STRATEGIES FOR IMPROVING RETENTION

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In the following report, Hanover Research reviews effective practices for retaining undergraduate students. The report provides an overview of strategies identified as effective, as well as a discussion of retention solutions intended for students who are identified as at-risk of attrition.

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INTRODUCTION

The U.S. higher education graduation rate is just above 50 percent, approximately the same rate as seen over much of the past century.[1] Yet, improving graduation rates has just recently become a national priority, linked to efforts to expand the number of American workers with postsecondary educational attainment. In 2011, the Obama administration organized the National Commission on Higher Education, a task force of college and university presidents to discuss best practices in student retention. The government also called on universities across the United States to submit their most successful strategies to the U.S. Department of Education.[2]

Higher education institutions, faced with declining enrollments and mounting financial pressures, are likewise prioritizing retention and implementing targeted interventions to address this issue. In a recent *Inside Higher Education* survey of university chief business officers, 92 percent cited "retaining current students" as a top strategy for boosting revenue.[3] The benefits of this approach are clear, as retaining students is more efficient than recruiting them.

The following report is intended to assist institutions in increasing retention rates among undergraduate students. In addition to highlighting several key retention strategies identified in literature on the topic, Hanover also focuses on retention solutions intended for students who may be at greater risk of attrition, such as students who have high unmet financial needs, students who are in need of remedial coursework, or students who attempt few credits or earn low GPAs during their first term.

The first section of this report provides a literature review of best practices for increasing retention and graduation rates, while the second section profiles institutions that have successfully increased their retention rates in recent years.

[1] Demetriou. C., and Sciborski, A. "Integration, Motivation, Strengths and Optimism: Retention Theories Past, Present, and Future." The University of North Carolina at Chapel Hill. p. 1. https://studentsuccess.unc.edu/files/2012/11/Demetriou-and-Schmitz-Sciborski.pdf

[2] "An Open Letter to College and University Leaders: College Completion Must Be Our Priority." American Council on Education. January 2013. p.7. http://www.acenet.edu/news-room/Documents/An-Open-Letter-to-College-and-University-Leaders.pdf

[3] "The Retention Agenda." *Inside Higher Education.* July 23, 2013. https://www.insidehighered.com/sites/default/server_files/files/RetentionAgendaPDF(1).pdf (Power Point); https://www.insidehighered.com/audio/2013/07/23/retention-agenda (Webinar)

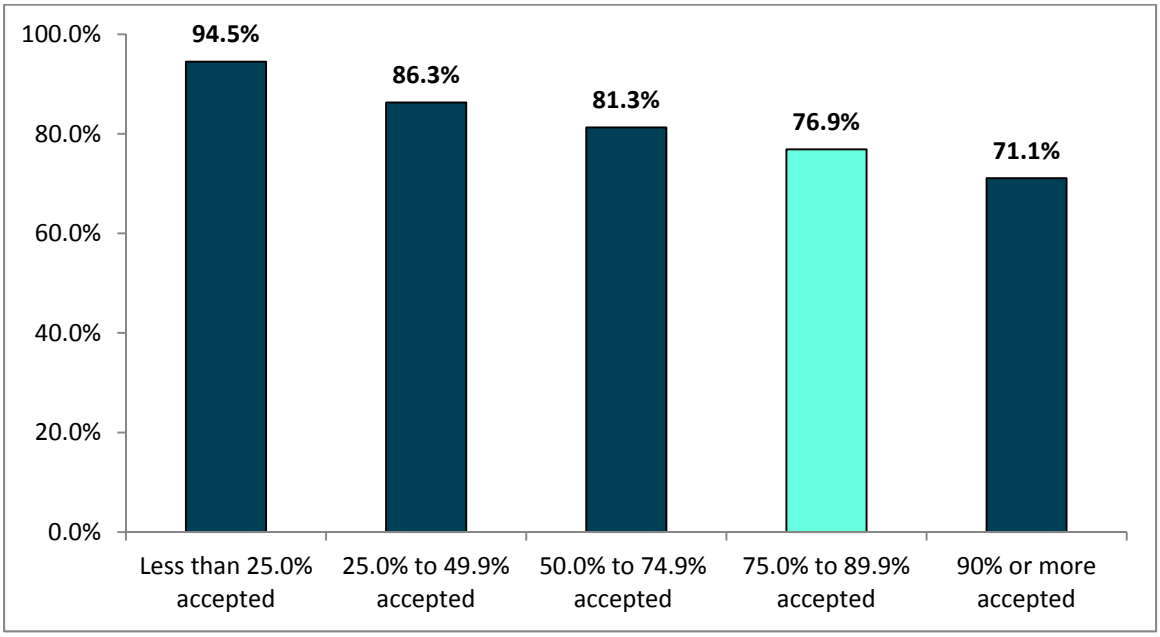
KEY FINDINGS

- **Effective strategies that increase retention address both academic and social engagement**. Rather than focus on just one strategy, successful institutions often take a comprehensive approach to retention, in which they combine complementary strategies to increase retention and graduation rates.
- **Disaggregating and analyzing student data is often a first step in understanding retention challenges and designing a targeted campus-wide retention strategy**. Data are useful for identifying who should receive targeted support. For instance, a university may target advising services to student populations identified as at-risk of attrition or introduce supplementary instruction in courses with high drop-out rates.
- **Financial aid has marginally positive effects on retention and graduation**. While the majority of public universities use financial aid as a retention strategy, only 19 percent view this as a "very effective" strategy, whereas 26 percent indicate that financial aid was "minimally effective." To increase aid's effectiveness, institutions should:
  - Ensure eligible students understand and apply for financial aid, simplifying the process where possible.
  - Target financial aid to students with the largest unmet needs.
  - Tie funding to academic progress, such as GPA and credits completed during the first term, through the use of performance-based scholarships.
  - Provide additional support services, such as academic and financial advising, to students receiving institutional financial aid.
- **To realize the full benefits that residential living can have on retention, institutions should design housing and on-campus programming so that students cultivate positive relationships with peers and staff.** One way to achieve this goal is through living-learning communities, in which students take part in academic programs and extra-curricular activities by residence hall. Some institutions intentionally group students with similar academic or social interests together or create special housing (coupled with additional support services) for student populations identified as at-risk of attrition, such as first-generation students.
- **Strategies that focus on "community-building" can successfully increase first-year retention rates**. Examples include learning communities, extended first-year orientation programs, and peer tutoring. Other strategies include:
  - Encouraging students to participate in clubs or extracurricular activities;
  - Creating adequate social spaces for students to meet and interact on campus; and
  - Organizing social events and activities for students at the residential, departmental, or university-wide level.

SECTION I: LITERATURE REVIEW

According to the National Center for Education Statistics, four-year public higher education institutions retained approximately 80 percent of first-time, full-time undergraduate students between 2012 and 2013. However, retention rates varied based on an institution's selectivity. As shown in Figure 1.1, the retention rates at the most selective public institutions (those that accept less than 25 percent of applicants) were nearly 18 percentage points higher than retention rates at institutions that accepted 75 percent to 89.9 percent of applicants.[4]

Figure 1.1: Percentage of First-time, Full-time Undergraduates Retained Across Four-year Public Institutions, by Selectivity, 2012-2013



Source: National Center for Education Statistics[5]

While the better preparation of students attending more selective universities is one reason for this discrepancy, many factors can influence a student's likelihood of being retained. Much of the research on the specific causes of attrition draws from a model created by education researcher Vincent Tinto in the 1970s.[6] This model views academic performance as just one determinant of student persistence, with social integration playing just as important a role.

[4] "Institutional Retention and Graduation Rates for Undergraduate Students." National Center for Education Statistics, Updated May 2015. http://nces.ed.gov/programs/coe/indicator_cva.asp

[5] Data points taken from: "Table 326.30. Retention of first-time degree-seeking undergraduates at degree-granting postsecondary institutions, by attendance status, level and control of institution, and percentage of applications accepted: 2006 to 2013." Digest of Education Statistics. National Center for Education Statistics, November 2014. http://nces.ed.gov/programs/digest/d14/tables/dt14_326.30.asp

[6] See: Tinto, V. "Leaving College: Rethinking the Causes and Cures of Student Attrition." University of Chicago Press. March 1987. http://eric.ed.gov/?id=ED283416

Under Tinto's model:

> *"Dropout is viewed as the result of poor performance with educational expectations and requirements and/or failure to appropriately interact with other(s) on campus. Thus, college attrition is more prevalent among individuals who do not meet educational standards established at the institution and/or those who do not form and maintain meaningful relationships with various entities and personnel at the institution."*[7]

The remainder of this section reviews good retention practices, which are broadly divided into two categories: **institutional strategies** (internal operations undertaken by the institution that can be applied across the student body) and **student strategies** (programs that target individuals or select groups and often rely on student participation or opt-in).

INSTITUTIONAL STRATEGIES

In the spring of 2013, higher education consulting firm Noel-Levitz conducted a survey of officials from 80 four-year public colleges and universities to measure the usage and perceived effectiveness of common strategies designed to boost undergraduate retention rates.[8] Figure 1.2 presents the 10 institutional retention strategies that university officials most commonly identified as effective out of the 31 internal operations practices measured. The strategies are ordered by the percentage of institutions rating the strategy as "very effective" for increasing retention rates.

Tracking persistence patterns term by term, tracking retention rates for specific academic programs, and identifying courses with high withdrawal and/or failure rates are retention strategies that are commonly used and perceived as effective by public universities. This finding highlights the important role that data can play in improving retention, a topic that will be discussed in detail later in this section.

A more divisive practice, which is used by slightly over half of four-year public institutions surveyed, is adjusting admissions standards to address high attrition rates. As discussed earlier, more selective institutions generally have higher first-year retention rates and graduation rates. However, adjusting admissions standards to increase retention has had mixed results in practice – with equal percentages of public institutions calling the practice "very effective" as "minimally effective."

[7] Quoted verbatim from: Gentry, R. "Sustaining college students' persistence and achievement through exemplary instructional strategies." *Research in Higher Education Journal*, August 2014. pp. 1-14. http://search.proquest.com/docview/1558845478/1D2824FD3A5748CFPQ/9?accountid=132487

[8] "2013 Student Retention and College Completion Practices Report." Noel-Levitz, 2013. https://www.noellevitz.com/papers-research-higher-education/2013/2013-student-retention-and-college-completion-practices-report

Figure 1.2: Top 10 Most Effective *Institutional* Strategies for Retaining Students at Four-Year Public Institutions

Retention Strategy	Institutions Using Strategy	*Very Effective*	Somewhat Effective	Minimally Effective
Tracking persistence and progression patterns, term by term, for all students who matriculate	79.2%	*39.3%*	44.3%	16.4%
Title III or Title V funding	59.5%	*38.6%*	25.0%	36.4%
Identifying courses that are more difficult or less difficult to complete	89.7%	*37.1%*	44.3%	18.6%
Identifying courses with high withdrawal and/or failure rates	87.0%	*34.3%*	41.8%	23.9%
Adjusting admissions standards to address attrition	53.9%	*31.7%*	36.6%	31.7%
Institution-wide emphasis on the teaching of undergraduates and undergraduate learning	85.5%	*30.8%*	47.7%	21.5%
Tracking retention rates for specific academic programs	79.5%	*30.6%*	54.8%	14.5%
Using an incoming student assessment to identify students' strengths, weaknesses, needs, and concerns that need to be addressed for their support and progress	57.9%	*29.5%*	47.7%	22.7%
Tracking rates of academic probation	75.3%	*27.6%*	50.0%	22.4%
Setting measurable goals to improve the retention rate from term-to-term or year-to-year	78.2%	*26.2%*	47.5%	26.2%

Source: Noel-Levitz[9]
Note: Percentages reflect the percent of responding institutions that report using a given strategy.

Of note, the perceived effectiveness of financial aid and scholarships to increase retention was also mixed. While the majority (73 percent) of public universities surveyed indicated using financial aid or scholarships as a strategy for retaining students, 19 percent viewed this as a "very effective strategy," whereas 26 percent said it was "minimally effective." The majority of respondents rated the strategy as "somewhat effective."

Retention Strategy	Institutions Using Strategy	Very Effective	Somewhat Effective	Minimally Effective
Financial Aid and Scholarships Aimed at Retention	73.1%	19.3%	54.4%	26.3%

To confirm and expand upon these survey findings, Hanover conducted a review of the literature on student retention, including academic journal articles and industry

[9] Ibid., p. 22

publications. The subsections that follow discuss in detail a number of institutional strategies that are consistently cited as effective in retaining undergraduate students.

TRACKING AND ANALYZING STUDENT PERSISTENCE DATA

The National Commission on Higher Education (NCHE) recommends "better data collection and analysis" as one strategy institutions should employ to increase degree completion rates.[10] Specifically, the NCHE encourages colleges and universities to use data to:

- **Pinpoint student weaknesses in preparation prior to attending college.**
- **Identify at-risk students.**
- **Communicate with students about progress to graduation.**

The commission stresses that strategically disseminated information can be useful to galvanize commitment from faculty and campus leadership to make retention a high priority. Data are particularly helpful for highlighting attrition or failure trends within individual courses. For instance, after the University of Alabama publicized success rates for its introductory level courses with the largest enrollments, most faculty members were shocked at the large numbers of students failing. This incentivized campus leaders to redesign early credit-bearing math courses, such as algebra, which over 50 percent of students failed.[11]

Data are particularly helpful for highlighting attrition or failure trends within individual courses.

Some universities also use data to communicate with students or former students about their progress to graduation and major requirements. This involves monitoring student progress to alert both students and advisors when key checkpoints are reached or, conversely, not reached within a given timeframe. Walla Walla Community College, for example, created a "Degree Estimator," that notifies students when they are close to earning a credential – even if they are no longer enrolled. The College then offers a small incentive to such students to meet with a counselor to discuss how to stay on track or get back on track to complete the credential.[12]

The Institute for Higher Education Leadership and Policy recommends that universities monitor both "milestones," measurable academic checkpoints that students must complete to graduate, and "on-track indicators," or enrollment and academic behavior patterns that

[10] "An Open Letter to College and University Leaders: College Completion Must Be Our Priority." Op. cit. p. 20.
[11] Yeado, J. et al. "Top 10 Analyses to Provoke Discussion and Action on College Completion: Learning from High-Performing and Fast-Gaining Institutions." The Education Trust, January 2014. pp. 2, 6. http://edtrust.org/resource/education-trust-higher-education-practice-guide-learning-from-high-performing-and-fast-gaining-institutions/
[12] "An Open Letter to College and University Leaders: College Completion Must Be Our Priority," Op. cit., p. 22.

research has shown to increase a student's chance of graduating.[13] Combined, these measures can form a powerful early-warning system for individual students and also help to identify general patterns in attrition across cohorts. Universities can likewise incentivize students to enroll full-time, begin remedial and college-level math/English coursework early, and complete 20-30 credit hours during the first year.

Figure 1.3 presents a framework of milestones and corresponding on-track indicators that universities can use in monitoring student progress.

Figure 1.3: Framework of Milestones and On-Track Indicators to Track Student Progress

MILESTONES	ON-TRACK INDICATORS
✓ Return for subsequent terms (retention) ✓ Complete needed remediation ✓ Begin college-level coursework in math and English ✓ Earn one year of college-level credits ✓ Complete general education coursework ✓ Complete a community-college transfer curriculum ✓ Transfer from community college to a university ✓ Complete a certificate or degree	***Remediation*** ▪ Begin remedial coursework in first term, if needed ***Gateway Courses*** ▪ Complete college-level math and/or English in the first or second year ▪ Complete a college-success course or other first-year experience program ***Credit Accumulation/Academic Behaviors*** ▪ Complete high percentage of courses attempted (low rate of course dropping and/or failure) ▪ Complete 20-30 credits in the first year ▪ Earn summer credits ▪ Enroll full time ▪ Enroll continuously, without stop-outs ▪ Register on time for courses ▪ Maintain adequate GPA

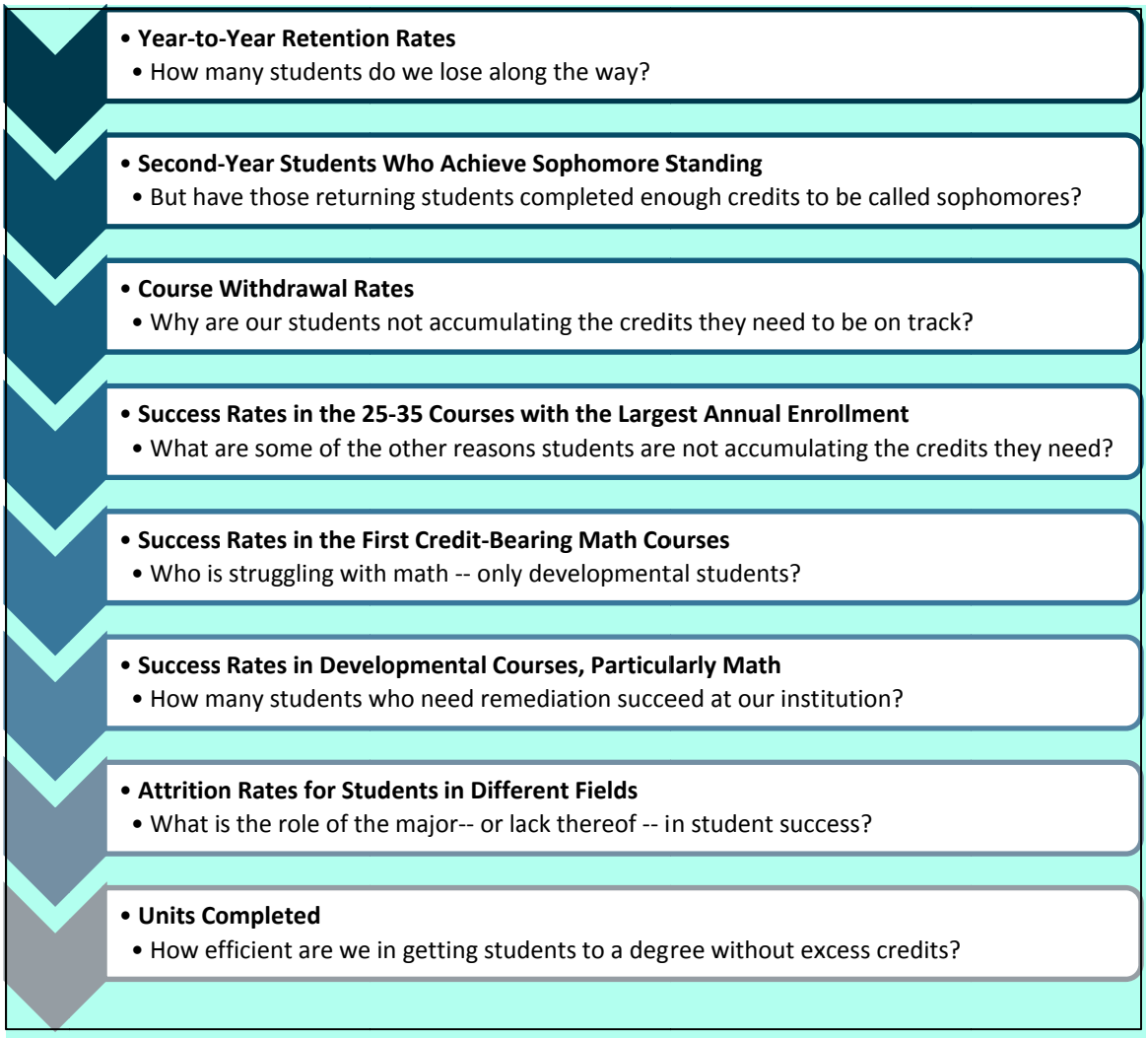
Sources: Institute for Higher Education Leadership and Policy and The Education Trust[14]

The Education Trust, an education think tank based in Washington D.C., produced a list of some of the most useful types of data analyses implemented by public universities that have significantly improved and sustained their graduation rates. Figure 1.4 on the following page provides an overview of these assessments. By measuring retention rates across different dimensions (for instance, by year, by course, and by field) a university is better able to pinpoint where exactly students are struggling and to respond with more targeted interventions. Examples of how institutions have used data to design more effective retention interventions are included throughout the remainder of this section.

[13] Offenstein, J., C. Moore, and N. Shulock. "Advancing by Degrees: A Framework for Increasing College Completion." IHELP and The Education Trust. http://files.eric.ed.gov/fulltext/ED511863.pdf

[14] Figure reproduced from: Ibid, p. 3.

Figure 1.4: Types of Analyses of Student Persistence Data



Source: The Education Trust[15]

Establishing Ownership and Coordinating Retention Efforts

Research has shown that ownership matters when implementing retention strategies. As a wide range of factors contribute to attrition, institutions that have successfully increased their graduation rates often take a holistic approach to the problem. This involves coordinating strategies across multiple departments and areas of university life, which makes clear assignment of responsibility and leadership important.[16]

Exemplar institutions in this regard have appointed senior-level officers to take charge of developing and implementing retention strategies. For instance, in 2011, Quinnipiac University assigned an associate vice president responsibility for coordinating effective

[15] Figure contents reproduced from: Yeado, et al., Op. cit.
[16] "An Open Letter to College and University Leaders: College Completion Must Be Our Priority," Op. cit. p. 10.

responses to students identified as academically at-risk. Similarly, the University of Southern California (USC) was able to increase retention among its engineering students by hiring a full-time retention coordinator. USC further noted the benefit of assigning departmental administrators to serve on an institution-wide "University Retention Task Force."[17]

Unfortunately, when a single individual or body is given responsibility for retention, there is some risk that other officials within an institution may begin to consider retention issues to be outside of their concern. Thus, it is also important to involve stakeholders from multiple areas of campus life – especially faculty – in high-level strategic planning and implementation of retention initiatives. For example, former president of San Diego State University Stephen Weber was able to raise the University's graduation rate by 17 percent after launching a year-long discussion that led to projects administered by faculty members, administrators, and community groups in tandem. The University of North Carolina at Greensboro similarly organized a Retention Committee made up of faculty members from a range of departments to support the dean of undergraduate studies in analyzing student persistence data and revising retention strategy.[18]

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INCREASING EARLY CREDIT ACCUMULATION

As noted above, students who fail to complete the required number of college-level credit hours during their first year (usually, 20 to 30) are significantly less likely to be retained through graduation.[19] Research suggests that requiring students to declare a major by the end of the first year and giving them the opportunity to earn additional credits during a summer term can increase persistence rates.[20] Creating disincentives for students to drop a course or register late (such as charging a late fee) and making it easier for students to enroll full-time (through financial aid or other incentives) can likewise increase early credit accumulation and hence retention.

Student support services, particularly during the first year, such as early advising and college success courses (discussed in detail later in this section) may also play a role in increasing credit accumulation.[21] Figure 1.5 details specific strategies universities may adopt to

[17] "Going the Distance- Best Practices and Strategies for Retaining Engineering, Engineering Technology, and Computing Students." The American Society for Engineering Education, 2012. p. 24. http://www.asee.org/retention-project/best-practices-and-strategies/ASEE-Student-Retention-Project.pdf
[18] Yeado, Op. cit., p. 8.
[19] Offenstein, Moore, and Shulock, Op. cit.
[20] [1] McCormick, A and C. Dennis. "Credit Production and Progress Toward the Bachelor's Degree: An Analysis of Postsecondary Transcripts for Beginning Students at 4-Year Institutions." National Center for Education Statistics, February 1999. http://nces.ed.gov/pubs99/1999179.pdf [2] Offenstein, Moore, and Shulock, Op. cit. [3] Yeado, et al., Op. cit., p. 8.
[21] Offenstein, Moore, and Shulock, Op. cit.

increase the number of students attempting and completing the required number of credits during their first year.

Figure 1.5: Strategies to Increase Early Credit Accumulation

PROBLEM	POTENTIAL SOLUTIONS
Low percentages of students reach a threshold of credit accumulation in their first year (20-30 semester credits)	▪ Increase use of college success courses, early advising, and similar programs. ▪ Improve financial aid counseling to emphasize benefits of full-time enrollment. ▪ Charge lower per-credit fees for enrolling with a full-time credit load. ▪ Encourage full-time attendance by providing financial aid and other incentives. ▪ Provide financial aid for enrollment in summer terms. ▪ For four-year students, facilitate summer enrollment in community college "back home." ▪ Offer online summer courses. ▪ Require enrollment in at least one summer term
Low credit completion ratio in first year	▪ Use "early alert" systems and improved tutoring services to provide more academic assistance. ▪ Limit course drops and repeats or impose extra fee for course withdrawal past a certain date or for repeating a course.
High percentage of course enrollments for which students registered late	▪ Limit late registration or impose an extra fee for registering late. ▪ Use success courses to teach students effective enrollment patterns.

Source: Institute for Higher Education Leadership & Policy and The Education Trust[22]

RE-DESIGNING GATEWAY COURSES WITH HIGH FAILURE OR WITHDRAWAL RATES

Another reason students may fail to complete the required number of credit hours during their first year of college may be due to either failing or withdrawing from the classes they attempt. According to data from the National Center for Academic Transformation, the 25 to 35 courses with the largest enrollments at a university usually constitute at least one-third of total enrollments in any academic year and an even larger proportion of course failures.[23] These courses are often introductory or "gateway" classes that students must complete as graduation requirements or as pre-requisites within their major. Remedial courses, particularly in math, also see high levels of failures and withdrawals.[24]

[22] Figure reproduced from: Ibid., p. 14.
[23] Yeado, Op. cit., p. 5.
[24] Offenstein, J., C. Moore, and N. Shulock, "Advancing by Degrees: A Framework for Increasing College Completion." Institute for Higher Education Leadership & Policy. April 2010. http://files.eric.ed.gov/fulltext/ED511863.pdf

These courses thus represent important barriers to retention by limiting the number of credits students earn early in their college careers.[25] Therefore, investing in academic instruction and support for pre-requisite and remedial courses may serve as a potentially powerful strategy for improving academic performance and retention.

Generally, multiple faculty members, without much coordination, teach introductory or remedial courses. The first step is to identify the most problematic courses, using data, and then introduce targeted course-wide strategies to increase pass rates. One particularly effective strategy is to place the best faculty in target courses. For instance, the University of Maryland's Clark School of Engineering was able to raise its first-year retention rate by 8 percent and its four-year graduation rate by 9 percent after introducing its "Keystone Program" in 2006. The program incentivizes high-performing professors to teach fundamental first- and second-year pre-requisite courses by offering a 2-percent base salary increase, additional classroom support, and supplemental funds to support their teaching. Keystone Professors are responsible for teaching one section of an introductory course every semester, and Each Keystone Course is assigned a course leader who ensures that students are learning the same concepts in every section.[26]

Other effective practices for increasing pass rates in courses with traditionally high failure rates include:

- Requiring students taking remedial level coursework to enroll in short modules, refresher courses, or supplemental instruction to accompany their classes.[27]
- Re-designing curricula to incorporate more individualized instruction through smaller discussion sections, tutoring, etc. An example that has significantly increased success rates for introductory mathematics courses at the University of Alabama and Virginia Tech is the "Math Emporium," which replaces traditional classroom instruction with blended learning and individualized feedback.[28]

FINANCIAL AID

Current research suggests that institutional financial aid amounts can be predictive of continued enrollment, with higher amounts increasing the likelihood that a student will remain enrolled. For example, Eric Bettinger, a professor at Stanford University's Graduate School of Education, found that **a $1,000 increase in financial aid for needy students on average leads to a 2- to 4-percent increase in student retention**. However, this "marginal" increase in retention might not be large enough to justify increasing aid to all students.

[25] Offenstein, Moore, and Shulock, Op. cit .
[26] "Going the Distance- Best Practices and Strategies for Retaining Engineering, Engineering Technology, and Computing Students," Op. cit. pp. 22-23.
[27] "An Open Letter to College and University Leaders: College Completion Must Be Our Priority," Op. cit., p. 20.
[28] Yeado, et al., Op. cit., p. 6.

Bettinger concludes that higher education institutions "either need to identify more cost-effective forms of financial aid or find ways to target aid programs more effectively."[29]

Three cost-effective ways that researchers have identified for increasing retention though financial aid are discussed below.

Simplifying the Financial Aid Application Process

A 2011 study of first-year community college students found that filing a Free Application for Federal Student Aid (FAFSA) form correlated with higher rates of persistence to the second year of college.[30] Given that a large number of students who would otherwise qualify for federal financial aid fail to even apply, ensuring eligible students understand and apply for financial aid could serve as a low-cost retention strategy.[31] The Education Trust recommends that higher education institutions "educate students about financial aid options and tools at their disposal," "send out reminders about FAFSA deadlines," and "advise students who are struggling to fill out their FAFSA forms."[32]

Studies have also found that the financial aid programs that tend to have the greatest impacts on college enrollment have fairly simple application processes.[33] Universities can simplify the aid application process for students by eliminating supplementary financial aid forms where possible and using a standardized process for students applying for institutional grants and scholarships.[34]

[29] See: Bettinger, E. "Financial Aid: A Blunt Instrument for Increasing Degree Attainment," Prepared for the American Enterprise Institute Conference, "Degrees of Difficulty: Can American Higher Education Retain Its Edge?" (2011), in Crocket, K., M. Heffron, and M. Schneider."Targeting Financial Aid to Improve Retention Outcomes." Noel-Levitz and American Institutes for Research, 2011. p. 2. http://www.air.org/sites/default/files/downloads/report/LA_PELL_STUDY_report_1011_0.pdf

[30] Lyle, McKinney and H. Novak. "The Relationship Between FAFSA Filing and Persistence Among First-Year Community College Students." *Community College Review,* January 2013. pp. 63-85. http://search.proquest.com/docview/1319492760/fulltext/99C797AC96FD49EBPQ/1?accountid=132487

[31] Lynch, M., J. Engle, and J. Cruz. "Lifting the Fog on Inequitable Financial Aid Policies." The Education Trust, November 2011. http://edtrust.org/wp-content/uploads/2013/10/Lifting-the-Fog-FINAL.pdf

[32] Ibid., p. 7.

[33] Dynarski, S. and J. Scott-Clayton. "Financial Aid Policy: Lessons from Research." *The Future of Children,* Spring 2013. http://search.proquest.com/docview/1519297903/C28CA7D6406B4A52PQ/4?accountid=132487

[34] Lynch, Engle, and Cruz, Op. cit, p. 7.

TARGETING FINANCIAL AID TO STUDENTS WITH THE LARGEST UNMET NEEDS

According to the Advisory Committee on Student Financial Assistance (ACSFA),[35] "differences in bachelor's degree completion rates by family income suggest that finances are a major factor in persistence at both four-year and two-year colleges."[36] This is in part due to the fact that the net price (tuition less total grant aid) of attending a four-year public university has increased over the past two decades. Research from the ACSFA finds that the net price of attending a four-year public university, as a percentage of family income, increased from 41 percent in 1992 to 46 percent in 2004 for low-income students and from 22 percent to 25 percent for moderate-income students.[37] Moreover, the maximum Pell grant covered 77 percent of the cost of attending a public four-year university 30 years ago; now, it covers approximately 34 percent of that cost.[38] Thus, inadequate financial aid can serve as a serious barrier to college completion for students, particularly those from low income families.

Research suggests that increasing financial aid to students at the bottom half of the income distribution scale has a larger impact on retention than increasing financial aid to upper-class students

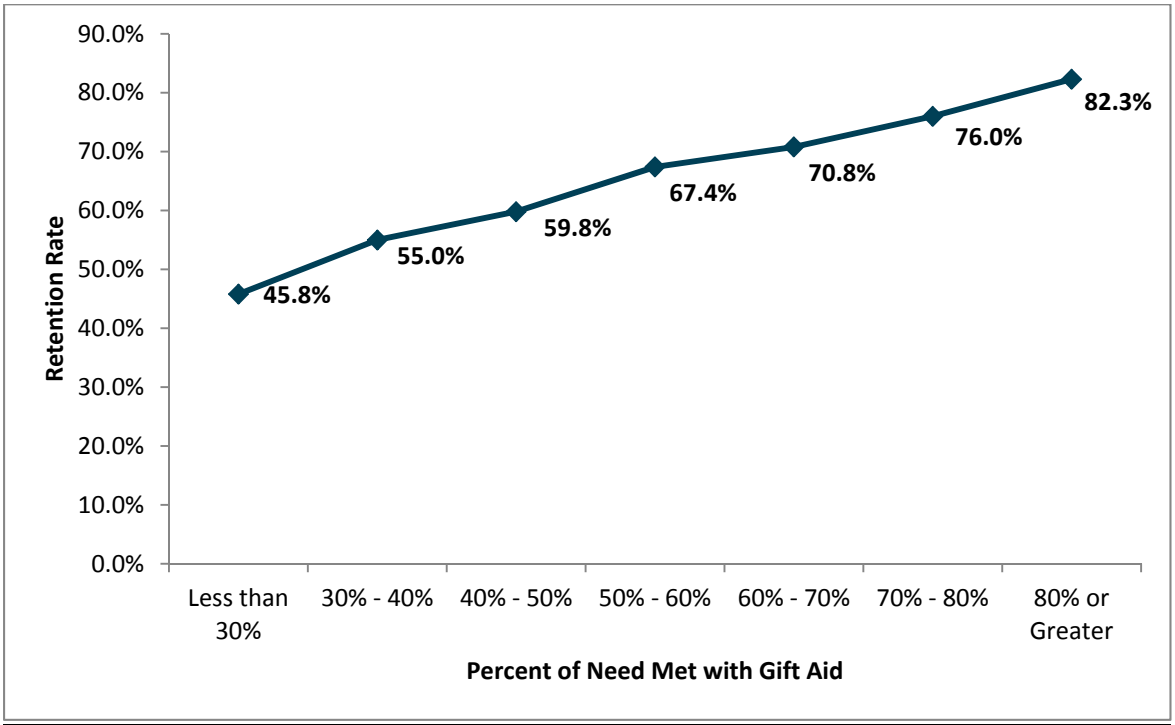
Recent research suggests that increasing financial aid to students at the bottom half of the income distribution scale has a larger impact on retention than increasing financial aid to upper-class students.[39] One study assessing the effects of Pell grant awards on student persistence found that "low- and middle-income students gain immensely from receiving need-based grants, while upper-class students do not need aid in order to stay in college."[40] Another study that measured the effect of financial aid among Pell Grant recipients attending public universities in Louisiana found that increasing grant aid raised fall-to-fall retention rates among in-state, full-time students from all GPA bands. However, increasing financial aid to students with greater unmet financial needs boosted retention the most.[41]

The researchers calculated each student's financial need by subtracting the student's expected family contribution from the cost of attending the University. The percent of need met with gift aid[42] was then calculated based on the amount of financial aid the student received. Figure 1.6 shows how students with a larger percentage of their financial needs met have higher retention rates. The chart shows that retention gains are greatest for increasing aid to students with the highest unmet financial needs. Conversely, the study

[35] The ACSFA is "an independent and bipartisan source of advice and counsel on student financial aid policy to both Congress and the Secretary of Education."
[36] "Access Matters." Advisory Committee on Student Financial Assistance, Spring 2013. http://www2.ed.gov/about/bdscomm/list/acsfa/accessmattersspring2013.pdf
[37] Ibid., p. 2-A.
[38] Lynch, Engle, and Cruz, Op. cit.
[39] [1] Lynch, Engle, and Cruz, Op. cit, p. 7. [2] Crocket, Heffron, and Schneider, Op. cit.
[40] Alon, S. "The Heterogeneous Effect of Need-Based Grants on Students' College Persistence." *Social Science Quarterly.* Volume 92, Number 3, September 2011. http://people.socsci.tau.ac.il/mu/salon/files/2011/11/ssq_sep2011_final.pdf
[41] Crocket, Heffron, and Schneider, Op. cit.
[42] In this study, "gift aid" refers to grants and scholarships that the student does not have to repay.

found "the positive impact of increasing the percentage of need met with gift aid declines substantially once 55 to 60 percent of a student's need is met."[43]

Figure 1.6: Fall-to-Fall, Same-School Retention by Percentage of Need Met with Gift Aid*



Percent of Need Met with Gift Aid	Retained	Did Not Retain	Total	Retention Rate
Less than 30%	753	892	1,645	**45.8%**
30% - 40%	1,144	936	2,080	**55.0%**
40% - 50%	1,680	1128	2,808	**59.8%**
50% - 55%	795	446	1,241	**64.1%**
55% - 60%	683	270	953	**71.7%**
60% - 70%	1195	494	1,689	**70.8%**
70% - 80%	980	310	1,290	**76.0%**
80% or Greater	1,544	333	1,877	**82.3%**

Source: Noel-Levitz and American Institutes for Research[44]
*Data for Pell Grant Recipients Fall 2006, 2007, and 2008 Cohorts

As a result, the authors of the study recommend that public universities in Louisiana "set a target of meeting 55 percent of student need with Gift Aid," and "simultaneously reduce or eliminate [grant] awards for students with total gift assistance higher than 55 percent."[45]

[43] Crocket, Heffron, and Schneider, Op. cit., p. 6.
[44] Figure reproduced from: "Table 4: Fall-to-Fall, Same-School Retention by Percentage of Need Met with Gift Aid." In Crocket, Heffron, and Schneider, Op. cit., p. 6.
[45] Ibid., p. 11.

Tying Financial Aid to Academic Progress and Student Supports

Several studies have found that tying financial aid to academic progress, such as GPA and credits completed, has a more positive effect on retention than purely need-based aid.[46] By making aid contingent on the academic milestones and on-track indicators known to impact retention (see Figure 1.3), performance-based scholarships can increase both academic performance and time to degree completions.[47]

Preliminary findings from the social policy research organization MDRC suggest that providing scholarships to low-income students contingent upon meeting certain academic benchmarks increases the number of credits students earn during the first year of college. At certain institutions, performance-based scholarships have also positively impacted retention and graduation rates.[48] In the study, though eligibility criteria varied from site to site, all scholarship recipients were identified as "at-risk" of attrition due to either financial need and/or academic background and were required to maintain a "C" average or better in at least six credits.[49] The MDRC notes several lessons from the study that might be relevant to university-based financial aid and scholarship policies, shown in Figure 1.7.

Figure 1.7: Designing Effective Financial Aid Policies, Lessons from Performance-Based Scholarships

- **Performance-based scholarships are paid directly to students**. This creates a potentially powerful tool to signal to students what is expected of them in terms of enrollment (e.g., full-time versus part-time) and academic performance, and means that this scholarship is potentially more salient to students versus other forms of aid that are paid directly to the students' institutions.
- **Performance-based scholarships create an opening for more constant communication with students.** In this way, an aspect of student support is built into financial aid. Indeed, colleges that incorporate student services with the scholarship (such as academic and financial advising) have seen bigger impacts than those that do not.
- **Performance-based scholarships are generally paid in increments over the semester**. This means that students get their aid over the entire semester, rather than in a large lump sum. Students may be encouraged to consistently work toward an end goal while receiving modest benefits along the way, which also keeps the benchmarks salient to students. In addition, students may be able to make better financial decisions throughout the term with this type of disbursement schedule.

Source: MDRC[50]

[46] Dynarski and Scott-Clayton, Op. cit.
[47] "Performance-Based Scholarships: Paying Students for Academic Performance." MDRC. Promising and Practical Strategies to Increase Postsecondary Success. U.S. Department of Education. http://www2.ed.gov/documents/college-completion/performance-based-scholarships.pdf
[48] Patel, et al., "Performance-Based Scholarships: What Have We Learned?" MDRC Policy Brief, August 2013. http://www.mdrc.org/sites/default/files/pbs_what_have_we_learned.pdf
[49] Ibid., p. 3.
[50] Figure contents taken verbatim, with minor modifications to improve readability, from: "Performance-Based Scholarships: Paying Students for Academic Performance," Op. cit., p. 3.

Research from a mid-sized public university in the Midwest also suggests the **positive effect of bundling financial aid with minimum academic requirements and student supports**. Facing high first- to second-year attrition rates, the University decided to freeze financial aid for all students placed on academic probation during their first semester. The University also required these students to meet with financial aid counselors to discuss why they were placed on probation, how to improve academic performance during the second term, and what the student must achieve to have financial aid reinstated. Between 1997, when the program was first implemented, and 2012, first-year retention rates for aid-eligible students on academic probation increased from 20 percent to 60 percent.[51]

The following section discusses effective *student strategies* for increasing retention.

STUDENT STRATEGIES

Student strategies target the individual-level variables that affect retention through academic, personal, and social support services. In support of Tinto's social/academic integration theory, several studies have found that the interactions students have with individuals on campus – including faculty, advisors, peers, and administrators – directly impact undergraduate retention.[52] The strategies discussed in this section are often designed to increase the number of positive interactions had by students on campus, particularly those at highest risk of dropping out.

Figure 1.8 on the following page displays the 10 student strategies (out of 37) most commonly identified as effective by officials at four-year public institutions. Honors programs for academically advanced students is the retention strategy perceived to be most effective for retaining students across public institutions surveyed, with over 60 percent calling the strategy "very effective." Programs designed specifically for first-year students, academic support services, and tutoring are other retention strategies that are nearly ubiquitous across four-year public institutions and perceived as either "very" or "somewhat effective" by at least 90 percent of institutions that use them.

While mandatory one-on-one advising and providing supplementary instruction are other strategies viewed as effective by the majority of public universities, the effectiveness of these practices is more controversial. For instance, 39 percent of institutions agreed that supplementary instruction was "very effective" for increasing retention, but over 25 percent thought it was "minimally effective." Similarly, 37 percent called mandatory one-on-one advising by professional staff "very effective," but 20 percent reported it "minimally effective."

[51] Vasudevan, N., and P. Kumar, "Leveraging Financial Aid Programs to Increase Student Recruitment and Retention." Education Advisory Board, June 2012. http://www.etsu.edu/125/taskforces/Student_Life_Services/documents/Leveraging-Financial-Aid-Programs-to-Increase-Student-Recruitment-and-Retention.pdf

[52] Gentry, Op. cit.

Figure 1.8: Top 10 Most Effective *Student* Strategies for Retaining Students at Four-Year Public Institutions

Retention Strategy	Institutions Using Strategy	Very Effective	Somewhat Effective	Minimally Effective
Honors programs for academically advanced students	87.2%	60.3%	25.0%	14.7%
Programs designed specifically for first-year students (e.g., orientation for first-year students, a first-year experience program, etc.)	97.5%	50.6%	39.0%	10.4%
Academic support program or services	96.2%	40.8%	52.6%	6.6%
Providing supplementary instruction	75.6%	39.0%	35.6%	25.4%
Learning communities	66.7%	38.5%	46.2%	15.4%
Mandatory advising by professional staff, one-on-one	68.4%	37.0%	42.6%	20.4%
Giving students practical work experiences in their intended major to apply their learning (e.g., internships, volunteer work, experiential learning, service learning)	87.3%	36.2%	53.6%	10.1%
Tutoring	100.0%	34.2%	55.7%	10.1%
Programs designed specifically for students who are at risk academically	80.5%	29.0%	50.0%	21.0%
Programs designed specifically for international students	55.7%	27.3%	47.7%	25.0%

Source: Noel-Levitz[53]

Rather than focusing on just one practice, most institutions implement a variety of student strategies in a "holistic" approach to improving retention and graduation rates. As this is the case, certain strategies may overlap or be most successful when implemented in conjunction with others.

Academic Advising

Studies show that pairing students with academic advisors positively influences persistence.[54] This is partially because academic advisors can act as mentors to students, providing them with a positive point of contact and motivating their advisees. However, advising also serves a functional role in retention, ensuring that students have access to the information they need to meet specific milestones that are associated with perseverance.

[53] Ibid., pp. 18-19.

[54] [1] Ensign, R. "Fast Gainers: 4 Ways that Colleges Have Raised Graduation Rates." *The Chronicle of Higher Education*, December 5, 2010. http://chronicle.com/article/4-Ways-to-Raise-Graduation/125613/ [2] Hu, S. and Y. Ma. "Mentoring and student persistence in college: A study of the Washington State Achievers program." Innovative Higher Education, p. 329-341. http://link.springer.com/article/10.1007%2Fs10755-010-9147-7#page-1

*The Advisory Committee on Student Financial Assistance is an "independent and nonpartisan source of advice and counsel on student financial aid policy to both Congress and the Secretary of Education."

For example, academic advisors can suggest specific courses for students to take each semester to remain on track for graduation and to fulfill the requirements of their major. Advisors or mentors who know students on a more personal level may also be in a position to encourage students to enroll in coursework or majors that the student would find interesting. Effective advising "allows students to identify academic courses and majors that appeal to their intrinsic interests," writes education scholar Douglas Guiffrida and his partners, because it increases motivation and academic achievement.[55]

Advising appears to be most useful when it is combined with other retention practices. For instance, by using on-track indicators, institutions can target advising to individual students at heightened risk of dropping out. The University of North Carolina at Greensboro, for example, created an advising team to work with students who had not yet declared a major after data revealed these students dropped out in higher numbers. The University provided undeclared students with more frequent and targeted advising and mentoring support to help them declare a major within their first year and become strategic about long-term course planning. As a result, between 2011 and 2014, retention among undeclared students increased from 76 percent to 80 percent.[56]

Academic advising can also be useful in informing an institution's overall retention strategy. For instance, Temple University, which increased its advising staff by 50 percent in five years, has based many of its subsequent student support services on insights gained from advisors' conversations with students.[57]

ACADEMIC SUPPORT

Many of the strategies discussed in this report provide some degree of academic support. Institutions can strategically target such support to first-year students, courses with high failure rates, and students identified as academically at-risk. Widely used forms of academic support include:

- **Peer tutoring**
- **Small discussion sections for gateway courses**
- **Major-specific learning centers (particularly common in STEM disciplines)**

Universities should also consider bundling various academic support strategies to reach targeted students. The University of Southern California, for example, created an academic resource center for engineering students, which encompasses peer tutoring in group and one-on-one formats in addition to supplemental instruction for gateway courses. The

[55] Guiffrida, D. et al. "Do Reasons for Attending College Affect Academic Outcomes? A Test of a Motivational Model from a Self-Determination Theory Perspective. Journal of College Student Development, March/April 2013. pp. 121-138. https://www.warner.rochester.edu/files/news/files/academicsuccess.pdf
[56] Yeado, J. Op. cit. p. 11
[57] "Fast Gainers: 4 Ways that Colleges Have Raised Graduation Rates." Op. cit.

University also hires upper-classmen to sit in on traditionally difficult introductory courses in mathematics, biology, and chemistry, and then hold weekly, voluntary discussion sections.[58]

RETENTION STRATEGIES DESIGNED FOR SPECIFIC STUDENT POPULATIONS

PROGRAMS FOR RESIDENTIAL STUDENTS

The literature generally suggests that living on-campus *increases* retention by fostering the sort of social integration that is integral to Tinto's model of student persistence. The potential benefits of living on campus are described as follows:

> *"On-campus residents may receive opportunities for social support, resources, and integration into the campus community that give them an advantage over students living off campus. Because living on campus implies greater interaction with peers, who experience similar stressors, campus residency may facilitate increased social support. Social support is directly beneficial and acts as a buffer protecting students from the impact of external stressors. Psychological stresses, including loneliness, isolation, and anxiety, are correlated with dropping out. Residential life activities may combat the sense of isolation that new students experience by dividing the campus into smaller, more knowable communities."*[59]

To realize the full benefits that residential living can have on retention, higher education institutions must therefore ensure housing policies and on-campus programming are designed to allow students to cultivate positive relationships with peers and staff alike. Oftentimes, this involves grouping students by common interests/backgrounds and incorporating student support services into residential life.

One way to achieve this goal is by dividing residence halls into **living-learning communities**, in which students take part in the same academic programs (courses, majors, or extracurricular activities) as their hall mates. Living-learning communities often involve greater interaction between faculty members and students as well. Research has shown that students who participate in living-learning communities have higher grades and

[58] "Going the Distance- Best Practices and Strategies for Retaining Engineering, Engineering Technology, and Computing Students." Op. cit., pp. 18-19.

[59] Quoted verbatim from: Schuddle, L. "The Causal Effect of Campus Residency on College Student Retention." *Review of Higher Education*, Summer 2011. pp. 581-610. http://search.proquest.com/docview/873115844/E721A6A7CBED4E11PQ/1?accountid=132487

retention rates than those who do not.[60] For instance, the University of Illinois-Chicago organizes residence halls by academic interests, such as "women in science and engineering" and "entrepreneurship, accounting, and business." Faculty members affiliated with each academic area also host special programs within the residence halls, which are "aimed at stimulating interest in the students' area of study outside the classroom."[61]

To realize the full benefits that residential living can have on retention, higher education institutions can ensure housing policies and on-campus programming are designed to allow students to cultivate positive relationships with peers and staff alike.

On-campus housing can also be leveraged to increase the retention rates of specific "at-risk" student populations, such as first-generation college students or certain minority groups. For instance, the University of Cincinnati has a residence hall designed for first-generation, Pell-eligible students, known as the Gen-1 Theme House. Each house consists of roughly 30 first and second year students who receive additional support services designed to ease the transition to college and a built-in community of peers facing similar challenges.[62] The program requires residents to abide by house rules, such as no alcohol and a midnight curfew on weeknights, which are designed to promote an academic focus.[63]

According to the program's coordinator, the residential aspect of the program is crucial because students are more likely to succeed when they are "embedded in the university environment."[64] Gen-1 residents have regular meetings with hall coordinators and are required to take a for-credit course focusing on topics such as time management and study skills. Students also have access to host of other academic support systems, including in-house tutoring, advising, and study sessions.[65] The houses also organize extracurricular activities and career planning programming for students.[66] By 2014, the Gen-1 Theme House averaged a 92-percent first-year retention rate – a significant increase from the 57 percent retention rate when the program began in 2008.[67]

[60] Gasser, R. "White Paper: Educational and Retention Benefits of Residence Hall Living," Fall 2008. http://www.webpages.uidaho.edu/eng207-td/Sources,%20Links/Ed%20and%20Retention%20Gasser%20White%20Paper.htm
[61] Oguntoyinbo, L. "Dormitories Seen as Retention Tools at Urban, Commuter Schools." Diverse Issues in Higher Education, January 31, 2011. http://diverseeducation.com/article/14680/
[62] Ibid.
[63] Jennings, D. "Second Home for First-Gens." *The New York Times,* July 20, 2009. http://www.nytimes.com/2009/07/26/education/edlife/26cribs-t.html?_r=0
[64] Ibid.
[65] [1] Jennings, Op. cit. [2] Oguntoyinbo, Op. cit.
[66] "What We Do." University of Cincinnati, Gen-1 Theme House. https://www.uc.edu/gen-1-theme-house/what-we-do.html
[67] Titanic-Schefft, M. "UC's Gen-1 House Boasts 92 Percent First-to-Second Year Retention Rate." University of Cincinnati, November 21, 2014. http://www.uc.edu/news/NR.aspx?id=20858

A review of effective retention practices across higher education institutions in the United Kingdom found that cultivating a sense of "belonging" in students, through **social interactions outside of the classroom** is important to retaining students, especially for students residing on campus. In particular, the review found that "where the university had taken the initiative to set up social networking groups they were very well received by the students."[68] Some of the most effective practices for cultivating a sense of belonging include:[69]

- ✓ Creating adequate social spaces for students to meet and interact, either inside residential halls or elsewhere on-campus.
- ✓ Encouraging students to participate in clubs, societies, and other extracurricular activities.
- ✓ Organizing social events and activities for students either at the residential, departmental, or university-wide level.

PROGRAMS FOR FIRST-YEAR STUDENTS

According to Noel-Levitz survey respondents, the most commonly used and effective targeted retention strategies are designed for first-year students. Nearly all public universities surveyed reported offering such programs, and over half of those believe them to be "very effective" for increasing retention and graduation rates.[70] A focus on retaining first-year students is not surprising given that at most universities the attrition rate between the first and second year is higher than the attrition rate between the second and third or third and fourth years.[71]

First-year programs can take a number of forms, such as pre-college orientation, first-year seminar courses, and learning communities (a variation of living-learning communities), where students take a series of courses in small cohorts. Overall, the purpose of such programs is to introduce students to university life through a supportive structure. In this way, first-year interventions typically focus on integrating students into college life socially (through grouping students together by residence hall or discipline) and academically (through providing extra assistance with time management, study skills, and academic content).

Noel-Levitz survey respondents' perception that first-year programs are effective is supported by the academic literature, which suggests that **students who participate in first-**

[68] Thomas, L. "Building Student Engagement and Belonging in Higher Education at a Time of Change." What Works? Student Retention & Success Program, July 2012. https://www.heacademy.ac.uk/sites/default/files/what_works_final_report.pdf
[69] Ibid.
[70] "2013 Student Retention and College Completion Practices Report for Four-Year and Two-Year Institutions." Op. cit.
[71] Yeado, Op. cit., p. 3.
[2] Jamelske, E. "Measuring the impact of a university first-year experience program on student GPA and retention." *Higher Education,* March 2009. pp. 373-391. http://search.proquest.com/docview/220917021/87A7062ACBF04AB6PQ/2?accountid=132487

year programs are more involved in campus activities, earn higher grades, and are more likely to graduate.[72] Several studies have also found first-year seminar participants to be more likely to return to college for a second year than non-participants and that seminars have a positive impact on academic performance, number of credit hours completed, and graduation rates.[73]

First-year programs are also useful for retaining particular student groups that are at higher risk of attrition, such as underrepresented minority students or those in specific majors. For example, Purdue University launched the Minority Engineering Program Academic Boot Camp (ABC) in 2005 to "improve retention and decrease the achievement gap between underrepresented minority students and the total cohort (of engineering students)."[74] The program has both the academic goal of preparing incoming first-year engineering students for the rigors of college coursework and the social goal of creating a sense of "belonging" among minority students.

ABC students participate in a pre-college summer program in which they live together in campus residence halls and take abbreviated first-year courses, including chemistry, calculus, and English. The program also places particular emphasis on introducing time management, study, and test-taking skills. The program's success is demonstrated by the first-year retention rates of ABC program completers, which have been up to 13 percentage points higher than non-participant retention rates in recent years.[75]

Programs for Transfer Students

Transfer students have higher rates of attrition compared to continuing students within their own cohort (i.e., a transfer student who enters during his junior year would have a lower probability of graduating than a student who enters as a freshman and has achieved junior year status). The Education Trust therefore recommends that institutions track the six-year graduation/attrition rates of transfer students and compare these to continuing students who have been retained to their second or third year, when many transfer students enter a university.[76]

[72] Ibid.
[73] Cuseo, J. "The Empirical Case for the First-Year Seminar: Promoting Positive Student Outcomes and Campus-Wide Benefits." Marymount College. http://webs.wichita.edu/depttools/depttoolsmemberfiles/OFDSS/101%20FYS%20Research/FYS-empirical-evidence-10.pdf
[74] "Going the Distance- Best Practices and Strategies for Retaining Engineering, Engineering Technology, and Computing Students." Op. cit. pp. 18-19.
[75] Ibid.
[76] Yeado, et al., Op. cit., pp. 4-5.

In a 2013 survey assessing the attitudes and motivations of over 1,700 transfer students from community colleges and four-year institutions, Noel-Levitz found that students transferring to four-year private institutions most often desired support in a few key areas:[77]

Figure 1.9: Student Supports Requested by Transfer Students

- ✓ Identifying work experiences or internships related to my major (75.5%)
- ✓ Exploring advantages and disadvantages of my career choice (62.3%)
- ✓ Discussing options for financing my education (60.2%)
- ✓ Figuring out the impact of grades on desired major (58.7%)
- ✓ Preparing a written academic plan for graduation (58.7%)
- ✓ Finding tutors in one or more of my courses (47.7%)
- ✓ Finding ways to balance the demands of school with work (43.0%)
- ✓ Receiving help with study skills (41.6%)
- ✓ Discussing transfer questions and issues (37.0%)
- ✓ Selecting an academic program or major (31.3%)

Financial need was a large concern among transfer students, with nearly half reporting that financial problems had interfered with their studies. Thus, targeting financial aid (or better communication about aid) to transfer students with high unmet need might be another cost-effective use of resources. Transfer students identified career advising as another area of high importance. Based on these findings, Noel-Levitz suggests several programming options to better address transfer student need, including:[78]

- Orientation programs tailored specifically to transfer students, addressing concerns such as transfer of credit, finances, major-related internships, and meaningful work experiences, including year round programs and services.
- Programs to connect transfer students to faculty, staff, and native students within academic or co-curricular interest areas to further engage them in the learning experience.
- Peer mentors for transfer students.
- Assignment of students to an advisor within their major/area of interest with an early focus on confirming or further refining their academic plan.
- An advising center devoted to transfer students.
- Career fairs for students who are undecided about a major.
- Academic support services based on areas of student need and receptivity.

[77] "The Attitudes and Motivations of College Transfer Studnets." Noel-Levitz. 2013. https://www.noellevitz.com/documents/gated/Papers_and_Research/2013/2013TransferStudentAttitudesReport.pdf?code=275383201542

[78] Bullet points taken verbatim from: "The Attitudes and Motivations of College Transfer Students," Op. cit., p. 10. For additional strategies, see: Wick, J. "Firing on all Cylinders for College Transfer Student Recruitment and Retention." Ruffalo Noel-Levitz, April 20, 2015. http://blog.noellevitz.com/2015/04/20/firing-cylinders-college-transfer-student-recruitment-retention/

SECTION II: INSTITUTIONAL PROFILES

This section profiles retention strategies implemented by two universities that have successfully increased their retention and graduation rates in recent years. The profiles seek to provide concrete examples of several of the strategies discussed in Section I, with a focus on groups often found to be at risk of attrition.

THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO

The University of North Carolina at Greensboro (UNCG), a mid-sized public university, increased retention rates by creating an institution-wide plan informed by data. UNCG has also seen success in graduating more underrepresented minority and low-income students.[79] The University's six-year graduation rate increased by nearly 5 percentage points in six years from 49.8 percent in 2007 to 55.4 percent in 2013.[80]

In 2009, UNCG organized the SWOT Retention Committee to analyze what student factors most affected undergraduate retention and graduation, which subsequently informed the University's retention strategic plan. The Retention Committee was comprised of members from departments across campus, such as student achievement, housing and residential life, academic services, orientation, institutional research, and an array of academic disciplines. The Committee provided the forum for "an institution-wide rethinking of retention and success efforts" that could be used to coordinate strategies across campus.[81]

The SWOT Retention Committee relied heavily on student data to design retention strategies targeted to at-risk students. The committee first analyzed data disaggregated by student group to understand the variables affecting first-year retention rates and overall graduation rates. Using the results of this initial analysis, the committee devised a list of 12 factors to target in its retention strategies. Combining this analysis with a review of which programs were currently working well and which ones were not, the Retention Committee was able to implement a holistic, University-wide strategy to pinpoint the challenges facing students at highest risk of attrition.[82] Two of these strategies are discussed below.

FIRST-YEAR LEARNING COMMUNITIES

UNCG's learning community initiative is part of its strategic plan to increase graduation rates by retaining more students during their first and second years. The strategy is particularly effective for retaining *residential students*. Due to its early success, the

[79] Yeado, Op. cit. p. 2
[80] "University of North Carolina at Greensboro." College Results Online. The Education Trust. http://www.collegeresults.org/search1a.aspx?institutionid=199148
[81] Yeado, Op. cit., pp. 10-11.
[82] Ibid.

University plans to enroll all incoming students in some form of learning community in the coming years.[83]

Learning communities (LC's) are organized around specific topics of academic interest, either a set major, such as "Biology" or "Nursing," or a multidisciplinary course of study, such as "Sports and Society" or "Emerging Energy."[84] All learning communities have a set group of students who enroll in a minimum of two common courses focused on applied and collaborative learning. The communities focus on "creating life-long learning skills and fostering a desire for critical inquiry centered on real problems and challenges." Each learning community is also supported by a collaborative faculty and staff team.[85] UNCG offers three different types of learning communities, described in Figure 2.1.

Figure 2.1: Learning Communities at UNCG

- **Learning Communities (LC)**: Designed for students living anywhere on campus or commuting to campus, basic learning communities feature integrated general education and laboratory courses with faculty and staff mentoring.
- **Living Learning Communities (LLC):** Designed for students living on campus, LLC students live together and enroll in two or three common courses with LLC-designated faculty mentors teaching one of the courses. Faculty involved in these communities are in the residential halls several times throughout the semester hosting academically enriched experiences for their LLC students.
- **Residential Colleges**: Designed for students living on campus and wishing to live and enroll in courses with their Residential College peers. Students in these communities receive significant contact with faculty and staff mentors within their residential living community.

Source: University of North Carolina at Greensboro[86]

Among participants in residential college learning communities, first-year retention rates (roughly 90 percent) are well above those of the general student body (77 percent).[87]

[83] Harris, M. "Living. Learning. Communities." Interview with Dr. Steve Robertson. UNCG Magazine. http://www.uncg.edu/ure/alumni_magazineT2/2011_spring/feature_LLC.htm
[84] For specific examples of learning communities, see: "Special Interest Housing." The University of North Carolina at Greensboro. http://hrl.uncg.edu/living-campus/sih/
[85] "Faculty and Staff." Office of Learning Communities, University of North Carolina at Greensboro. http://learningcommunities.uncg.edu/faculty/default.php
[86] Quoted verbatim with some modifications from: "Prospective Students." Office of Learning Communities, University of North Carolina at Greensboro. http://learningcommunities.uncg.edu/prospective/default.php#lc
[87] Harris, Op. cit.

SUPPORTS FOR STUDENTS ON ACADEMIC PROBATION

When a student is placed on academic probation (failing to maintain a cumulative GPA of 2.00 and/or a minimum 67 percent of semester hours each term), he or she is required to complete two programs – one for developing proper study habits, and the other designed to develop academic and career goals – as described below. [88]

- **The Student Academic Success Program (SAS)** is a non-credit, eight-week course designed to improve the performance of students who are struggling academically by building proper study skills. Topics include self-assessment, motivation and goal setting, time management, stress management, and information on campus support services. This program is for students on academic probation in their first year of study. A second course, academic success for continuing students, is required for all students who are put on academic probation after a semester of good-standing. Topics include personal strengths, Myers Briggs type indicators, time management, campus resources, and self-advocacy.[89]
- **The Academic Contract for Excellence Program (ACE)** consists of regular meetings between students on academic probation and assigned academic coaches to discuss academic, career, and life goals. The program also includes individual meetings with participants' current professors to discuss academic progress, grades, and areas for improvement. In addition, students placed on academic probation can only register for a maximum of 13 credit hours during the fall and spring semesters and four credits in the summer until the minimum GPA is obtained.[90]

GEORGIA STATE UNIVERSITY

Georgia State University has also significantly increased graduation rates over the past decade, particularly among low-income and underrepresented minority students. [91] Between 2005 and 2010, the six-year graduation rate for underrepresented students increased from 32 percent to 51 percent.[92] As of 2013, Georgia State had an average freshman retention rate of 83 percent.

Like UNCG, Georgia State achieved such increases by implementing a comprehensive approach to address the challenges faced by low-income and underrepresented students during their first two years of college. The resulting University-wide retention program, known as Promoting Access to Hope (PATH), combines a range of strategy types discussed in Section I of this report. Figure 2.2 on the following page outlines some of these strategies.

[88] "Academic Probation FAQs." Students First Office, The University of North Carolina at Greensboro. http://studentsfirst.uncg.edu/sas/probation-faqs.php
[89] "Student Academic Success Program." Students First Office, The University of North Carolina at Greensboro. http://studentsfirst.uncg.edu/sas/
[90] "Academic Contract for Excellence Program: Overview." Students First Office, The University of North Carolina at Greensboro. http://studentsfirst.uncg.edu/ace/
[91] "Fast Gainers: 4 Ways that Colleges Have Raised Graduation Rates." Op. cit.
[92] "Retention and Graduation Program for Underrepresented Students- Georgia State University." Retention-Promising and Practical Strategies. U.S. Department of Education. http://www.ed.gov/college-completion/promising-strategies/tags/Retention

Figure 2.2: PATH Retention Strategies at Georgia State University

- A multi-day ***academic orientation program*** for "at-risk" incoming students involving workshops, games, and exercises designed to introduce students to college-level academics.
- Small freshman ***learning communities*** featuring a semester-long orientation course, three to four other shared courses, and supplemental academic advising.
- ***Peer tutoring*** for introductory courses with the highest failure and withdrawal rates. Tutors are undergraduates who have previously excelled in the select course.
- ***University Assistantship Program*** in which first generation and low-income students are assigned to assist a faculty member in their chosen field of study. Students hold these research assistantships from their first through final year.
- ***Early alert systems*** that allow faculty members to monitor student attendance, academic performance, and behavioral issues. Early alerts give students, who are otherwise reluctant to seek help, the assistance they need early on.
- A ***merit-based scholarship program*** targeted to students demonstrating financial need and incentive "Keep Hope Alive" program to regain lost scholarships.

Source: U.S. Department of Education[93]

The following sub-sections present an overview of how Georgia State University tackled three common challenges to student retention: high failure rates in gateway courses, high attrition rates among low-income students, and high attrition rates among low-performing or otherwise academically at-risk students.

ADDITIONAL SUPPORTS FOR GATEWAY COURSES

Consistent with national-level trends, administrators at Georgia State University found several core courses had D, F, or withdrawal rates (DFW) of over 50 percent.[94] Data also revealed that approximately 78 percent of returning second-year students failed to complete enough credits during their first-year to achieve sophomore standing.[95]

To address these issues, Georgia State created a multi-tiered approach to increase pass rates in key gateway courses for first-year students. First, the University organized **learning communities**, which place small groups of 25 first-year students along a shared course path. During the fall of their first year, students are assigned to a four- or five-course load linked to their learning community. Learning communities are designed to help incoming students attain the proper number of credits during their first year and adjust to college life. This is done through a set social community and course-linked academic support, including an

[93] "Retention and Graduation Program for Underrepresented Students- Georgia State University," Op. cit.
[94] Ibid.
[95] Yeado, Op. cit., p. 4.

assigned advisor and orientation course taught by a faculty member who understands the challenges faced by low-income students. First-year students participating in learning communities posted higher first year retention and graduation rates than those not in learning communities.[96] Currently, 70 percent of first-year students participate in the program.[97]

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In addition to the first-year learning community, Georgia State also **redesigned curricula for the core courses registering the highest DFW rates**. Modifications included integrating hybrid instructional models, blending lectures with computer lab, and independent study. Through redesigning first-year algebra to consist of one hour in lecture and two hours in a computer lab staffed by upper-level students, the University lowered Algebra DFW rates from 43 to 21 percent. The monitored independent study component of this strategy was particularly important because it ensured students could receive immediate help on problem areas while learning math.[98]

To target first-year students in need of additional academic support, Georgia State established a **Summer Success Academy** for its 200 lowest performing students. The academy, which takes place the summer prior to the second-year of college, offers students an opportunity to receive additional academic support and earn up to seven more credits.

Through these interventions and others, Georgia State was able to triple the "proportion of its returning students attaining sophomore standing, from 22 percent in 2000 to 67 percent in 2008.[99]

PERFORMANCE-BASED SCHOLARSHIPS TIED TO ADVISING

By analyzing student data, administrators at Georgia State identified that many students with high financial need were either failing to complete the required number of credits or were not retained at above-average rates. Specifically, they found that students who had received a merit-based state scholarship, referred to as HOPE, but then lost it after failing to maintain the required 3.0 GPA, had roughly a 20-percent graduation rate.[100]

To counteract this trend, Georgia State introduced a complementary strategy called "Keep HOPE Alive" to incentivize students who had lost their scholarship by a small margin to remain in school. Such students received $1,000 to participate in a one-year academic skills program, financial aid counseling, and academic advising.[101] Although not sufficient to fill

[96] "Retention and Graduation Program for Underrepresented Students- Georgia State University." Op. cit.
[97] Yeado, Op. cit., p. 4
[98] Ibid., pp. 5-8
[99] Ibid.
[100] "Retention and Graduation Program for Underrepresented Students- Georgia State University." Op. cit.
[101] "Keep HOPE Alive." Student Success, Georgia State University. http://success.students.gsu.edu/success-programs/keep-hope-alive/

the gap created by lack of HOPE funding (scholarships averaged $8,000 per year), the amount did help to retain students who would have otherwise most likely dropped out. After participating in the academic skills workshop, 64 percent of first-year Keep HOPE Alive students were able to regain their scholarships during their third year of study, as opposed to just 8 percent of non-participants.[102]

ADVISING FOR AT-RISK STUDENTS

Georgia State also provides an example of how universities can utilize **early alert systems** to target students most at-risk of not graduating or failing to complete the required number of credits. Once these students are identified, the institution can match them to academic advisors or other relevant support systems.

In 2012, the University launched the Graduation and Progression Success (GPS) advising system, which uses historical student data and predictive analytics to alert academic advisors when students have strayed from the path to graduation.[103] The GPS system can alert advisors to over 700 indicators that may put a student at risk of not graduating, allowing them to quickly address the issue. The GPS system tracks general alerts (e.g., failure to complete a course by a particular point in a student's academic career, failure to achieve a minimum grade in a major requirement) and major-specific alerts (e.g., accounting students must earn a B+ in their first math course; biology majors must take BIO 1112 before completing 30 credits). The system is updated daily and all alerts are automatically sent to advisors, who are then given 24 hours to contact the student.[104]

To complement the GPS system, Georgia State hired additional academic advisors to reduce the student-advisor ratio to 300:1, the national average, and opened a new central advising office.[105]

[102] "Retention and Graduation Program for Underrepresented Students- Georgia State University." Op. cit.
[103] "GPS Advising at Georgia State University." http://oie.gsu.edu/files/2014/04/Advisement-GPS.pdf
[104] Yeado, Op. cit., p. 12.
[105] "GPS Advising at Georgia State University," Op. cit.

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