



Success by design

Improving outcomes in American higher education

A Deloitte Center for Higher Education Excellence series on student success

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The first in a series examining innovative and effective strategies for improving student success, this introductory article examines current challenges to persistence and completion, and the demographic trends likely to further compound the issues in the coming years. It lays out a framework for building institutions designed to promote student success outcomes. It also surveys some of the most promising innovations across all dimensions of the student experience—from the classroom and support services to campus operations and partnerships with the broader community. Deloitte's Center for Higher Education Excellence monitors developments in this area and, through this *Success by Design* series, will highlight some of the most promising strategies to help improve persistence rates, time to graduation, and completion rates.

About Deloitte's Higher Education Consulting Practice

Deloitte Consulting LLP's Student Experience practice assists colleges and universities as they strive to become more student-centric, automated, and analytics-driven. Deloitte assists in implementing student information systems, developing student self-service and case management portals, identifying predictors of student success and engagement, incorporating behavioral nudges to encourage desired behaviors, and designing new operating models and supporting business processes throughout the student life cycle. Contact the authors for more information or read about Deloitte's Higher Education practice here: <https://www2.deloitte.com/us/en/pages/public-sector/solutions/higher-education-services.html>

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Introduction

Every year across the United States, a significant number of students fail to complete their college degrees.

ACCORDING to the National Student Clearinghouse Research Center, 30 percent of students who entered college in the fall of 2014 did not return in the second year.¹ The debate over student debt frequently overlooks these students, who typically take on loans but leave college short of attaining a post-secondary credential. Often saddled with debt, and without the benefit of the increased earning power that college graduates accrue, they tend to face a difficult struggle.² They are also the most likely to default on their student loans. According to the Federal Reserve Bank of New York, defaults are most common among students with the lowest debt burdens. Among those with less than \$5,000 in debt, one in three defaulted on their loans.³

Adding to the challenge, the profile of incoming college students has changed dramatically in recent years.

Furthermore, the National Center for Education Statistics estimates that among first-time, full-time students who started work toward a bachelor's degree at a four-year institution in 2008, only 60 percent graduated within six years—by 2014.⁴ At

public institutions, the six-year graduation rate hovers around 58 percent; at private, nonprofit institutions it's 65 percent, while at private, for-profit institutions, it's only 27 percent.⁵

By any measure—whether it's persistence from year one to year two, time to graduation, or the percentage of students who complete their degrees—many postsecondary institutions are falling short.

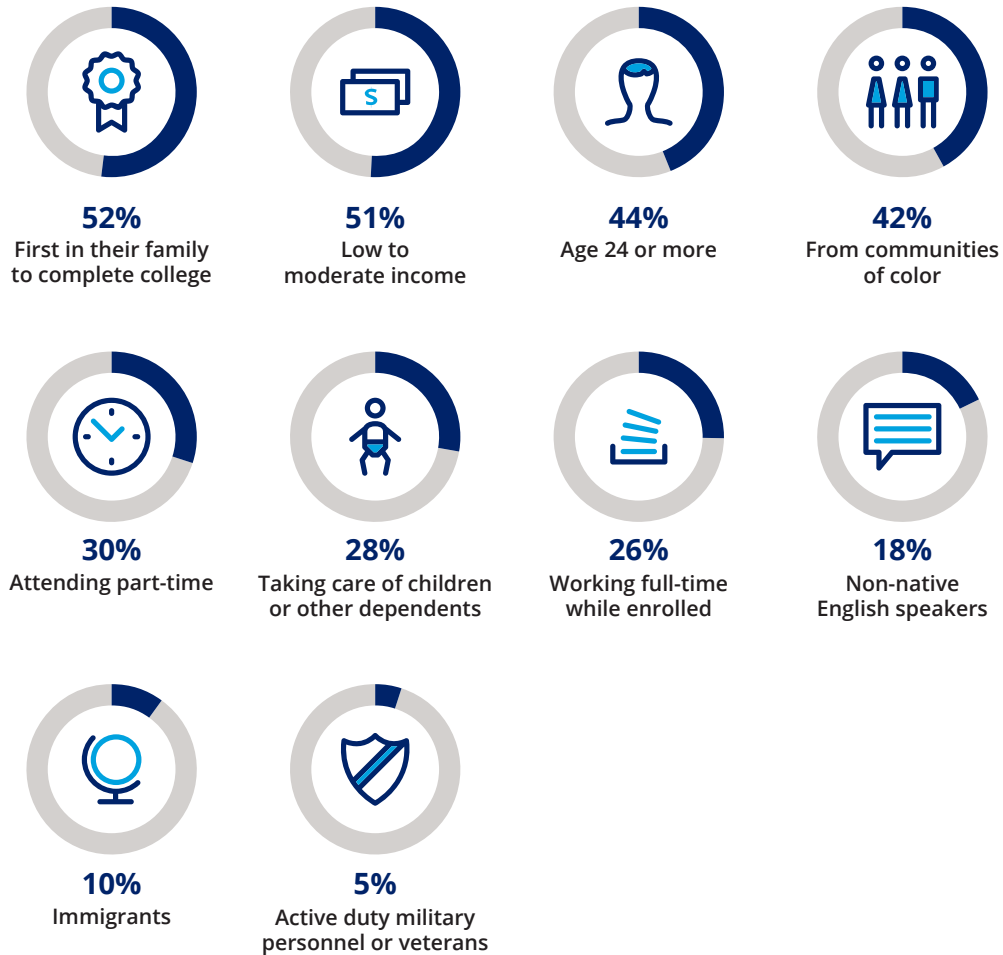
Demographic shifts underway in the United States will likely further compound the problem in the coming years (see the sidebar “An epidemic further compounded by demographic shifts”).

The new nontraditional normal

Adding to the challenge, the profile of incoming college students has changed dramatically in recent years (see figure 1). No longer does the typical student come to college straight from high school, attend classes full-time, and live on campus. Today, 44 percent of college and university students are 24 years of age or older. Thirty percent attend class part-time, 26 percent work full-time while enrolled, and 28 percent take care of children or other dependents while pursuing their postsecondary studies. On top of that, 52 percent are the first in their families to seek higher education, 42 percent come from communities of color, and 18 percent are non-native English speakers.⁶

Figure 1. Profile of today's student

To adequately address the barriers today's students face, we must first recognize that 21st century students do not fit the traditional profile.



Source: Tia Brown McNair, Susan Albertine, Michelle Asha Cooper, Nicole McDonald, and Thomas Major, Jr., *Becoming a Student-Ready College: A New Culture of Leadership for Student Success* (John Wiley & Sons, 2016).

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Building an institution designed for student success

GIVEN the implications behind these changing demographics, colleges and universities need to find new ways to effectively support their students on the path to graduation. As students with “nontraditional” backgrounds become more of the norm, traditional support structures, such as daytime-only office hours for advising and student affairs, will likely become inadequate.

“While it is true that retention programs abound on our campuses, most institutions have not taken student retention seriously,” noted Vincent Tinto, distinguished university professor emeritus in the School of Education at Syracuse University. “They have done little to change the essential character of college, little to alter the prevailing character of student educational experience, and therefore little to address the deeper roots of student attrition. As a result, most efforts to enhance student success, though successful to some degree, have had more limited impact than they should or could.”⁷

So what should institutions of higher education do differently? How can they develop effective strategies to help students succeed in college?

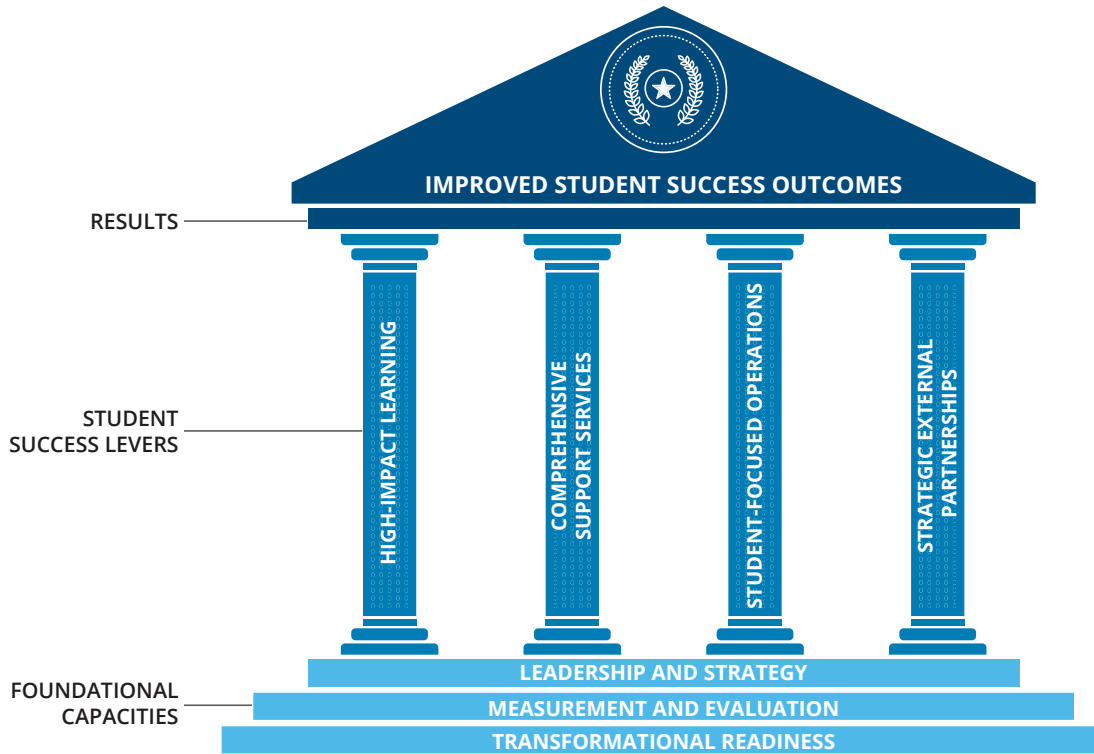
For an institution of higher education focused on improving student success outcomes, developing a definition of success on that particular campus constitutes an essential first step. Once the end goal is clear, the institution can develop a holistic, student-centered strategy across all dimensions of the

[M]ost efforts to enhance student success, though successful to some degree, have had more limited impact than they should or could.

student experience, from the classroom to support services to campus operations to relationships with the broader community, with all designed to foster measurable improvements in persistence rates, time to graduation, and completion rates (see figure 2).

In the sections below, we highlight some innovative and effective strategies for improving student success across each dimension of the student experience, and we describe the foundational capacities that institutions should develop if they are to drive meaningful improvements. Through a companion checklist, we also lay out the chief considerations that higher education leaders should contemplate as they formulate their institution’s strategy for student success.

Figure 2. Building an institution designed for student success



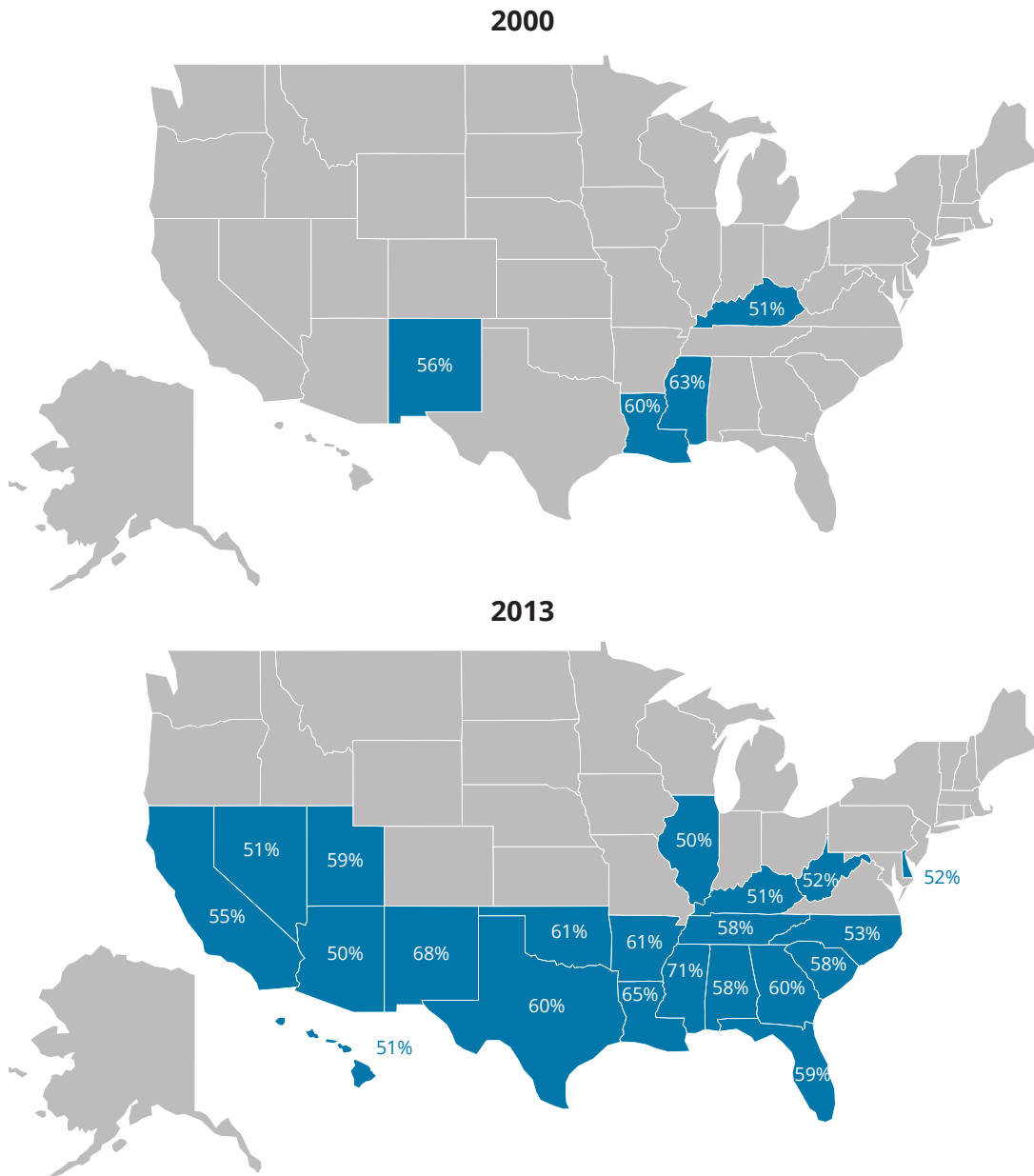
Source: Deloitte Consulting LLP.

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AN EPIDEMIC FURTHER COMPOUNDED BY DEMOGRAPHIC SHIFTS

The proportion of students coming to college from wealthy or middle-class families—students who tend to be well-equipped to complete their postsecondary degree—is shrinking. Before long, a majority of US schoolchildren will likely be raised in low-income households (see figure 3).⁸ Many of these students will come from high-poverty states in the South, the region that is expected to see the most growth in high school graduates over the next decade (see figure 4). Among low-income graduates who attend college, many will be the first in their families to do so. These students often face an especially tough path to graduation.

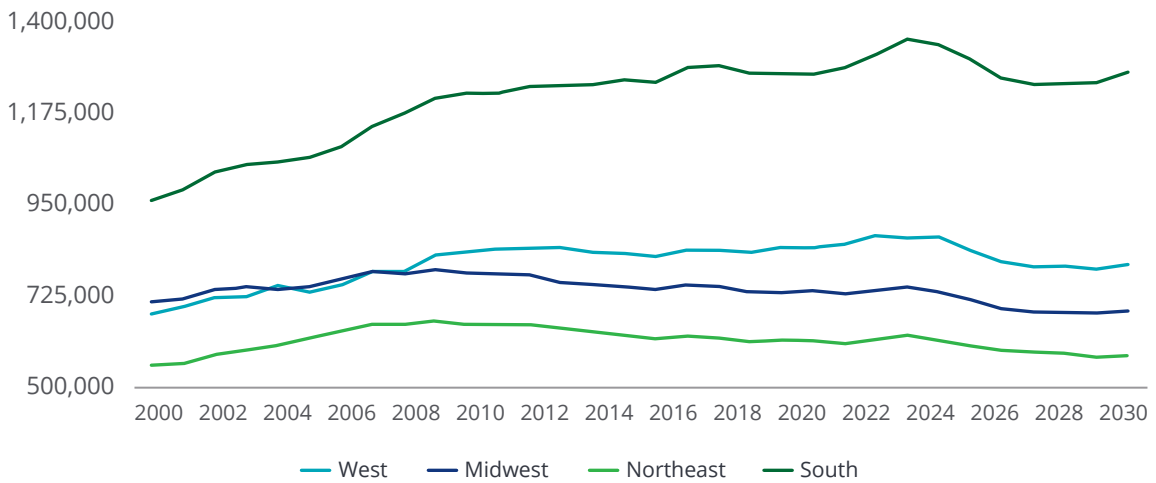
Figure 3. States where low-income students exceed 50 percent of the total student population, 2000 vs. 2013



Source: Southern Education Foundation.

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Figure 4. Number of high school graduates varies sharply by region



Source: Western Interstate Commission for Higher Education, "Knocking at the college door, projections of high school graduates," December 2016, <http://knocking.wiche.edu/>

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For students from low-income families, financing is not the only factor standing in the way of higher learning. Many don't receive the high-quality K-12 education they need to effectively prepare for college in the first place.⁹ According to a Programme for International Student Assessment report, the quality of US education varies widely, depending on the ethnic and socioeconomic profile of the local school system. The study found that in schools where more than 75 percent of students receive free or reduced lunch, a proxy for income level, average literacy scores are far below the Organisation for Economic Co-operation and Development (OECD) average. By contrast, students attending schools where fewer than 10 percent receive free or reduced lunch tend to have the highest literacy scores in the world.¹⁰

This issue is exacerbated by the fact that many high schools—particularly those in low-income areas—don't help students develop the study skills they would need to excel in college.¹¹ Without this preparation, students may have trouble keeping pace in college and eventually lose the confidence and motivation essential to completing their studies.

Beyond inadequate academic preparation, first-generation college students may not be able to rely on family or friends for advice about higher education. This can result in an additional burden of constructing a support network of mentors, role models, and advisors all on their own. Without suitable advice and counseling, these students may make decisions that adversely affect their circumstances—and thus, their education.



High-impact learning

THE lecture-based model for learning has characterized higher education since its inception. But, with better technology and a much deeper understanding of how students learn, educators are starting to personalize learning. They are combining leading elements of traditional teaching with digital technology, using analytics to tailor the curriculum to individual learners, and focusing on competencies rather than credit hours to help students graduate sooner.

Here we examine a few of the most promising innovations designed to improve learning outcomes—each rooted in the idea that students come to college with different levels of knowledge, learn in different ways, and progress at varying paces.

Blended learning

The Center for Digital Education reports that blended or hybrid education models improve comprehension and test scores for 84 percent of students.¹² These models blend elements of “brick-and-mortar,” in-person instruction with asynchronous, self-paced online learning. A US Department of Education analysis found blended learning to be more effective than conventional face-to-face classes or online learning models.¹³

One popular form of blended learning is the “flipped classroom.” In this model, students absorb course content outside of class—through lecture videos or online activities, for example—and then use classroom time to reinforce their understanding.

As part of a broad initiative to redesign courses across the curriculum, Missouri State University, for example, implemented a flipped classroom model for its Introductory Psychology course. Before the change, the course was taught in a traditional lecture format. Under the new model, students read course materials and completed online assignments

Blended learning classrooms can help instructors reduce in-class time by as much as one-half and use class time more efficiently.

before coming to class, where seven staff members (a full-time instructor, a graduate assistant or adjunct instructor, and five undergraduate learning assistants) worked with about 300 students per section. Through the new format, a higher staff-to-student ratio, and other improvements, the university saw the number of students earning As or Bs in Introductory Psychology increase by 31 percent in conjunction with a drop of 10 percent in the cost of delivering the course.¹⁴

Blended learning classrooms can help instructors reduce in-class time by as much as one-half and use class time more efficiently.¹⁵ The instructor might focus class time on just those topics that are giving students trouble, for example, or students might use the time to practice solving problems.¹⁶ In its “Teaching with Technology” survey of faculty members across the United States, Campus Technology found that 55 percent of higher education faculty today flip all or some of their courses.¹⁷

Not only do many students prefer blended learning environments over other configurations of face-to-face and online options, but studies by the Bill & Melinda Gates Foundation show that high-quality hybrid courses help at-risk students master content twice as fast as they would with lectures, and their pass rates increase by one-third.^{18, 19}

Adaptive learning for personalized education

Unlike the typical online learning environment in which everyone starts at the same level and advances at the same pace, adaptive learning technology uses analytics to tailor learning to a student's current level of mastery, anticipating what content and resources each student needs at each point in the course.^{20, 21} A study by Fulcrum Labs shows that course completion rates among students who used adaptive learning courseware were 15 percent higher than those among students in traditional online courses.²²

Confronted with a large number of students who were not college-ready in mathematics—a key predictor of success at Arizona State University (ASU)—the university launched a math readiness program in the fall of 2011, using adaptive learning technology. Students work through the program at their own pace, aided by an instructor. The adaptive system uses student data to continually assess what a student knows, remediate any proficiency gaps identified, and reassess student mastery of course concepts, giving each student a personalized learning path. Instructors gain an in-depth view of which students are on- and off-track and why, so they can intervene in a timely way. Instructors also see which concepts students are struggling with across the board, so they can focus class time on mastering those concepts.

[S]tudents' performance in entry-level math helps predict whether they will graduate from the university.

According to Phil Regier, executive vice provost and dean of ASU Online, students' performance in entry-level math helps predict whether they will graduate from the university. "If we can make more students successful in entry-level college mathematics," Regier said, "the university will benefit because we'll do

what we're supposed to do, which is retain [and graduate] our students at a higher rate."²³

Initial results of ASU's adaptive learning platform in developmental math show improved outcomes, with fewer students withdrawing, increased pass rates, and students completing the course in less time.²⁴

Competency-based education

Nontraditional students come from a variety of backgrounds and situations that typically do not lend themselves to the old model of higher education. They have varying levels of education and experience, likely cannot afford four years to complete a degree, may need to work part-time or full-time, and often must juggle family and other responsibilities while completing their studies.²⁵

For these students, competency-based models are emerging as an attractive alternative to the traditional credit-hour model. Rather than using the number of credit hours completed as the yardstick for success, competency-based degree programs focus on whether students actually master the material. The idea stems from a simple premise, says Jeffrey Selingo, author of *College Unbound: The Future of Higher Education and What It Means for Students*: "[D]egrees should be based on how much students know, not how much time they spend in a classroom."²⁶

Competency-based degrees reward prior experience and measure learning through demonstrated proficiency. They allow students to progress through "courses" at their own pace, shortening or lengthening the time needed to complete a degree. The number of institutions offering competency-based degrees has grown in recent years to include some large public universities, such as the University of Wisconsin, Purdue University, the University of Texas, the University of Michigan, and Northern Arizona University.

The University of Wisconsin, the first major public university to offer a competency-based program, allows working adults with some college experience to finish their degrees through online courses and competency testing. The cost is \$2,250 per three-month term.²⁷

Comprehensive support services

REGISTERING for courses, securing financial aid, developing strong study skills, mastering difficult course material—students must overcome a wide variety of obstacles on the path to graduation. Student services that are effectively targeted and delivered in a timely fashion can do much to help students along and produce better outcomes.²⁸

Supporting students through the financial aid cycle

Lack of financial resources is a major reason why students drop out of college.²⁹ In response to this challenge, institutions are crafting strategies to encourage students to complete their Free Application for Federal Student Aid (FAFSA) applications on time, which increases their chances of gaining funding. Some institutions, for example, assign students a financial aid counselor when they receive their acceptance, while others require students to complete their financial aid applications before they register or enroll.

Arizona State University, for example, designed a series of carefully crafted, timely email messages to remind students—and in some cases, their parents—to submit the financial aid application. This strategy increased filings by the priority deadline by 72 percent. It also increased the number of FAFSA applications submitted by the start of the following school year from 67 percent to 73 percent.³⁰

Apart from helping students apply for financial aid, institutions are exploring other innovative ways to make sure students don't drop out due to a lack of funds. In Georgia, the state covers the tuition at a Georgia institution for any eligible student who maintains a 3.0 cumulative average through the HOPE scholarship program. Analysts at Georgia State University (GSU) examined the records of students who lost this scholarship. Most, they found, were maintaining averages of just under 3.0, but only 9 percent managed to pull up their grades and

gain back the financial support. Students who lost support rarely graduated on time, if at all. So in 2008, GSU instituted the Keep HOPE Alive scholarship program, which gives \$1,000 to freshmen and sophomores who have lost their HOPE scholarships but maintain an average of at least 2.75. The goal is to prevent these students from dropping out. In addition to maintaining a GPA of 2.75 or higher, recipients of the scholarship must also meet other requirements, such as attending financial counseling and academic skills workshops.³¹

Identifying and targeting interventions for at-risk students

Sometimes multiple factors cause students to fall behind. Identifying students who are at risk of dropping out or falling behind and targeting interventions for them can be a tough task.

Some universities use empirically developed data indicators that predict a given outcome as a “flag” that a student is in trouble, so they can target interventions to help these students get back on track. Take Bucknell University, for example.

Starting with the class of 2020, Bucknell has been using predictive modelling to identify students who need extra help getting through their first year of college (see figure 5). The model uses pre-enrollment data such as demographic characteristics and family income, and post-enrollment data such as academic and social experiences during the first semester, to arrive at a “success score.” Students who seem most likely to achieve a first-year GPA of 3.0 or higher and return for their sophomore year are given the highest scores.

Bucknell also attaches a set of reason codes to each student's record that explains the logic behind the score. A code that indicates a problem such as poor attendance, low grades, or lack of campus

engagement prompts the university to intervene. For example, a student who struggles in a class during the first weeks of the semester might get a prompt to seek out tutoring, receive a list of available tutoring services, or be sent a personal message from a tutor who can provide help.³²

Structured pathways

Students are more likely to graduate on time if they have structured pathways to guide them. Having an academic plan when they first matriculate, a clear idea of which program and courses to choose, and timely support can all help them stay on track.

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In the early 2000s, Florida State University introduced a guided-pathway model comprising academic program maps and mandatory advising at key points in a student's career. Since the program's introduction, the percentage of students graduating with excess credits dropped from 30 percent to just 5 percent between 2000 and 2009, while the four-year graduation rate rose from 44 percent to 61 percent.³³

The University of Hawaii's STAR graduation initiative has won accolades from Complete College America for helping to dramatically increase graduation rates. The STAR Guided Pathways Systems use technology developed by the university to give students a clear and streamlined route to graduation, by enabling them to track their progress, review requirements, and explore the impact of scheduling (and changes in major) on the time it will take them to graduate.³⁴

While more institutions are beginning to offer structured pathway programs that provide a clear road map to on-time graduation, too many colleges still operate on a self-service model. Students left on their own to choose from among a wide variety of

disconnected courses, programs, and support services often have a hard time navigating their way to a diploma. Quite a few never make it.³⁵

Timely tutoring and coaching services help prevent students from falling behind

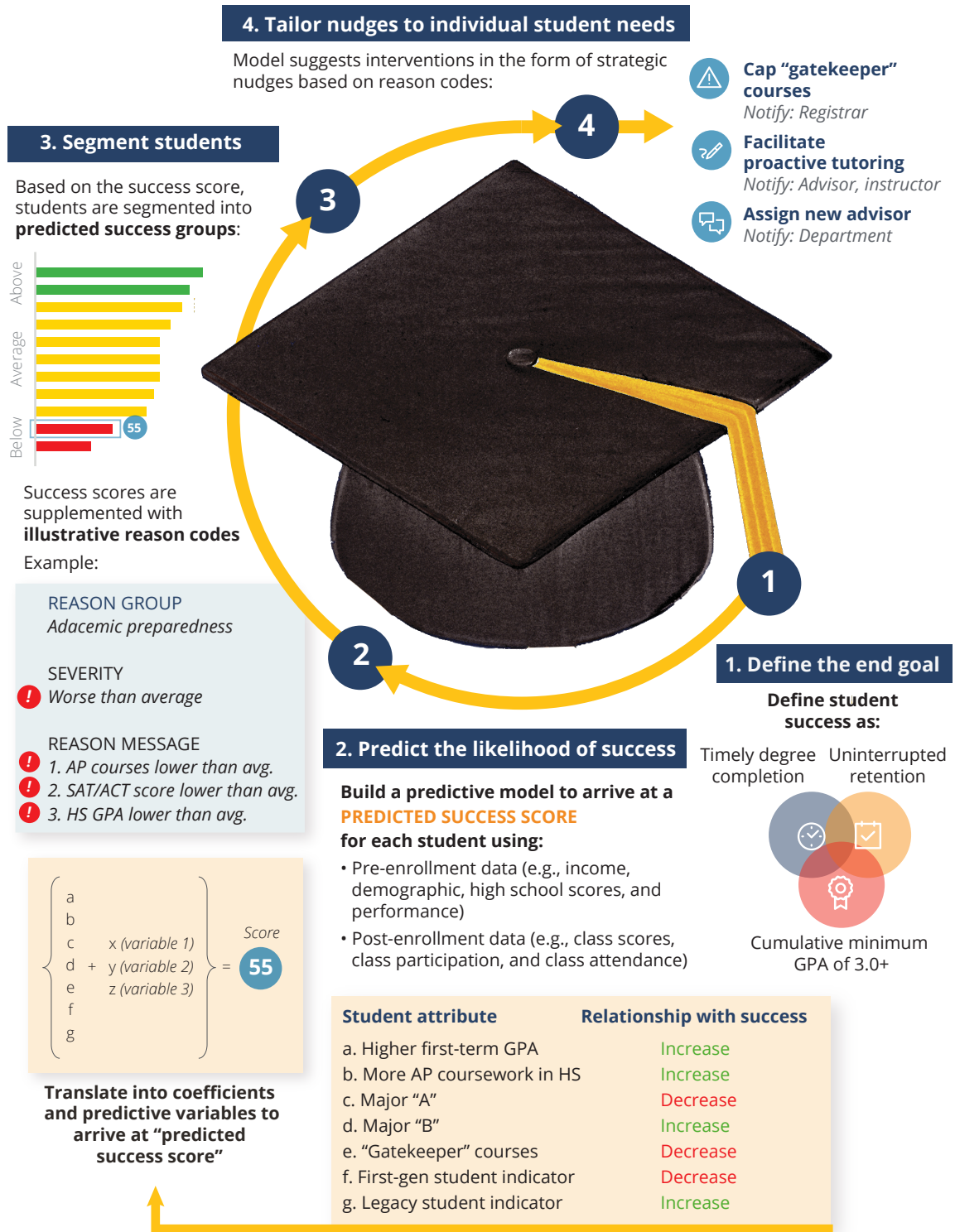
Tutoring can help to bridge the gap between student knowledge and course material. Tutoring is most effective when tutors use students' data to help them make informed decisions about how to focus their work with students.³⁶

Peer-to-peer or peer-led tutoring has been shown to help students bridge knowledge gaps. The University of Texas at El Paso, in a 10-year pilot program started in 2001, replaced one hour of lecture in a large STEM course (with more than 300 students) with many, small two-hour peer-led team learning workshops, taught by intensively trained undergraduate students who had previously excelled in the course. A 10-year study of this pilot (2001–2011) showed that this program produced a greater than 15 percent increase in the weighted average of the passing rate.³⁷

Similar to tutoring, coaching can have positive effects on student persistence and completion.³⁸ Coaches can help students articulate long-term goals and connect their daily activities to those goals, and build skills such as time management, self-advocacy, and study strategies.³⁹ Unlike tutoring, which focuses on bridging specific subject-area knowledge gaps, the coaching model represents a wraparound support for a student's entire collegiate journey. It has proven to be particularly helpful in supporting low-income and first-year students.⁴⁰

The Indiana Commission of Higher Education's "Scholar Coaching Initiative," launched in 2014, has helped boost retention rates for low-income, first-year students at Ivy Tech Community College and Indiana University-Purdue University Indianapolis by 12.1 percent and 10 percent, respectively, in just two years.⁴¹ The program pairs each student with a mentor, who helps the student balance work, personal commitments, and financial challenges with a demanding academic workload.⁴²

Figure 5. Coordinated intervention planning for student support



Source: Deloitte Consulting LLC.

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Student-focused operations

COLLEGES and universities should adapt to the needs of a diverse, dynamic, and changing student population by providing flexible services and a greater sense of connection.

When students fail to graduate, sometimes the ordinary obstacles of daily life are to blame. Conflicts with work schedules, unreliable child care, lack of transportation, and unpredictable class schedules can all obstruct students in their progress toward their degrees. Campus officials should do their best to help students work around those challenges.

Greater predictability through structured scheduling

In 2014, more than one-third of students who enrolled in college attended part-time. These students often juggle families, jobs, and studies, and the challenge of that balancing act makes them more likely to drop out of school than their full-time counterparts.

Part-time students need greater control over the hours they spend on campus, so that they can better manage their personal and academic obligations. Flexible, predictable schedules help prevent students from dropping out and encourage more students to enroll full-time.⁴⁴

Institutions can help by designing more student-friendly class schedules. For example, they might design schedules in morning or afternoon blocks—for instance, from 9:00 a.m. to noon or 2:00 p.m. to 5:00 p.m.—five days a week. For students with obligations off-campus, these blocks can be easier to manage than a schedule of 60- or 90-minute courses punctuated by hours of free time. Schedule blocks also help students form learning communities and working groups, offering vital student-to-student support and a strong sense of connectedness to faculty and institutions.⁴⁵

The University of Montana Western has created a blocked-scheduling program called Experience One. Students enrolled in the program take a single course at a time, meeting for a three- or four-hour block for 18 days. Once students complete the course, they move on to the next four-credit block, enabling them to earn the same amount of credit as they would under a traditional multi-class system.⁴⁶

Structured scheduling can be even more beneficial when applied to entire programs. Once students

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choose their programs, college officials can decide on the required sequence of courses and then block those courses in coherent, connected schedules. This not only helps students avoid common mistakes when selecting courses, but also helps institutions better estimate how many sections they'll need to schedule for each course, and when, so that students can complete their chosen programs on time.⁴⁷

Providing flexibility through digital services

When institutions deliver services such as advising, counseling, and financial aid only through face-to-face meetings during normal business hours, students who have jobs, families, and other off-campus responsibilities are less apt to take advantage of them.

To broaden access to services, colleges and universities are adopting a growing number of digitally enabled student services, in addition to traditional in-person services offered on campus. Johns Hopkins University, for instance, offers Skype-based advising sessions.⁴⁸

While most institutions deliver basic digital services such as course registration, library resources, and financial aid information, colleges and universities should consider an integrated approach to digitizing these services, and they should add more complex services, such as intrusive advising.⁴⁹

As part of their strategies to harness technology for student advising, institutions should not forget about mobile computing, the ubiquitous communications platform of the current generation. A one-stop mobile app offers a crucial channel for accessing campus services and communicating with advisors, mentors, and counselors.⁵⁰

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Hoping to foster better communications and engagement among first-year students, in 2014 Texas A&M University implemented OOHLALA, a mobile app that serves as a kind of personal assistant. Students can use this app to plan their schedules; manage their study time; keep track of assignments; form study groups; get information about campus events, clubs, and services; organize activities; communicate with individuals and groups; and a great deal more. As first-year students started using the app in large numbers, it helped them find roommates, connect with on-campus activities, and obtain help from upperclassmen, all of which helped ease the transition to university life.⁵¹

Strategic external partnerships

MANY individuals and organizations—on- and off-campus—can help students along the path to success. A college that forges relationships with outside entities offers its students an edge in their academic careers and beyond. An institution might, for example, partner with high schools to help prepare students for college. It could collaborate with peer institutions to share leading practices, or to implement strategies cost-effectively. Support from a variety of stakeholders, coordinated by an institution of higher learning, can help put students in a better position to succeed.

Preparing high schoolers for the rigors of college

Many students enter college unprepared. While 87 percent of high school students surveyed by YouthTruth said they wanted to go to college, only 45 percent felt ready to succeed there.⁵² Besides being academically unprepared, many students come to college with little idea about which courses to take, which financial aid options to choose, or what careers they want to pursue. They may even lack the emotional stamina that college life demands.

Partnerships between colleges and high schools can help ease the transition to higher education. One such initiative is the City University of New York's (CUNY) At Home in College (AHC) program.⁵³

Partnerships between colleges and high schools can help ease the transition to higher education.

Approximately three out of four students who entered CUNY's community colleges in 2010 needed developmental or remedial education in at least one subject. To help improve the odds for incoming students, the AHC program worked with students who were on-track to graduate from New York City public high schools but had not met traditional benchmarks of college readiness, such as adequate SAT scores.⁵⁴

The program focused on preparing students for the CUNY placement exam and college-level work; helping them with college and financial-aid applications; getting them ready for college life; and assigning each student a faculty mentor, a full-time advisor, and a peer mentor who kept track of her progress during the first year of college.⁵⁵

Students who participated in AHC scored 10 to 20 percentage points higher on the CUNY placement exam than students who were not in the program. The two-year retention rate for students enrolled full-time in associate's degree programs with AHC advisement was 16 percent higher than those enrolled in associate's degree programs who did not participate in the AHC program.⁵⁶

The University of Montana partners with high schools across Montana to help students better prepare for college-level math coursework. Research by Complete College America found that 71 percent of students in the Montana State University system do not make it through gateway-level college math classes within two years—a major deterrent to persistence. These findings spurred the university to find a better way to prepare students for college-level math.⁵⁷

Through its online project EdReady Montana, the university offers a free, personalized math curriculum for students from middle school through college that assesses a student's current math skills and provides a tailored learning path to help them

achieve their educational goals. To date, EdReady has been implemented in more than 290 schools across Montana.

Early results from a 2014 pilot found that students who used EdReady before their college math classes, compared with those who did not, earned a .25 to .75 higher average GPA in their first semester of college.⁵⁸

Early college high schools

Another kind of partnership allows students to earn college credits while still in high school. One example is the Early College High Schools (ECHS) program, a collaboration between the University of Texas at El Paso (UTEP), El Paso Community College (EPCC), and local high schools.

Early college high schools are small public schools that offer college courses, starting in ninth grade. They are based on the theory that if you engage underrepresented students in a rigorous curriculum, with strong academic and social support, tied to the incentive of earning college credit, those students are more likely to pursue higher education.⁵⁹ In the El Paso program, students earn associate's degrees while also completing high school; they then move on to UTEP as college juniors.

These collaborative efforts have proven extremely successful. A study by the American Institutes for Research shows that students who attend early

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college high school were significantly more likely to enroll in college; 25 percent of them went on to graduate, compared to just 5 percent of students who did not attend early college high schools.⁶⁰

At UTEP, since 2009, more than 1,100 ECHS students with associate's degrees from EPCC have graduated or are on track for bachelor's degrees.⁶¹

While the academic program is the foundation for the El Paso success, the wraparound services available from ninth grade through college graduation really make the difference. From eighth grade on, each student in the program works with an advisor to chart an appropriate academic path. At UTEP, staff at the ECHS Academic Success Center provide advice about majors, financial aid, and other areas of interest.

The El Paso example shows how institutions can collaborate to create a streamlined experience from high school through college and graduation.⁶²

Partnering with peer institutions to share leading practices

While implementing strategies on their own campuses, colleges and universities can also share leading practices with peer institutions.

Take the University Innovation Alliance (UIA), for example. The 11 member universities of the UIA work together to identify and pilot innovative programs designed to improve student success.⁶³ The goal is to create a playbook of what works at scale to help students from all backgrounds attain a degree. The alliance has pledged to scale successful programs across member campuses to graduate an additional 68,000 students by 2025.⁶⁴ Three member schools—Georgia State University, Arizona State University, and the University of Texas at Austin—have successfully piloted strategies that use predictive analytics to inform university decisions and academic planning. Other UIA members are using the lessons learned from these efforts to guide the development of their own initiatives to apply predictive analytics capabilities to aid with student success at their respective institutions.⁶⁵

Foundational capacities to drive student success

WHEN it comes to improving student success, few institutions have achieved significant gains. Why? It's not so much a question of *what* to do, but rather *how* to do it effectively. This is due to the inherent obstacles to change that colleges and universities typically face—from distributed decision-making systems and multiple power and authority structures to misaligned goals.

To help drive widespread student success, an institution should marshal all its resources, gain commitment from faculty and others who work with students, embrace innovation, ground decisions in solid evidence, create incentives resulting from change for all stakeholders, and stay relentless about measurement and evaluation. And to be able to achieve this kind of fundamental change, strong leadership must champion the effort.

Georgia State University offers a prime example of what is possible when the foundational capacities of leadership and strategy, measurement and evaluation, and transformational readiness all come together. A nationally recognized leader in student success, GSU achieved one of the most dramatic graduation rate increases in the country while working to eliminate the graduation rate gap among low-income and underrepresented students.⁶⁶ It made these gains not through a single program, but through a variety of smaller initiatives, which were all supported by the university's well-developed foundational capacities.

Leadership and strategy

Dedicated support from university leadership was one of the overarching reasons behind the success of GSU's decade-long effort to improve student progress and graduation.⁶⁷ The two university presidents

who served during that time, along with their provosts, championed those efforts, provided resources, allowed the student success team to follow the data wherever it led, and encouraged the team to pursue disruptive solutions.

GSU achieved one of the most dramatic graduation rate increases in the country while working to eliminate the graduation rate gap among low-income and underrepresented students.

The leaders also maintained a long-term perspective, understanding that successes would accumulate over time. For instance, when the student success team proposed the Summer Success Academy, allowing the most at-risk incoming students to earn seven credit hours and receive academic advising and financial literacy training before their first semester, President Mark Becker might have balked. After all, this cohort would reduce the average SAT score for entering students, pushing down the institution's *US News & World Report* ranking. But when the student success team convinced him that the Academy would eventually boost the university's graduation rate, he endorsed the program.⁶⁸

[A] student who struggled academically in a few classes risked losing the state's HOPE scholarship, which might jeopardize that student's entire academic career.

Support from the top also helped to remove an array of obstacles to student success that were related to university infrastructure. A careful analysis of university data drawn from multiple sources revealed that when students faced problems involving academic policy, financial aid, billing, student choices, and other functions on campus, they almost never could resolve those issues by working with one university office alone. Seemingly separate problems were actually interconnected in complex ways. For example, a student who struggled academically in a few classes risked losing the state's HOPE scholarship, which might jeopardize that student's entire academic career.

To better address such issues, GSU leadership integrated the functions of registrar, advising, admissions, financial aid, and student accounts into a single unit, making it easier for staff to collaborate on students' problems. The managers of these functions hold weekly meetings, which help reveal new obstacles that students may face and provide a better structure for dealing with those issues.⁶⁹

Measurement and evaluation

Another key to GSU's program's success was its approach to problem solving, which was firmly rooted in data. This strategy started with a focused effort to maintain the quality of the data that drove decisions. When GSU launched its student success programs, administrators already had a wealth of transactional student data upon which to draw. But

to help make that data useful, they needed to move it from numerous stand-alone systems into a well-designed data warehouse. They also needed to make sure that the Institutional Research Team and the offices responsible for the transactional data kept the warehouse up to date. GSU's problem-solving process, and many of the student success initiatives that grew from that process, would not have been possible without this data infrastructure.⁷⁰

With the infrastructure in place, not only could GSU uncover the greatest obstacles to student success, and launch programs to address them, it could also continually test new approaches. "We teach the scientific method all the time," explained President Becker. "But very few universities actually do experiments to see what works." Running trials with just 100 or 200 students, officials at GSU were able to identify proposed solutions that held real promise.⁷¹

When a likely solution emerged from a small-scale pilot, GSU quickly ramped it up to test how well it worked on a broader scale. By applying this method to simple problems, GSU made some significant gains in student outcomes. Those early wins encouraged administration and faculty to apply the same methodology to tougher, more complex issues.⁷²

In one experiment, in 2011, the university gave small grants to approximately 200 students who had been dropped from classes for nonpayment. These students had good grades, owed just a small amount of money, and were close to graduation. The grants kept most of the students from dropping out, resulting in higher graduation rates in the long term. In 2012, GSU expanded this program, now called the Panther Retention Grant, to 700 students. The average grant was less than \$1,000.⁷³

In another experiment, GSU addressed challenges caused by its new, more expensive apartment-style residence halls which, because they feature kitchens rather than dining halls, do not promote as strong a sense of community. In 2009, it opened Freshman Hall, a newer residence hall based on an older model, with small double rooms, shared bathrooms, and a dining hall. A spot in Freshman Hall, including a meal plan, costs considerably less than a spot in the apartment-style residence. The new residence always fills up fast.⁷⁴

Transformational readiness

A third reason for GSU's program's success is that the administration and faculty have made a powerful commitment to students who have been underserved in the past, making deliberate efforts to transform the university to promote better outcomes. As these efforts started to show results, and word got out about GSU's performance, the university started to attract more applications from students who were already well-prepared to succeed. But instead of trying to enhance its stature by accepting more of those applicants, GSU has continued to pursue students who show promise but face academic and financial challenges.⁷⁵

In 2015, Georgia's Board of Regents voted to merge GSU and Georgia Perimeter College.⁷⁶ The merger with this multi-campus community college

increased GSU's undergraduate population by two-thirds. Most of the new students come from the underserved communities that GSU has committed to helping, and most face the kinds of academic challenges that GSU has been working to address over the past decade.⁷⁷

Besides rallying the community around this cause, GSU has taken a realistic approach toward funding. Recognizing that recent cuts to public funding are unlikely to be restored, GSU has instead used its own limited budget to produce the most effective outcomes it can. Relying on student data to determine which investments may produce the greatest payoffs, and using well-targeted experiments to test those hypotheses, GSU has produced a transformation that it can sustain well into the future.⁷⁸

Getting started

COLLEGES and universities face growing pressure from state legislatures, the federal government, and the broader public, including students themselves, to become more accountable for improving retention and graduation rates, among other measures. At the same time, changes in student demographics are making the challenge of improving student success outcomes even greater. Institutions should respond with student-centered strategies that holistically address critical parts of the student experience that are linked to student success. All facets of an institution's strategy and capacities should work together to promote successful student outcomes.

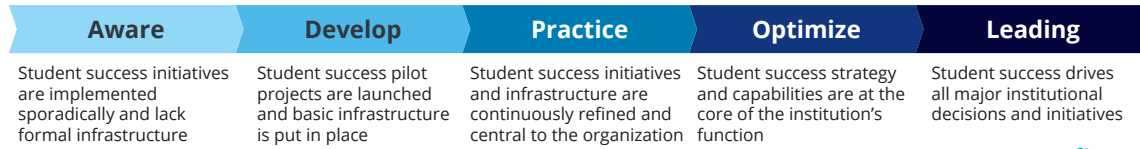
To become an institution designed for success, colleges and universities should start by assessing their institution's commitment along each of the seven dimensions of success (see figure 6). The results will help reveal the institution's relative maturity along each dimension and point to specific areas that may require the greatest attention.

All facets of an institution's strategy and capacities should work together to promote successful student outcomes.

Meaningful progress on student success will not happen overnight. Institutions should foster the culture, skill sets, and infrastructure necessary to support a student-focused environment. As the magnitude of the challenge grows, institutions that start down this path sooner, rather than later, are most likely to see significant results.

Figure 6. Designing for success: A diagnostic to help assess student success maturity

	Aware	Develop	Practice	Optimize	Leading
	Student success initiatives are implemented sporadically and lack formal infrastructure	Student success pilot projects are launched and basic infrastructure is put in place	Student success initiatives and infrastructure are continuously refined and central to the organization	Student success strategy and capabilities are at the core of the institution's function	Student success drives all major institutional decisions and initiatives
How mature is your institution when it comes to student success?					
	Aware	Develop	Practice	Optimize	Leading
High-impact learning					
<i>To what extent does your institution:</i>					
• Offer effective remediation programs that prepare students for the rigors of college-level work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Integrate high-impact learning practices with demonstrated pedagogical improvements to improve learning outcomes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Engage faculty early and often in discussions of how to improve the dimensions of student success they impact?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Provide flexible options to meet the needs of nontraditional students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comprehensive student services					
<i>To what extent does your institution:</i>					
• Engage students in meaningful and intentional ways that foster peer-to-peer support and a greater sense of community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Support students throughout the financial aid life cycle?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have an early warning system to identify students who need additional assistance to succeed and target interventions to help ensure at-risk students stay on track?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Help students map the most efficient pathway to their desired degree and proactively provide guidance and support to help them stay on track?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Offer coaching and advising to at-risk students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Provide timely tutoring services before students fall too far behind?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Offer noncognitive learning supports to at-risk students who could benefit from them?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student-focused operations					
<i>To what extent does your institution:</i>					
• Have an operational strategy that supports your student success strategy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a student-first service culture?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Provide services tailored to the needs of both traditional and nontraditional students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Provide flexible and predictable class schedules so that students can better manage their personal and academic obligations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Provide a robust set of digital services that students can access at their convenience, on a platform of their choosing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strategic external partnerships					
<i>To what extent does your institution:</i>					
• Have a robust strategy for effectively engaging external partners to support the academic, social, and financial needs of your students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Engage students' families by arming them with the most critical and relevant information to propel student success?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Collaborate with K-12 institutions in the community you serve to help ensure students arrive on campus prepared for the rigors of college?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Work closely with other postsecondary institutions to help ensure that transfer students are well-positioned for success when they arrive on campus?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Partner with government authorities (e.g., health and human services agencies, Veterans Administration offices, transportation agencies) to provide on-campus access to public benefits such as nutrition assistance, health care, and child care, among other services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



How mature is your institution when it comes to student success?

	Aware	Develop	Practice	Optimize	Leading
Strategic external partnerships (continued)					
<i>To what extent does your institution:</i>					
• Partner with local organizations and institutions to provide targeted services to students, such as on-campus food pantries, tax preparation services, and financial literacy courses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Recognize that alumni are a particularly influential constituency group on campus and engage them as champions of your student success strategy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Partner with foundations and other funders focused on student success to sponsor elements of your student success plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Work closely with employers to understand their needs and the skills and competencies students need to effectively transition to the labor market?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leadership and strategy					
<i>To what extent does your institution:</i>					
• Have a shared vision for student success on your campus(es)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a deep understanding of your student population—an understanding that drives decision making across the institution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a student success strategy that both your governance body and board support?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a designated student success leader or council who has a horizontal view across the institution and responsibility for improving student success?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have an organizational model and policies that support your student success strategy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a student success strategy comprising targeted interventions, rather than one-size-fits-all solutions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurement and evaluation					
<i>To what extent does your institution:</i>					
• Define key student success metrics for your institution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a results-driven culture that supports your student success strategy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Collect the data you need to understand who you are serving, how they are doing, and how this is changing over time?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Capture data at a sufficient level of granularity (i.e., sub-populations, important predictive data variables, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Use data to predict students at risk of noncompletion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Understand the effectiveness of different interventions for different types of students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Communicate the results of different interventions on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transformational readiness					
<i>To what extent does your institution:</i>					
• Have the appropriate training and resources to consistently execute key, high-quality initiatives required to improve student success?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have the requisite buy-in from key stakeholders across the institution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have an institutional culture aligned around student success?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Deliver a customized and coordinated intervention plan to the right students at the right time?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a sustainable business model to support the necessary investments to improve student success?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a modernized technology system and supporting analytics capabilities that enable you to collect and analyze your student data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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