCTION

OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
supplemental instruction	**1.30 times** more likely	a developmental English course	*N=2,936* *p=0.0009*

**than were students who did not report participating in supplemental instruction.**

Source: SENSE-linked student record data (entering students)

> "Where I see [supplemental instruction is most effective] is it clearly takes a few D students who are struggling and moves them into the C category, which is essential and very important to the students."
>
> *Faculty Member*

PARTICIPATION

SENSE developmental students *(N=2,936)*
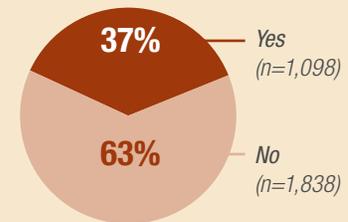
37% — Yes (n=1,098)

63% — No (n=1,838)

Source: SENSE-linked student record data (entering students)

ASSESSMENT AND PLACEMENT

OUTCOMES

SENSE developmental students

who reported	were	to successfully complete	
being required to enroll in classes indicated by placement test scores during their first academic term	**1.48 times** more likely	a developmental math course	*N=2,903* *p=0.0017*
being required to enroll in classes indicated by placement test scores during their first academic term	**3.89 times** more likely	a developmental English course	*N=2,903* *p<0.0001*

than were students who did not report being required to enroll in classes indicated by placement test scores during their first academic term.

Source: SENSE-linked student record data (entering students)
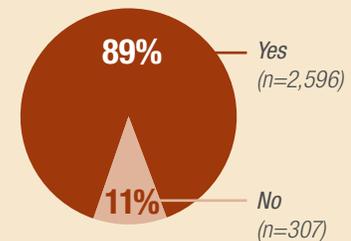
CCSSE developmental students

who reported	were	to successfully complete	
being required to take a placement test before registering for their first academic term	**2.10 times** more likely	a developmental math course	*N=1,214* *p<0.0001*
being required to take a placement test before registering for their first academic term	**1.42 times** more likely	a developmental English course	*N=1,214* *p=0.0268*

than were students who did not report being required to take a placement test before registering for their first academic term.

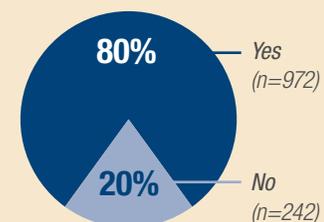*Source: CCSSE-linked student record data*

PARTICIPATION

SENSE developmental students who were required to enroll in classes indicated by placement test scores *(N=2,903)*

89% — Yes (n=2,596)

11% — No (n=307)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students who were required to take a placement test *(N=1,214)*

80% — Yes (n=972)

20% — No (n=242)

Source: CCSSE-linked student record data

OUTCOMES

CCSSE developmental students

who reported	were	to successfully complete	
being required to take at least one developmental education course during their first academic term based on placement test results	**4.62 times** more likely	a developmental English course	N=953 p<0.0001

than were students who did not report being required to take at least one developmental education course during their first academic term based on placement test results.

Source: CCSSE-linked student record data

CCSSE developmental students

who reported	were	to successfully complete	
using online or printed materials to prepare for the placement test and finding those materials helpful	**1.56 times** more likely	a developmental English course	N=1,144 p=0.0011
participating in a brief, intensive brush-up workshop and finding it helpful	**1.77 times** more likely	a developmental English course	N=1,087 p=0.0117
participating in a multi-day or multi-week brush-up program and finding it helpful	**2.21 times** more likely	a developmental English course	N=1,079 p=0.0019

than were students who did not report using that type of the college's test preparation options, or who reported using it but not finding it helpful.
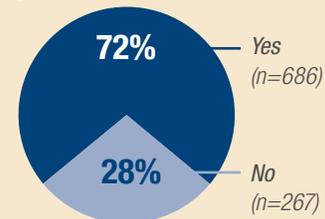
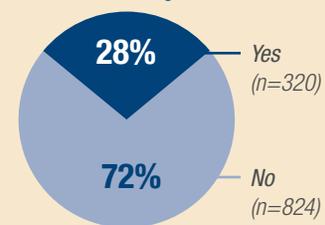*Source: CCSSE-linked student record data*

PARTICIPATION

CCSSE developmental students who . . .

. . . were required to take a developmental education course based on placement test results *(N=953)*
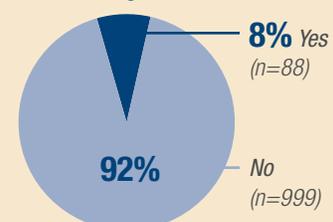

72% Yes (n=686)
28% No (n=267)

Source: CCSSE-linked student record data

. . . used online or printed materials to prepare for placement test and found them helpful *(N=1,144)*

28% Yes (n=320)
72% No (n=824)

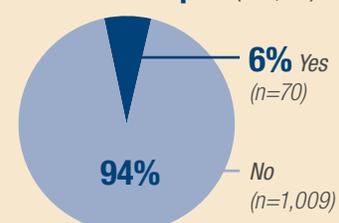*Source: CCSSE-linked student record data*

. . . participated in a brief, intensive brush-up workshop and found it helpful *(N=1,087)*

8% Yes (n=88)
92% No (n=999)

Source: CCSSE-linked student record data

. . . participated in a multi-day or multi-week brush-up program and found it helpful *(N=1,079)*

6% Yes (n=70)
94% No (n=1,009)

Source: CCSSE-linked student record data

REGISTRATION BEFORE CLASSES BEGIN

OUTCOMES

CCSSE developmental students

| who reported	were	to successfully complete	
registering for ALL courses before the first class session(s)	**2.25 times** more likely	a developmental math course	N=1,777 p<0.0001

than were students who did not report registering for ALL courses before the first class session(s).

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students who registered for ALL courses before classes began *(N=1,777)*

92% — Yes (n=1,634)

8% No (n=143)
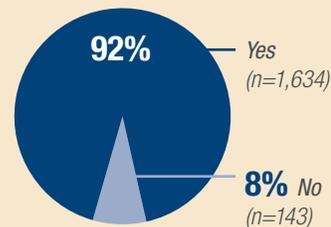
Source: CCSSE-linked student record data

"We had the right advisor, which is key, really. And then the orientation was simple, just everything step by step. Easy registration—if you didn't have [your paperwork] right there, in the end they still let you register as long as you brought it in before the first day of school."

Student

CLASS ATTENDANCE

OUTCOMES

SENSE developmental students

who reported	were	to successfully complete	
that ALL of their instructors clearly explained a class attendance policy	**2.96 times** more likely	a developmental math course	N=848 p=0.0279

than were students who did not report that ALL of their instructors clearly explained a class attendance policy.

Source: SENSE-linked student record data (entering students)

"Coming into college, you need to [have] some structure . . . be prepared for a class, be prepared for assignments . . . and make it to class when you can—or when you're supposed to. Not [just] when you can. Make it to class."

Student

PARTICIPATION

SENSE developmental students who had ALL of their instructors explain class attendance policy *(N=848)*

98% — Yes (n=827)

2% No (n=21)
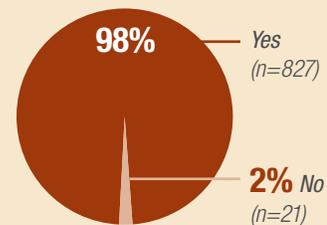
Source: SENSE-linked student record data (entering students)

ALERT AND INTERVENTION

OUTCOMES

CCSSE developmental students

| who reported	were	to successfully complete	
that someone at the college contacted them if they were struggling academically	**1.67 times** more likely	a developmental English course	N=858 p=0.0011

than were students who did not report that someone contacted them if they were struggling academically.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students who were contacted if they were struggling academically *(N=858)*

28% — Yes (n=241)

72% — No (n=617)
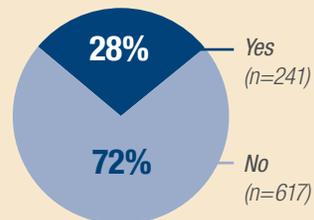
Source: CCSSE-linked student record data

"The instructor would get with you personally and talk to you and ask you if you need any help. . . . If you are struggling, the professors care and they want to help you pass."

Student

Completion of at Least One Gatekeeper Course With a Grade of C or Better

A gatekeeper course is the entry college-level course in a core subject, such as English or math.

Most certificate, degree, and transfer programs require students to pass gatekeeper courses in one or more subjects, and these courses often reflect both high enrollment and high failure rates. In one study, only 56% of first-time college students successfully completed enough credits in a program area to enter a program of study, likely because they had trouble passing the gatekeeper courses in their fields (Jenkins & Cho, 2012).

For this reason, improving college completion rates depends, at least in part, on helping more students successfully complete gatekeeper courses.

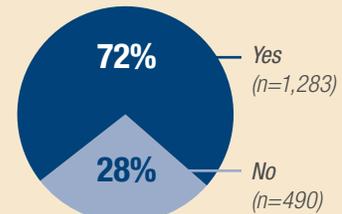## ORIENTATION

OUTCOMES

CCSSE developmental students

who reported participating in	were	to successfully complete	
any orientation	**1.30 times** more likely	a gatekeeper English course	N=1,773 p=0.0469

than were students who did not report participating in any orientation.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students (N=1,773)

72% Yes (n=1,283)

28% No (n=490)

Source: CCSSE-linked student record data

"You don't get to register [if you don't attend orientation]. It's mandatory. It's just the way the college has it set up so that you can succeed."

Student

ACCELERATED OR FAST-TRACK DEVELOPMENTAL EDUCATION
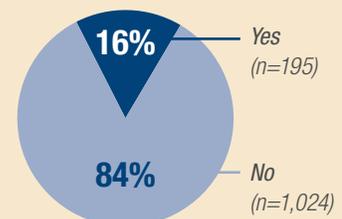
OUTCOMES

CCSSE developmental students

who reported participating in	were	to successfully complete	
accelerated or fast-track developmental education during their first academic term	**2.19 times** more likely	a gatekeeper English course	N=1,219 p<0.0001

than were students who did not report participating in accelerated or fast-track developmental education during their first academic term.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students (N=1,219)

16% Yes (n=195)

84% No (n=1,024)

Source: CCSSE-linked student record data

"I think it's better, as far as time management, if you can get two classes done in one semester. Who wouldn't want to do that?"

Student

FIRST-YEAR EXPERIENCE

OUTCOMES

SENSE developmental students

who reported participating in	were	to successfully complete	
a first-year experience	**1.52 times** more likely	a gatekeeper English course	*N=847* *p=0.0188*

than were students who did not report participating in a first-year experience.

Source: SENSE-linked student record data (entering students)
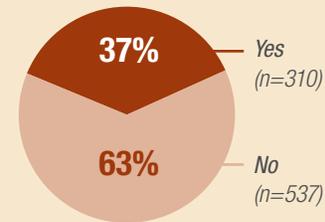
CCSSE developmental students

who reported participating in	were	to successfully complete	
a first-year experience during their first academic term	**2.00 times** more likely	a gatekeeper English course	*N=1,736* *p<0.0001*

than were students who did not report participating in a first-year experience during their first academic term.
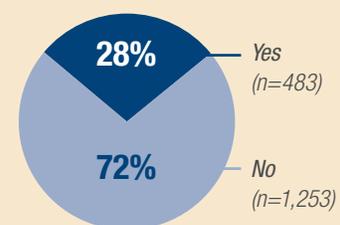
Source: CCSSE-linked student record data

PARTICIPATION

SENSE developmental students *(N=847)*

37% — Yes *(n=310)*

63% — No *(n=537)*

Source: SENSE-linked student record data (entering students)

CCSSE developmental students *(N=1,736)*

28% — Yes *(n=483)*

72% — No *(n=1,253)*

Source: CCSSE-linked student record data

STUDENT SUCCESS COURSE

OUTCOMES

CCSSE developmental students

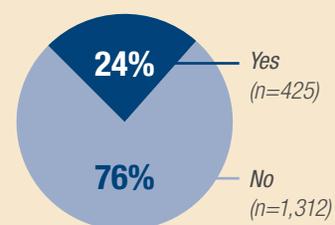| who reported participating in	were	to successfully complete	
a student success course during their first academic term	**3.73 times** more likely	a gatekeeper English course	*N=1,737* *p<0.0001*

than were students who did not report participating in a student success course during their first academic term.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students *(N=1,737)*

24% — Yes *(n=425)*

76% — No *(n=1,312)*

Source: CCSSE-linked student record data

"The student success course is required for students because we observed that the students who could benefit the most were not the students who were choosing to participate."

Faculty Member

LEARNING COMMUNITY

OUTCOMES

CCSSE developmental students

who reported participating in	were	to successfully complete	
a learning community during their first academic term	**1.55 times** more likely	a gatekeeper English course	N=1,734 p=0.0073

than were students who did not report participating in a learning community during their first academic term.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students *(N=1,734)*

12% — Yes *(n=207)*

88% — No *(n=1,527)*
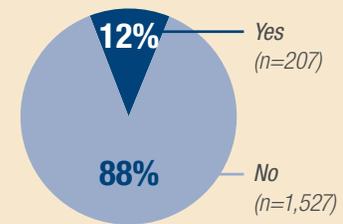
Source: CCSSE-linked student record data

> "Meeting with faculty, particularly at the beginning of the semester, is critical for me in a good learning community because we start with the questions: What do our students need? What are the resources that they're going to need? Are they going to need any extra help? How can we support our students?"
>
> *Faculty Member*

ACADEMIC GOAL SETTING AND PLANNING

OUTCOMES

CCSSE developmental students

who reported	were	to successfully complete	
that an advisor helped them develop an academic plan before the end of their first academic term	**1.45 times** more likely	a gatekeeper math course	N=1,204 p=0.0029
that an advisor helped them develop an academic plan before the end of their first academic term	**1.47 times** more likely	a gatekeeper English course	N=1,204 p=0.0051

than were students who did not report receiving such assistance during their first academic term.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students who received assistance with developing an academic plan *(N=1,204)*

49% — Yes *(n=585)*

51% — No *(n=619)*
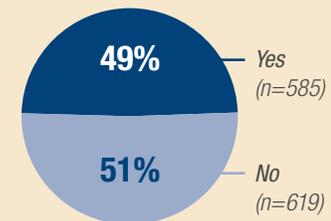
Source: CCSSE-linked student record data

> "I spoke to [my advisor] about doing [a] paralegal [major] for my associate [degree]. . . . She broke it down for me that I could do my two-year associate [degree], and then do two years of my bachelor's for pre-law, and then law school for three years."
>
> *Student*

EXPERIENTIAL LEARNING BEYOND THE CLASSROOM

## OUTCOMES

CCSSE developmental students

who reported participating in or planning to participate in	were	to successfully complete	
an internship, field experience, co-op experience, or clinical assignment	**1.32 times** more likely	a gatekeeper math course	N=1,916 p=0.0582

than were students who did not report participating in or planning to participate in any of these types of experiences.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students who participated or planned to participate *(N=1,916)*

12% — Yes (n=223)

88% — No (n=1,693)
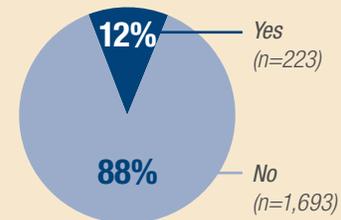
Source: CCSSE-linked student record data

> "A big thing for me is not just to learn about something, but to actually do it. And it's that hands-on approach that I love about this school. You go, you learn a topic, and then the instructor turns around and says, 'Okay, show me.'"
>
> *Student*

ASSESSMENT AND PLACEMENT

OUTCOMES
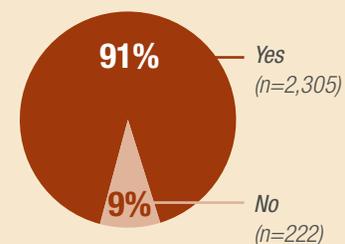
SENSE developmental students

who reported	were	to successfully complete	
being required to take a placement test before registering for classes	**1.93 times** more likely	a gatekeeper English course	N=2,527 p=0.0047

than were students who did not report being required to take a placement test before registering for classes.

Source: SENSE-linked student record data (entering students)

CCSSE developmental students

who reported	were	to successfully complete	
being required to take a placement test before registering for their first academic term	**1.44 times** more likely	a gatekeeper math course	N=1,214 p=0.0247

than were students who did not report being required to take a placement test before registering for their first academic term.

Source: CCSSE-linked student record data

PARTICIPATION

SENSE developmental students who were required to take a placement test *(N=2,527)*

91% — Yes (n=2,305)

9% — No (n=222)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students who were required to take a placement test *(N=1,214)*

80% — Yes (n=972)

20% — No (n=242)
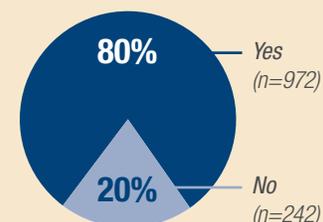
Source: CCSSE-linked student record data

ASSESSMENT AND PLACEMENT *continued*

OUTCOMES

SENSE developmental students

who reported	were	to successfully complete	
being required to enroll in classes indicated by placement test scores during their first academic term	**3.71 times** more likely	a gatekeeper English course	*N=2,510* *p<0.0001*

than were students who did not report being required to enroll in classes indicated by placement test scores during their first academic term.

Source: SENSE-linked student record data (entering students)
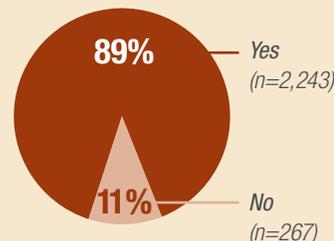
CCSSE developmental students

who reported	were	to successfully complete	
participating in a multi-day or multi-week brush-up program and finding it helpful	**2.08 times** more likely	a gatekeeper English course	*N=1,079* *p=0.0045*

than were students who did not report participating in a multi-day or multi-week brush-up program, or who participated but did not find it helpful.
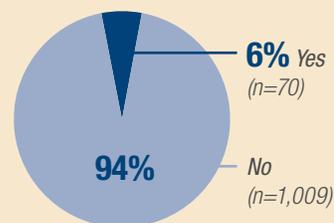
Source: CCSSE-linked student record data

PARTICIPATION

SENSE developmental students who were required to enroll in classes indicated by placement test scores *(N=2,510)*

89% Yes (n=2,243)

11% No (n=267)

Source: SENSE-linked student record data (entering students)

CCSSE developmental students who participated in a multi-day or multi-week brush-up program and found it helpful *(N=1,079)*

6% Yes (n=70)

94% No (n=1,009)

Source: CCSSE-linked student record data

"They actually have up in the advisor's office . . . a pre-exam that you can study, a little study guide. It kind of covers a few things, but it just lets you know to get in a little bit deeper before you come to take the test."

Student

REGISTRATION BEFORE CLASSES BEGIN

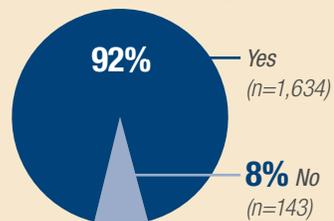### OUTCOMES

CCSSE developmental students

who reported	were	to successfully complete	
registering for ALL courses before the first class session(s)	**1.93 times** more likely	a gatekeeper math course	*N=1,777* *p=0.0019*
registering for ALL courses before the first class session(s)	**1.48 times** more likely	a gatekeeper English course	*N=1,777* *p=0.0840*

than were students who did not report registering for ALL courses before the first class session(s).

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students who registered for ALL courses before classes began *(N=1,777)*

92% Yes (n=1,634)

8% No (n=143)

Source: CCSSE-linked student record data

Persistence (Fall-to-Spring and Fall-to-Fall)

Community colleges lose about half of their students before the beginning of their second year of college (ACT, 2010). As students cannot earn credentials if they are not enrolled, improving persistence is critical to increasing college completion rates. While some students leave college with plans to return, often called *stopping out*, many ultimately do not return. Moreover, those who do return often struggle to regain momentum.

Improving rates of continuous enrollment is associated with a higher likelihood of completing an associate degree or transferring to a four-year institution (Adelman, 2005). Students who are continuously enrolled are also more likely to earn a bachelor's degree than those who are not (Skomsvold, Radford, & Berkner, 2011).

The following pages show data for high-impact practices and two measures of persistence: fall-to-spring and fall-to-fall. Findings are presented with two *N*s—one for the number of students in the analysis and one for the number of academic terms in the analysis.

ORIENTATION

OUTCOMES

SENSE non-developmental students

who reported participating in	were	to persist	
any orientation	**1.44 times** more likely	fall-to-spring	*N (students)=1,030* *N (terms)=2,074* *p=0.0295*

than were students who did not report participating in any orientation.

Source: SENSE-linked student record data (entering students)
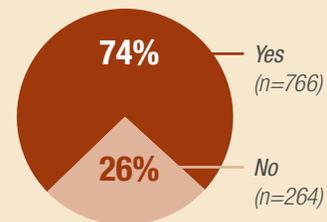
CCSSE non-developmental students

who reported participating in	were	to persist	
any orientation	**1.30 times** more likely	fall-to-spring	*N (students)=923* *N (terms)=3,302* *p=0.0138*
any orientation	**1.24 times** more likely	fall-to-fall	*N (students)=923* *N (terms)=3,302* *p=0.0733*

than were students who did not report participating in any orientation.

Source: CCSSE-linked student record data

PARTICIPATION

SENSE non-developmental students *(N=1,030)*

74% — Yes (n=766)
26% — No (n=264)

Source: SENSE-linked student record data (entering students)

CCSSE non-developmental students *(N=923)*

60% — Yes (n=553)
40% — No (n=370)
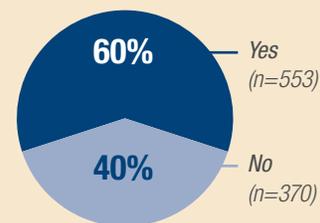
Source: CCSSE-linked student record data

> "I wasn't going to come to college, but when I came to orientation . . . they gave us a lot of information, and I'm like, 'Dang, I'm really going to stick to it.' . . . [Orientation] made me want to come more."
>
> *Student*

FIRST-YEAR EXPERIENCE

OUTCOMES

CCSSE non-developmental students

who reported participating in	were	to persist	
a first-year experience during their first academic term	**1.71 times** more likely	fall-to-spring	*N (students)=902* *N (terms)=3,221* *p=0.0002*
a first-year experience during their first academic term	**1.49 times** more likely	fall-to-fall	*N (students)=902* *N (terms)=3,221* *p=0.0089*

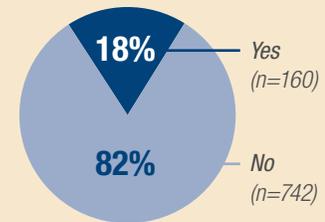**than were students who did not report participating in a first-year experience during their first academic term.**

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE non-developmental students *(N=902)*

18% — Yes *(n=160)*

82% — No *(n=742)*

Source: CCSSE-linked student record data

ASSESSMENT AND PLACEMENT

OUTCOMES

SENSE developmental students

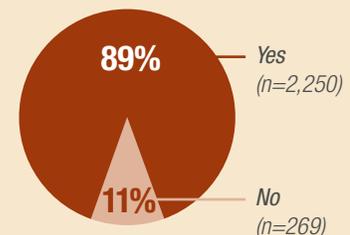| who reported	were	to persist	
being required to enroll in classes indicated by placement test scores during their first academic term	**1.51 times** more likely	fall-to-fall	*N (students)=2,519* *N (terms)=4,791* *p=0.0647*

than were students who did not report being required to enroll in classes indicated by placement test scores during their first academic term.

Source: SENSE-linked student record data (entering students)

SENSE developmental students

who reported	were	to persist	
using online or printed materials to prepare for the placement test and finding those materials helpful	**1.59 times** more likely	fall-to-spring	*N (students)=781* *N (terms)=1,530* *p=0.0678*

than were students who did not report using online or printed materials to prepare for the placement test, or who reported using the materials but not finding them helpful.

Source: SENSE-linked student record data (entering students)

PARTICIPATION

SENSE developmental students who were required to enroll in classes indicated by placement test scores *(N=2,519)*

89% — Yes *(n=2,250)*

11% — No *(n=269)*

Source: SENSE-linked student record data (entering students)

SENSE developmental students who used online or printed materials to prepare for placement test and found them helpful *(N=781)*
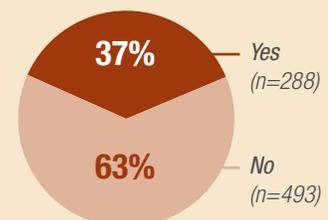
37% — Yes *(n=288)*

63% — No *(n=493)*

Source: SENSE-linked student record data (entering students)

ASSESSMENT AND PLACEMENT *continued*

OUTCOMES
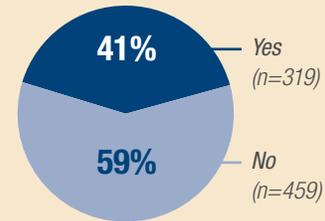
CCSSE developmental students

who reported	were	to persist	
that they completed the college's placement test in high school	**1.41 times** more likely	fall-to-fall	*N (students)=778* *N (terms)=2,791* *p=0.0100*

than were students who did not report completing the college's placement test in high school.

Source: CCSSE-linked student record data

PARTICIPATION

CCSSE developmental students who completed placement test in high school *(N=778)*

41% — Yes (n=319)

59% — No (n=459)

Source: CCSSE-linked student record data

REGISTRATION BEFORE CLASSES BEGIN

OUTCOMES

SENSE non-developmental students

who reported	were	to persist	
registering for ALL courses before the first class session(s)	**4.44 times** more likely	fall-to-spring	*N (students)=395* *N (terms)=830* *p=0.0069*
registering for ALL courses before the first class session(s)	**11.29 times** more likely	fall-to-fall	*N (students)=395* *N (terms)=830* *p=0.0015*

than were students who did not report registering for ALL courses before the first class session(s).

Source: SENSE-linked student record data (entering students)

PARTICIPATION

SENSE non-developmental students who registered for ALL courses before classes began *(N=395)*

95% — Yes (n=377)

5% No (n=18)
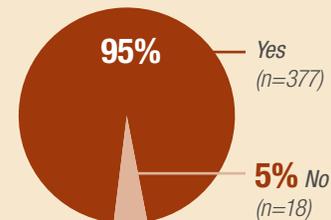
Source: SENSE-linked student record data (entering students)

Participation in Multiple Structured Group Learning Experiences

Some students get additional benefits from participating in multiple structured group learning experiences (*orientation*, *accelerated or fast-track developmental education*, *first-year experience*, *student success course*, and *learning community*).

OUTCOME 1 — Completion of at Least One Developmental Education Course With a Grade of C or Better

SENSE developmental students

who reported participating in	were	to successfully complete	
one or more structured group learning experiences	**1.27 times** more likely	a developmental math course	N=2,944 p<0.0001
one or more structured group learning experiences	**2.18 times** more likely	a developmental English course	N=2,944 p<0.0001

for each additional structured group learning experience in which they participated. Each additional structured group learning experience that these students participated in improved their likelihood of attaining positive outcomes.

Source: SENSE-linked student record data (entering students)

CCSSE developmental students

who reported participating in	were	to successfully complete	
one or more structured group learning experiences	**1.55 times** more likely	a developmental English course	N=1,775 p<0.0001

for each additional structured group learning experience in which they participated. Each additional structured group learning experience that these students participated in improved their likelihood of attaining positive outcomes.

Source: CCSSE-linked student record data

OUTCOME 2 — Completion of at Least One Gatekeeper Course With a Grade of C or Better

SENSE developmental students

who reported participating in	were	to successfully complete	
one or more structured group learning experiences	**1.37 times** more likely	a gatekeeper English course	N=2,549 p<0.0001

for each additional structured group learning experience in which they participated. Each additional structured group learning experience that these students participated in improved their likelihood of attaining positive outcomes.

Source: SENSE-linked student record data (entering students)

CCSSE developmental students

who reported participating in	were	to successfully complete	
one or more structured group learning experiences	**1.41 times** more likely	a gatekeeper English course	N=1,775 p<0.0001

for each additional structured group learning experience in which they participated. Each additional structured group learning experience that these students participated in improved their likelihood of attaining positive outcomes.

Source: CCSSE-linked student record data

SENSE developmental students who participated in multiple structured group learning experiences

Number of Structured Group Learning Experiences	Number of Students Participating	Percentage of Students Participating
0	498	17%
1	1,279	43%
2	779	26%
3	261	9%
4	118	4%
5	9	<1%

Percentages may not total 100% due to rounding.

Source: SENSE-linked student record data (entering students)

CCSSE developmental students who participated in multiple structured group learning experiences

Number of Structured Group Learning Experiences	Number of Students Participating	Percentage of Students Participating
0	363	20%
1	689	39%
2	404	23%
3	208	12%
4	83	5%
5	28	2%

Percentages may not total 100% due to rounding.

Source: CCSSE-linked student record data

Higher Engagement, Higher Graduation Rates

Using results from the 2007 *CCSSE* administration and IPEDS data, researchers Derek Price and Esau Tovar explored the statistical relationships between student engagement and institutional graduation rates. Price and Tovar concluded that student engagement—in particular the *CCSSE* benchmarks of active and collaborative learning and support for learners—are important positive predictors of college completion.

Three of the five student engagement benchmarks—active and collaborative learning, student-faculty interaction, and support for learners—"correlated to a statistically significant degree with IPEDS graduation rates" (2014, pp. 774–775).

> "Student engagement—particularly as it is experienced through active and collaborative learning and in a supportive institutional environment for learners—can result in higher graduation rates."
>
> *Derek Price and Esau Tovar*

Text summarized from Price, D. V., & Tovar, E. (2014). Student engagement and institutional graduation rates: Identifying high-impact educational practices for community colleges. *Community College Journal of Research and Practice, 38*(9), 766–782, doi: 10.1080/10668926.2012.719481

Campus Conversations: What Questions Do These Findings Raise?

Good research raises as many questions as it answers. The Center's research findings included in its first two high-impact practices reports, along with the exploratory outcomes research presented here, indicate that participation in high-impact practices has benefits related to engagement and outcomes. These data also indicate a number of areas for future research.

Perhaps most important, these data raise questions that colleges can and should consider asking as they absorb these findings, synthesize this work with others' research, and contemplate redesign of students' educational experiences. Examples of such questions are below.

- **Are we using the power of synergy?** While there are data that indicate the effectiveness of each high-impact practice, these findings are not a checklist, and the goal is not to have one of each practice. Instead, the goal should be to improve *many or all* students' engagement by intentionally building multiple high-impact practices into every student's educational experience.

- **Are we meeting the challenge of scale?** At most colleges, scale remains a substantial challenge, and far too few students experience the high-impact practices.

- **Who participates in high-impact practices at our college?** For example, are at-risk students more likely to experience high-impact practices? How does differing participation among student groups affect our data?

- **Where is the lowest hanging fruit?** Are there simple, inexpensive steps we can take—such as enforcing an on-time registration requirement or implementing an attendance policy for all classes—that can improve outcomes?

- **Where are the greatest challenges?** For example, are students having better outcomes for English versus math? Which types of courses present the largest hurdles for students? What do we need to do—e.g., curriculum and instruction redesign—to help students overcome them?

- **Are we implementing high-impact practices effectively?** The value of any practice depends on how it is implemented. For more information about program design and quality implementation, see Design Principles for Effective Practice at www.ccsse.org/center/initiatives/highimpact.

- **Are we listening to students?** Students speak candidly about what works for them—and why they may not be experiencing the practices most likely to help them succeed.

- **Who is engaged in these campus conversations?** Are faculty across disciplines, along with advisors and other student services professionals, discussing models for institution-level change? Are part-time faculty actively involved?

These conversations are a critical step toward making the institution-wide change needed to improve college completion rates. Of course, courageous conversations are just the beginning of the effort. The colleges profiled on the following pages have moved from thoughtful conversations to intentional design and, for some colleges, implementation.

> "We haven't adjusted our academic model much over the years while the world around us has changed quite dramatically."
>
> *Bruce Leslie*
> *Chancellor, The Alamo Colleges*

Colleges in Action

The colleges profiled in this report use a variety of approaches and are at different stages of implementing pathways. Some colleges are just starting to implement pathways for all students. Others have more established pathway programs that serve just a subset of students.

Some have focused first on transitions from high school to college. Others began pathway development in technical and professional fields or by integrating adult basic education with career education.

And one college was built from scratch using a pathways model.

At many of these colleges, the work is still new, and evidence of effectiveness is eagerly awaited. But early results are promising and indicate that these colleges likely will be rewarded for their boldness of vision and commitment to scale.

Under Construction at The Alamo Colleges: Alamo Institutes

The Board of Trustees of **The Alamo Colleges (TX)** was a key player in the colleges' student-success-centered strategic planning. In 2009, this planning focused on reducing the need for developmental education and strengthening its effectiveness, and by 2014, it had evolved into a multi-faceted, comprehensive model to support student progress and success.

A key result of this work is the Alamo Institutes, which now house all degree and certificate programs—and seek to provide a coherent student experience tied to each student's interests and areas of study.

Beginning in 2014–15, all students will enter one of the colleges' six Institutes: Creative and Communication Arts, Business and Entrepreneurship, Health and Biosciences, Advanced Manufacturing and Logistics, Public Service, or Science and Technology.

Each Institute is being designed to house career/technical and academic pathways as well as embedded advisors, contextualized courses, and stackable credentials.

Students will use Alamo's MyMAP system to guide them from the moment they apply until they graduate. For associate degrees, each Institute will have a 42-credit-hour core of general education requirements, from which 15 credit hours will be drawn as general education requirements for embedded certificate programs. Recommended course sequences will guide course selection and reduce accumulation of unnecessary credits.

Contextualized student support services—including a college success course, career and transfer counseling, supplemental instruction, tutoring, required study groups, and experiential learning opportunities—will be integrated into each Institute.

The support includes a three-tiered advising system that provides multiple opportunities for advisors to discuss academic and career pathways with students. The first tier is composed of pre-enrollment advising activities that include post-assessment advising, a math or reading/writing refresher, post-refresher advising, a new student orientation, and group advising. Alamo also offers faculty-designed exit tests in math and reading/writing, providing students with an additional opportunity to determine course placement.

The second tier is composed of post-enrollment advising activities, including case management through assigned advisors, a student success course, and early alert. After earning 30 credit hours, a student enters the third tier, in which he or she is partnered with a faculty mentor (as well as an advisor) and must select his or her transfer institution. The student's advisor and faculty mentor can then ensure that the student enrolls in the courses necessary for transfer. For those seeking immediate employment, the student's advisor and faculty mentor will help the student build a portfolio/résumé and create a specific plan for employment upon graduation. Expanding the number of advisors is critical to Alamo's model of multiple student contact points and embedded advisors within each Institute.

The Alamo Colleges will use the Institute framework to help students enter a pathway early in their college experience, benefit from targeted advising, and reduce time to completion. Stackable credentials will promote career progression, a priority for local businesses and community development. In addition, students will be able to explore career options within an Institute while completing general education requirements.

Collaboration across Alamo's five individually accredited colleges was facilitated by working groups composed of academic and workforce faculty. The colleges also have critical support from the Board of Trustees, whose members consistently review data on student outcomes, reinforce priorities with policy, and demonstrate their commitment through resource allocation.

Miami Dade College: Structured Academic Pathways and Communities of Interest

Miami Dade College (FL) is counting on structure, engagement, and relevance to increase student success. Responding to a charge from college leadership in 2011, Miami Dade College (MDC) academic and student services deans developed a conceptual framework that focused on three core values to improve student outcomes: commitment, community, and completion. That framework later evolved into the college's Student Achievement Initiatives (SAI).

Faculty, staff, and student involvement has been central to the SAI. Early in the Initiatives' development, faculty and staff at MDC's seven campuses and two educational centers participated in workshops to identify vulnerable points in student progression and suggest strategies to strengthen the student experience. In addition, student focus groups captured the student perspective. Based on the results, and through participation in Completion by Design, the college committed to redesigning curricular pathways and providing a more structured and comprehensive student experience. Implementation teams that include 450 cross-campus faculty, staff, and administrators have been working to create degree pathways with carefully selected course recommendations as well as to make changes to the advising protocol.

The SAI are guided by regular assessment of student progress and success. Today, planning and implementation are evolving as MDC streamlines course sequences, aligns degree requirements to support seamless transfer, houses each pathway leading to a major in a community of interest, and refines a three-tiered advising process.

For example, MDC is committed to providing a direct contact for every first-time-in-college student, an ambitious goal for a college that served 10,316 first-time-in-college students in fall 2012. MDC's advising approach begins with pre-college advisors who increase college readiness and facilitate students' transition to college. When students arrive at MDC they complete an online orientation, including a pre-advisement survey and non-cognitive diagnostic assessments. During a subsequent mandatory, in-person pre-enrollment orientation, student services advisors help students create individualized educational plans,

and the advisors continue to guide the students through their first semester. Prior to registering for their second semester, students meet again with their advisors to discuss their first-semester performance and non-cognitive factors identified in earlier assessments. When students reach the 25% completion benchmark, academic advisors, some of whom are full-time faculty members, take over as coaches and mentors. They provide targeted career, transfer, and employment guidance.

In addition to the expanded advising process, MDC is redesigning curricular pathways to support progression and timely completion. Faculty have developed associate degree pathways with structured course sequences in four of the five largest programs of study: biology, business, criminal justice, and psychology. Each pathway has 36 general education credits, has 24 program-specific credits, and is aligned with university requirements to provide students with junior class standing upon transfer. MDC is developing 40 additional programs.

> "Having a clear pathway takes the guesswork out of academic planning and ensures that students do not waste time and money on unnecessary coursework."
>
> *Lenore Rodicio*
> *Provost, Academic and Student Affairs, Miami Dade College*

Eventually, all pathways will be associated with a community of interest. Within a community of interest, for example, students might engage with classmates, interact with guest speakers, and have opportunities for internships and experiential learning. Although still in the planning stage, communities will house related curricular pathways and facilitate the integration of academic, student services, and student life activities.
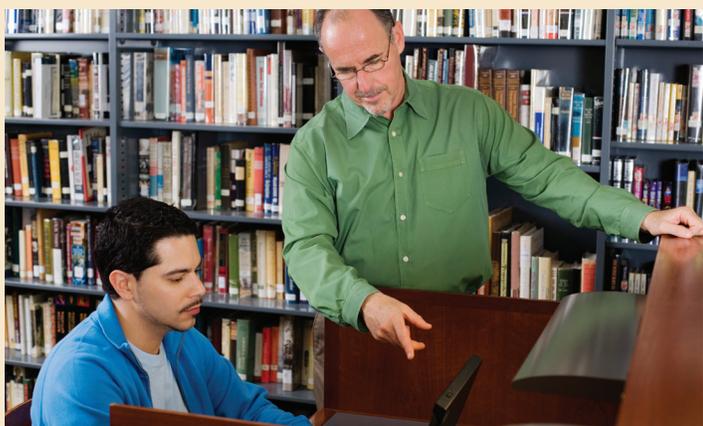
Guttman Community College: Pathways From Day One

What happens when integrated, research-based, high-impact practices are the design foundation for a new community college? City University of New York (CUNY) answered that question when it created **Stella and Charles Guttman Community College (NY)**.

Stella and Charles Guttman Community College (GCC) was designed from scratch in a four-year planning phase that involved internal and external stakeholders. The design intentionally set aside many traditional community college structures and practices in favor of a new educational model that promotes continuous student engagement. GCC provides structured academic experiences and intrusive advising. In addition, community partnerships facilitate experiential learning and career exploration.

Through two mandatory information sessions, interested students learn about GCC's programs and expectations as well as the demands of college-level work. Students are required to enroll full time for their first year, and all students begin their GCC experience with a three-week Summer Bridge Program.

GCC's first-year experience program places every student in a learning community, called a House. Within each House, students are divided into three 25-student cohorts. Students attend classes with their cohort in a common core curriculum that contextualizes skills development in

"Clear student pathways are important in giving students feedback on their progress and in providing structures for them to achieve their goals."

Scott Evenbeck
President, Stella and Charles Guttman Community College

credit-bearing coursework. Block scheduling allows students to plan for work and extracurricular activities. After the first year, students can take courses specific to their programs.

Collaboration between academic and student affairs personnel is central to GCC's design. In place of discipline-specific academic departments, each House is led by an instructional team that includes three faculty members, a student success advocate, and a graduate coordinator—a group that meets weekly to facilitate the integrated curriculum and monitor student progress. Student persistence and success are encouraged through weekly group advising sessions and three individual advising sessions during the first year. Graduate student coordinators and peer mentors reinforce engagement through related activities and tutoring.

GCC opened with five major pathways, each carefully designed to give first-year students a default course schedule that keeps them on track, reduces the accumulation of unnecessary credits, and promotes timely degree completion. All majors are selected to reflect labor market and transfer opportunities in New York. In addition, CUNY is developing a grade 9–14 early college high school in partnership with the New York City Department of Education, New York-Presbyterian Hospital, and Microsoft. It will open with its first 9th grade class this fall and will transition students to GCC's Information Technology and Health Information Technology majors in just a few years.

The college welcomed its inaugural class of 289 students in August 2012 and graduated 80 students in August 2014, a two-year graduation rate of 28%.

Early results suggest that the model is effective for GCC's diverse student body (the fall 2013 cohort was 25% African American and 52% Hispanic). Between August 2012 and December 2013, the proficiency of retained students (n=216) in reading, writing, and math increased from 74% to 97%, 73% to 96%, and 14% to 65%, respectively. In addition, 75% of GCC's fall 2012 entering class (N=289) re-enrolled in fall 2013, putting the college on track to meet its goal of graduating 35% of students with an associate degree in three years.

CUNY's ASAP: More Than Doubling the Graduation Rate

In 2007, when the New York City Office of the Mayor invited proposals to improve the economic prospects of low-income New Yorkers, **City University of New York (CUNY)** responded by developing a structured degree pathway aimed at increasing the timely graduation rate of its community college students. Partner colleges provided comprehensive and coordinated services that included advising, financial resources, and block scheduling to facilitate full-time attendance and strong student engagement—and more than doubled the graduation rate compared with similar students not in the program.

The CUNY pathway, Accelerated Study in Associate Programs (ASAP), combines multiple high-impact practices into a coherent and structured student experience. Full-time attendance is required and students must be eligible for some need-based aid (Federal Pell or New York State Tuition Assistance Program). CUNY waives all tuition and fees in excess of each student's aid award. ASAP also provides free New York Transit MetroCards, free use of textbooks, and opportunities for free winter and summer courses.

Approximately 80% of ASAP students require one to two developmental courses, and all students with developmental needs must remain continuously enrolled until they demonstrate proficiency. Students who need two developmental courses begin their coursework in the summer. All incoming students attend Summer Institute (a one-day event where they meet classmates and participate in group activities) and sign a contract acknowledging their understanding of ASAP requirements and expectations.

During their first year, students attend at least three classes that are scheduled in morning or afternoon blocks, which they attend with an ASAP cohort. Some colleges also offer evening and weekend blocks. In addition, students participate in the ASAP Seminar, a two-semester, non-credit group advisement experience addressing time-management, communication, and other success skills.

Intrusive advising is at the heart of ASAP. Every student is assigned to an advisor, who guides his or her students from the time they walk through the door until they graduate. During the first semester, students meet with their advisors twice monthly. After that, advisor contact is carefully determined based on student needs, typically once every two to eight weeks. Many students comment that they would never have made it to graduation without the support of their advisor.

Students who have developmental needs or are identified as struggling by faculty are mandated to attend weekly tutoring. All ASAP students also receive support from a career and employment specialist, who addresses immediate employment needs and helps students develop their long-term career goals.

ASAP's three-year graduation rates are consistently more than double those of similar students: 51% (N=2,510) compared with 22% (N=10,513) across the first four cohorts (2007–2010). The rate for those who entered the program with developmental needs was 47% compared with 19% of non-ASAP developmental students. Three-year graduation rates were even higher for students who began the program fully skills proficient: 56% compared with 28% of non-ASAP skills-proficient students. And, the fifth ASAP cohort (fall 2011) has just realized an unprecedented

2.5-year graduation rate of 49% compared with 16% of non-ASAP students.

While ASAP's comprehensive approach has higher upfront costs, a study by the Center for Benefit-Cost Studies in Education at Teachers College, Columbia University, found that the program's higher graduation rate results in a lower cost per graduate ($6,500 less) compared with non-ASAP graduates.

Since 2007, ASAP has admitted more than 6,400 students across seven cohorts and will enroll 4,400 students at seven colleges in fall 2014. Based on continued success and rigorous evaluation, CUNY recently received new funding from the City of New York ($35 million over three years) that will expand ASAP to 13,000 students by fall 2016.

Lake Washington Institute of Technology: Contextualized Learning for Basic Skills Students

Washington's I-BEST (Integrated Basic Education Skills Training) program integrates ABE/ESL instruction with professional-technical courses so students can progress more quickly to a certificate or degree. It uses contextualized instruction to improve learning outcomes—and help students learn skills and content at the same time.

Classes are co-taught by ABE/ESL and professional-technical faculty. Both instructors are present in the classroom at least 50% of the time. Because one size does not fit all, four I-BEST variations address different skill levels:

- On-Ramp I-BEST serves low-level ESL students but provides no college credit.

- Professional-Technical I-BEST leads to a certificate with credits that are applicable to additional credentials.

- Academic I-BEST allows students to earn transferable college credits but not a certificate.

- Developmental Education I-BEST extends the I-BEST model to students placing below college-level courses or progressing from the basic skills level.

The program was piloted at 10 colleges in 2004, and by 2012, the state had scaled I-BEST to all 34 of its community colleges. **Lake Washington Institute of Technology (WA)** launched I-BEST in fall 2005. Students are recruited from ABE/ESL classes and referred by advising staff and community partners. An advisor called a *transition navigator* is

the primary contact for all students entering an I-BEST pathway. The navigator continues as the advisor for Academic I-BEST students, while discipline-specific faculty provide advising for all other I-BEST students. In I-BEST programs leading to a certificate, courses are structured quarter by quarter; students must create their personal progression plan during their first quarter. Advisors meet with all students prior to each registration period and continually as needed.

Lake Washington Institute of Technology (LWIT) has experimented with course delivery, and the results are promising. For example, the college has introduced a unique cross-departmental model for Developmental Education I-BEST courses. Instead of sequential math instruction, developmental math is contextualized and taught through concept-based application exercises. Students must score 80% on all exercises to progress, and they are given as many opportunities as needed to achieve proficiency. Although the sample size is small, an early class of I-BEST developmental math students under the new model (n=11) averaged 86% on a standardized departmental math exam compared with 76% for non-I-BEST developmental math students (n=275).

Professional-Technical I-BEST students have also been successful. Of the 154 Professional-Technical I-BEST students enrolled at LWIT from 2005 through 2012, 70% earned a college or workforce credential. In addition, 22% (n=34) went on to earn a subsequent certificate or degree, and 17% (n=26) earned an associate degree. LWIT's fall 2012 results are even more promising. Of the 28 students who first enrolled in Professional-Technical I-BEST in summer or fall 2012, 24 persisted through spring 2013 and two had earned a certificate before spring—an overall persistence rate of 93%.

Klamath Community College: Career Pathways Lead to Success

Between 2008 and 2010, during Oregon's worst recession in 25 years, 44% of the 1,461 students who completed Career Pathways Certificates entered the workforce in middle-skills jobs. The certificates were a product of Oregon's Career Pathways Initiative, launched in 2004 to help more students earn credentials and move on to living-wage jobs. By 2007, after pilots at five colleges, the initiative was implemented at all 17 Oregon community colleges.

The initiative's pathways lead to Career Pathways Certificates of Completion (CPCCs), which are 12- to 44-credit certificates that have been approved by the Oregon State Board of Education. Most CPCCs can be completed in less than one year, and all credits are embedded in an Associate of Applied Science (AAS) degree program.

Most important, the CPCCs serve as the first in a series of stackable credentials. Students who earn certificates are prepared for entry-level employment—and for a seamless transition to successively higher levels of education and advanced employment opportunities.

Career pathways developed by individual colleges reflect local workforce needs. **Klamath Community College (OR)**, which serves a small rural community and about 1,200 students, offers eight CPCCs. All are designed to meet local or regional workforce demands, and all can be further applied to a one-year certificate or AAS. Faculty members work across disciplines to develop, implement, and evaluate pathway courses.

The programs also benefit from the input of active community steering committees that include workforce and educational partners.

Klamath Community College (KCC) awarded its first CPCCs in 2009. Since that time, the number of certificates earned by KCC students has increased every year, for a total of 97. KCC actively recruits students from the college's developmental classes for its pathways programs. In 2012–13, 61% of the students who earned CPCCs were enrolled in pre-college courses the year before they entered the pathway. The college also reaches out to dual enrollment students, many of whom are taking courses that can be applied toward a certificate.

> "Research has made it very clear that students do not do optional; that students' brains literally freeze with proliferation of choices; and that students want fewer, more structured options."
>
> *Donna Dare*
> *Vice Chancellor, Academic Affairs, St. Louis Community College*

The college promotes career pathways to students at its mandatory orientation and in the academic advising sessions that are required for all credential-seeking students before registration. At these sessions, advisors explain the progression plan for each CPCC program, including suggested courses for each term. After registration, faculty members meet with students in periodic advising sessions, continually reviewing personal progression plans and monitoring student progress.

CPCCs have given KCC students valuable advancement opportunities. Of the 97 students who have completed certificates, 36 went on to earn additional certificates and degrees. KCC plans to embed CPCCs and industry-recognized credentials in all of its career and technical programs. In addition, the college is planning a Pathway Guide for high school students to promote early entry into pathways.

Long Beach City College: Using Pathways to Keep the College Promise

The Long Beach College Promise is a pathway from elementary school to **Long Beach City College (CA)** to California State University at Long Beach (CSULB). The pathway was created in 2008, when Long Beach City College (LBCC) joined the Long Beach Unified School District (LBUSD) and CSULB in signing the Promise. The Promise is a commitment to improve college readiness, access, and success through early high school outreach, a tuition-free first semester at LBCC, and guaranteed admission to CSULB for qualified students.

In fall 2012, LBCC launched the Promise Pathways Initiative. Promise Pathways integrates several key student experiences to increase college completion for LBUSD high school spring graduates who enroll at LBCC the following fall semester. Students attend full time, pay no tuition for the first semester, receive priority registration, are placed based on alternative assessments, and must begin any developmental coursework immediately.

LBCC uses a placement plan developed by faculty who regularly assess student outcomes to monitor and revise the process. A student's high school performance is considered, along with Accuplacer test scores, to determine placement in math and English. Students who place into developmental coursework must enroll continuously until all developmental work is complete, and accelerated learning formats allow students to move through two developmental courses in one semester.

To be eligible for Promise Pathways, students must apply to LBCC, complete an online orientation, and sign a mutual responsibility agreement. Each student's first-semester education plan is created automatically and then reviewed during group and individual counseling sessions. Because Promise Pathways students have priority registration and assistance from college counselors, they are certain to be enrolled in the selected courses. Prior to the beginning of the fall semester, the college sponsors a full-day orientation picnic for students and their families.

During the first year, students take a mandatory Orientation for College Success course, and students who have not declared a major also are enrolled in a career explorations course. Supplemental instruction is required in courses with low success rates, and the college is piloting an academic coaching program with coaches assigned to specific courses. For pathway eligibility, students must maintain full-time enrollment in the first semester and complete 67% of their courses with a 2.0 or higher GPA each semester.

The fall 2012 Pathways cohort (*N*=976) outperformed non-Pathways students from LBUSD (*N*=804) on multiple measures. For example, Pathways requires students to be enrolled full time in their first semester because full-time enrollment leads to higher graduation rates. Pathways students were far more likely to be enrolled full time in *both* fall and spring semesters (60%) than were non-Pathways students (22%). Pathways students were also more likely to complete college-level English (41% vs. 7% for non-Pathways students), complete college-level math (15% vs. 5% for non-Pathways students), and achieve their intent to transfer (36% vs. 9% for non-Pathways students).

Redesigning the Student Experience

It has been 10 years since the Center published *Engagement by Design* and Achieving the Dream began work with its first 27 colleges. As a result of those early efforts, colleges increasingly have recognized the necessity of fundamental redesign of students' educational experiences. Now a growing number of institutions—notably, those involved in Achieving the Dream; Completion by Design; the AAC&U Roadmap Project; the design of new math pathways; and other national, state, and local initiatives—are addressing an important question: What should students' educational experiences look like 10 years from now?

Many colleges have begun answering this question by recognizing the need to move beyond discrete interventions for small numbers of students to larger-scale redesign aimed at ensuring that all students have the experiences that evidence suggests will produce better outcomes. Instead of focusing only on what happens in individual classrooms or only on certain student services, they are attending to the overall student pathway, from the point of first contact through completion of certificates and degrees, university transfer, and attainment of jobs with value in the labor market. Emphasis is on outcomes, seamless transitions, college success strategies, relevance, coherence, and embedded support. A key insight comes from converging research indicating that most students will benefit from more structure (and fewer options) in their educational experiences.

A pathway is "a highly structured, coherent educational experience that is built around and through an area of study" (AACC, 2014, p. 11). It intentionally incorporates multiple high-impact practices and makes them inescapable. A pathway has multiple entry points, so a student can start the pathway at his or her current level of study, whether that is adult basic education, developmental education, or college-level coursework. Similarly, there are exit points at various levels, such as earning a certificate or an associate degree, transferring to a baccalaureate institution, new employment, or career advancement. Students can leave the pathway to start work after earning a certificate and come back later to augment their education, earning an associate and then a baccalaureate degree.

Key Design Features of Pathways

The text below is reprinted from "Premise and Promise: Developing New Pathways for Community College Students" by Kay McClenney, Donna Dare, and Susan Thomason, first published in Community College Journal, April/May, 2013.

The following design features intentionally distinguish the pathway model from traditional community college structures and practices.

Aligning Levels of Learning
This academic pathway model clearly aligns exit standards and entry expectations to support student progression to each subsequent level of learning—from adult basic education, to developmental education, to credit-based certificates and associate degrees, and on to university transfer and employment.

The design explicitly provides for stackable credentials. Anchoring an academic pathway within the larger context of transfer options and viable employment opportunities enables students to make informed decisions about their educational goals and plans for achieving them.

Coalescing Arts and Sciences With Career and Technical Education
With students preparing for careers like biomedical engineering, music business, or green construction, traditional divisions no longer apply. The academic pathway model eschews an either/or approach to learning so that knowledge and skills developed through the arts and sciences are taught alongside and in the context of professional and technical education, each strengthening the other.

Integrating Student Learning and Support
The pathway model calls for one or more advisors to be embedded in each pathway, guiding students from the level at which they enter to completion of a postsecondary credential and preparation for next steps, whether transfer or employment. Students receive assistance through small group advising sessions that help them set goals and balance school with family and work obligations. They learn about academic and career options, including information about post-credential opportunities in the labor market or through continuing education at colleges and universities. Discussions focus on course sequences, prerequisites, expected learning outcomes, and realistic timelines for completion.

During their first semester, students complete a plan for navigating the pathway to completion. Thereafter, they and their advisors regularly monitor their progress.

Another feature of the model is a pathway-specific student success course. Also, academic support is integrated into regular coursework, limiting the number of students who don't get help when they most need it. Syllabi and daily practice incorporate supplemental instruction, required study groups, lab work, and tutoring in ways appropriate to the subject matter, ensuring that academic support is an inescapable part of every student's experience.

Connecting Classroom Learning to Applied Learning
The notion of what constitutes a "classroom" is changing. But whether face to face, online, or a combination of the two, most college experiences are structured around a traditional lecture format. This remains true despite research and student feedback affirming the value of "hands-on" or applied learning. A combination of problem- and project-based learning, out-of-class

Rethinking the student experience necessarily involves broad campus discussion of questions such as these:

- What does it mean to go to our college? Do our students see college merely as registering for and attending classes? Or is it defined as a coherent academic and personal development experience that prepares students for successful outcomes, including meaningful lives and productive careers? Are the pathways to those outcomes, as well as their relative costs and benefits, clear to every student?

- If the evidence shows that a particular practice is effective, what obligation do we have to make sure that all students who can benefit from that practice actually experience it?

- When we know what works, do we require it? For some students, or for every student?

- Can we define five to 10 pathways incorporating clusters of related programs and commission faculty/student services teams to design the sequence, curriculum, and high-impact practices to be embedded in the pathways?

- What long-accepted structures and policies need to be disrupted to reduce barriers for students, accelerate their progress, and meet future career and employment needs?

- What evaluation procedures must we put in place to ensure that all aspects of these pathways are implemented as designed and that all students are experiencing all of the appropriate pathway components?

Developing pathways is challenging work that requires input and ingenuity from many people—and the resolve to maintain focus: Every decision must be based on whether it ensures that students will learn and will be supported in reaching their completion goals. Many decades-old structures and customs have to change. But when that demanding work is done well, the new systems can deliver on the promise of serving students more effectively.

Over the past 10 years, community colleges have focused on implementing and improving discrete practices but struggled with bringing successful programs to scale. Now it is time to integrate those practices into pathways and make those pathways the core of the college experience. In that way, attending community college will not be about a series of disconnected classes and experiences. Instead, it will be a complete—and completed—educational journey.

> "Structured pathways help students make sense of the overwhelming complexity of their options at college. [Pathways] allow [students] to focus their attention and effort on learning content and skills rather than on learning the system."
>
> *Uri Triesman*
> *Professor of Mathematics, Professor of Public Affairs, and*
> *Executive Director, The Charles A. Dana Center*
> *The University of Texas at Austin*

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group projects, internships, clinical placements, fieldwork, and other discipline-appropriate activities enables educators to structure learning so that students can apply and practice newly acquired skills and knowledge.

Merging Curricular and Co-Curricular Learning

In a world where 81% of community college students do not participate in college-sponsored extracurricular activities, valuable engagement opportunities are lost. The pathway model pulls in selected co-curricular activities, connects them to programs of study, and integrates them into students' educational experiences.

In an arts and design pathway, for example, students might attend campus cultural events as structured assignments that involve advance reading, observation rubrics, and post-event reflection. Students in a social sciences and human services pathway might systematically identify the emergency assistance needs of their fellow students and work with the student government to address those needs. Students in a STEM (science/technology/engineering/math) pathway might work through Phi Theta Kappa to create social media campaigns for promoting college completion.

Bridging the For-Credit Versus Non-Credit Gap

How colleges organize and certify learning must shift in recognition of the rapid expansion of learning opportunities available to students. Whether through workplace experiences, military service, massive open online courses, or continuing education programs offered by colleges themselves, students acquire more education and relevant experience than they often get credit for.

It makes no sense that a military veteran should be required to take a credit course in a subject that he or she taught to soldiers in Afghanistan or that someone who mastered Mandarin Chinese outside an educational institution should have to begin again at a community college. The pathway model includes assessment of prior learning and appropriate assignment of credit.

For non-credit courses, particularly those involving industry certifications, clear crosswalks should show how knowledge and skills attained in such courses could translate into college credit. Quite possibly, the traditional "credit hour" will soon be replaced by more meaningful learning certification.

Pathway Design Resources for Colleges

The Center provides links to the following resources at www.cccse.org/center/initiatives/highimpact.

- AACC's *Empowering Community Colleges to Build the Nation's Future: An Implementation Guide*
- Complete College America's *Guided Pathways to Success (GPS)*
- Completion by Design's *Pathways Analysis Toolkit*

- Jobs for the Future's *Structured Pathways and Completion Policy Self-Assessment Tool*
- *Community College Journal*'s three-article series on pathways (Kay McClenney, Donna Dare, and Susan Thomason)

Center Staff

CCSSE and *SENSE* Member Colleges

For lists of *CCSSE* and *SENSE* member colleges, visit www.cccse.org.

References

ACT, Inc. (2010). *What works in student retention? 4th national survey: Community colleges report.* Retrieved from http://www.act.org/research/policymakers/pdf/droptables/CommunityColleges.pdf

Adelman, C. (2005). *Moving into town—and moving on: The community college in the lives of traditional–age students.* Washington, DC: U.S. Department of Education.

American Association of Community Colleges. (2014). *Empowering community colleges to build the nation's future: An implementation guide.* Retrieved from http://www.aacc21stcenturycenter.org/wp-content/uploads/2014/04/EmpoweringCommunityColleges_final.pdf

Begley, S. (2011, March 7). I can't think! The science of making decisions. *Newsweek*, 28–33.

Horn, L., & Skomsvold, P. (2011). *Community college student outcomes: 1994–2009* (NCES 2012-253). Retrieved from http://nces.ed.gov/pubs2012/2012253.pdf

Jenkins, D., & Cho, S. W. (2012). *Get with the program: Accelerating community college students' entry into and completion of programs of study* (CCRC Working Paper No. 32). Retrieved from Community College Research Center website: http://ccrc.tc.columbia.edu/media/k2/attachments/accelerating-student-entry-completion.pdf

RTI International. (n.d.). *The completion arch: Measuring community college student success (Participation in developmental courses: United States).* Retrieved from College Board website: http://completionarch.collegeboard.org/placement/participation-in-developmental-courses/participation-in-developmental-courses-us

Scott-Clayton, J. (2011). *The shapeless river: Does a lack of structure inhibit students' progress at community colleges?* (CCRC Working Paper No. 25). Retrieved from Community College Research Center website: http://ccrc.tc.columbia.edu/media/k2/attachments/shapeless-river.pdf

Skomsvold, P., Radford, A. W., & Berkner, L. (2011). *Six-year attainment, persistence, transfer, retention, and withdrawal rates of students who began postsecondary education in 2003–04* (NCES 2011-152). Retrieved from http://nces.ed.gov/pubs2011/2011152.pdf

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