Report on Student Success:
Collecting, Analyzing and Using Data on Retention and Graduation to Improve Student Success

Task Force on Student Success

Accrediting Commission for Senior Colleges and Universities

Western Association of Schools and Colleges
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Section 1: Introduction

Student Success: Institutional Accountability for Retention and Graduation

Each fall brings the start of a new academic year and for millions of newly graduated high school students, it is the beginning of a future that includes meeting expectations for higher learning, reaching career aspirations, and achieving economic prosperity. The images of moving boxes outside of residence halls, new student orientation events, and shopping in the campus bookstore evoke a sense of excitement and energy as students across the United States begin the journey to a bachelor’s degree. But for too many of these students, about half of them (Johnson, Rochkind, Ott, & DuPont, 2009), the goal of completing an undergraduate degree will not be achieved. Over the last 30 years, there has been a plethora of research exploring the reasons why students do not persist to graduation (Braxton, 2000; Kuh, Kinzie, Schuh, & Whitt, 2005; Moxley, Najor-Durack, & Dumbrigue, 2001; Seidman, 2005; Tinto, 1993) and in the last decade, graduation rates have become the center of a wide-reaching public policy discussion and the subject of increased attention by WASC.

As a part of a call for greater institutional accountability, colleges and universities have been called upon to do more to insure that students are successful in the pursuit of their degrees. Although extensive attention is given to undergraduate degree completion, similar concerns exist about graduation and time to graduation for students enrolled in graduate-level and professional programs.

The WASC Emphasis on Outcomes and Student Success

When WASC created its new three-stage review process and radically revised its Standards of Accreditation in 2001, its intent was to shift the focus of accreditation from an almost exclusive emphasis on “inputs” to “outcomes” – in particular, to “promote institutional engagement on issues of educational effectiveness and student learning.” An essential part of effectuating this change was to encourage “a culture of evidence, through which indicators of performance are regularly developed and data are collected to inform institutional decision making, planning, and improvement.” (See WASC Handbook of Accreditation, page 2).

This redefinition of quality and the shift to outcomes that was effectuated after 2001 has brought into clear relief a critical set of outcome measures of institutional effectiveness: retention of students, their persistence and progress toward their degree goals, the rates at which they graduate, and the time it takes for them to graduate. WASC teams have found that, although many institutions understand data about student success on their campuses and are working to ensure that students graduate in a timely manner, some institutions do not have accurate data, have not studied these data, have comparatively low graduation rates (especially for certain
groups of students), or are not allocating time and resources needed to improve unsatisfactory outcomes.

Further, many small institutions that do not have an Institutional Research office or professional institutional researchers struggle to collect and collate data. Many institutions are challenged to access timely, accurate and meaningful data, to analyze and understand what data mean, to identify issues that need further study, to find valid comparative data, and to establish goals and effective programs to address low retention and graduation rates.

**National Policy Discussions about Student Success**

During the last decade, as WASC turned its attention to these issues, policy discussions about higher education have called attention to an array of related trends in higher education: the declining place of the US in student educational achievement compared with other countries; the growing gap between the output of college graduates and the needs of the labor market for a college-educated workforce; the increasing costs of higher education and the burdensome debt that students carry; and the achievement gap among different racial-ethnic and socio-economic groups.

As the United States faces one of the most difficult economic environments since the Great Depression of the 1920s, the value of higher education has become even more apparent. The knowledge-economy of the twenty-first century requires workers with a higher level of education and skill. President Barack Obama has challenged institutions, both two- and four-year, to engage in an effort to “better support and prepare our workers—not just for the jobs of today, but for the jobs five years from now and 10 years from now and 50 years from now” (Fischer, 2009). In his inaugural address, he stated that “three-quarters of the fastest-growing occupations require more than a high school diploma, and yet just over half of our citizens have that level of education.” He went on to acknowledge that, “We have one of the highest high school dropout rates of any industrialized nation, and half of the students who begin college never finish.” He then established an ambitious goal of restoring the United States’ status of having the highest proportion of college graduates in the world by 2020.

Also prominent in public policy discussions, the Lumina Foundation has prioritized improving graduation rates. Emphasizing the role of higher education in economic development in the report, *Returning to Learning* (Pusser et al., 2007), the authors noted, “The knowledge economy and global industrial production have necessitated postsecondary education — individually and nationally” (p. 5). Lumina has established its “big goal” of increasing the percentage of Americans with a college degree or credential from 39 to 60 percent by 2025.
Current WASC Expectations about Student Success

The WASC Commission formalized its emphasis on student success in the accreditation process through changes made in July 2008 to *The Handbook for Accreditation*. The Criterion for Review (CFR) related to student success was revised to read:

**CFR 2.10** - The institution collects and analyzes student data disaggregated by demographic categories and areas of study. It tracks achievement, satisfaction, and campus climate to support student success. The institution regularly identifies the characteristics of its students and assesses their preparation, needs, and experiences.

This change calls on institutions to collect data on student success, tracking progress toward graduation and analyzing quantitative and qualitative data to understand the variables that impact student enrollment and persistence to graduation, including an exploration of sub-populations such as gender, racial-ethnic background, academic history (e.g., new enrollees and transfer students), and program of study. Issues of student success are expected to be addressed during both the Capacity and Preparatory Review (CPR) and Educational Effectiveness Review (EER) of the accreditation process.

The institution’s CPR report is expected to include “a study and analysis of student success, drawing from, but not limited to, its data on retention and graduation rates, disaggregated by student type and by program. To the extent possible, the study should include comparisons with similar institutions and, where appropriate, recommendations for improvement.” (See *WASC Handbook of Accreditation*, page 33.)

Set forth in the guidelines for the revised review process, these questions may used by institutions to frame their studies for the CPR stage of the review.

**Aligning student success goals**
- How does the institution’s mission affect its goals for student success?
- Have goals for student success been established?
- How are goals for student success established and reviewed?

**Data review and analysis**
- What do data on student attrition and retention show for various groups of students, including different demographic groups, degree levels, and majors?
- What do data show about graduation rates and time to completion?
- Are the data collected complete and accurate enough to make an informed analysis?
- Are benchmark data from comparable institutions available?
- How is the institution doing in meeting its own expectations and in comparison to other like institutions?
• Are retention and graduation rates ‘good enough’? If not, what steps will be taken next to develop plans to address student success?

At the time of the EER, the institution is expected to go further. “Based on the findings of the institution and the team at the CPR, the institution will be expected to further its analysis of student success, deepening its analysis of its own and comparative data of graduation and retention rates, year-to-year attrition, campus climate surveys, etc.” (See WASC Handbook of Accreditation, page 36.)

In addition to the framing questions noted above (for the CPR), institutions might also consider:

**Follow-up plans**
- What plans have been developed since the CPR analysis?
- Have these plans been implemented and assessed?

**Review of progress**
- What progress has been made in achieving a deeper understanding of student success? Promoting student success?
- Have there been any changes in performance data on retention and completion? And if so, what do these changes mean?

This guide has been developed to assist institutions in collecting, analyzing, understanding and acting on data about student success, as this important aspect of institutional effectiveness is defined and researched at each institution. These materials are intended to provide suggestions to institutions looking to define their own standards for student success and using available data and research methodologies that are best suited for the resources found at their campuses. This report is intended only to provide guidance, and is not mandatory or official WASC policy. The methods suggested in it are not exclusive of other methods of research, analysis and student support utilized by institutions in the region.

Finally, a word about the terminology utilized in this guide. The drafters have used IPEDS definitions where available and other commonly understood definitions whenever possible. Institutions are encouraged to adopt standardized definitions and specialized ones as well -- to meet their unique needs and issues. Here are a few of the key terms that the drafters utilized in this guide.

- **Cohort:** A group of students who matriculate in the same term.
- **Retention rate:** The proportion of a cohort that subsequently enrolls (e.g., in the following year or term) expressed as a percentage.
- **Persistence:** A measure of students’ steady progress toward earning a degree.
- **Graduation rate:** The proportion of a cohort that earns a degree within a specified number of years.
Components of the Guide for Student Success

This guide is intended to be a practical tool to assist institutions who want guidance in collecting, analyzing and making meaning out of data about retention and graduation and to provide examples and suggestions for understanding data, identifying benchmarks, and developing programs. The sections that follow this introduction contain the narrative and are followed by several appendices.

Section 2: Collecting and analyzing data.

The section on collecting and analyzing data about retention and graduation provides suggestions on using IPEDS as a launching point for a study. This section includes a narrative with two appendices, one with step-by-step instructions and another with a sample data set.

Section 3: Making meaning of and taking action on data.

Once accurate and useful data are available, institutions should seek to understand the meaning of the data so that evidence-based goals and action plans can be developed. This section of the guide is designed to assist institutions in understanding the “story” that the data tell, identifying factors that lead to success and failure, and suggesting areas for further study and strategies that will lead to improvement.

Section 4: Elements and examples of approaches to enhancing student success.

This section of the guide provides a short summary of the elements of successful programs that support student success and presents in the appendix examples of programs for promoting student success, which have been based on data and proven successful at institutions in the region.

Appendices and bibliography.

The appendices of the report include data templates and a “workbook”; samples of institutional approaches to understanding data; examples of student success programs; and a comprehensive bibliography of best practices and research on retention, graduation and student success, and recent publications on related public policy discussions.
References


Section 2: Collecting and Analyzing Data

Retention and Graduation Rates

The Student Right to Know and Campus Security Act of 1990 required colleges and universities participating in Title IV federal student aid programs to disclose institutional graduation rates. The National Center for Education Statistics (NCES) spent several years developing definitions and reporting standards for a new survey within the Integrated Postsecondary Education Data System (IPEDS). In 1997, colleges and universities began reporting graduation rates as the percentage of a cohort of first-time, full-time, degree-seeking undergraduate students who completed programs within 150 percent of the normal time required to earn a degree. In 2003, institutions began reporting retention rates as the percentage of students in an entering fall cohort who enroll again at the same institution for the following fall term.

Tracking IPEDS Cohorts

NCES maintains a Web site providing extensive information about the IPEDS surveys at https://surveys.nces.ed.gov/ipeds/. The most current instructions for completing each of the surveys are available through their site. Every year, four-year institutions must define cohorts of first-time, degree-seeking students to report retention and graduation rates:

- Retention rates: In the Fall Enrollment survey, institutions report the numbers of students in the cohort who returned to the institution in the following fall term, disaggregated by full-time and part-time status.
- Graduation rates: In the IPEDS Graduation Rate Survey (GRS), institutions report the numbers of full-time students in the cohort who complete a bachelor’s degree at intervals within 200% of normal time, disaggregated by gender and race/ethnicity.

A simple, introductory guide using Excel 2007 as a tool for calculating the retention and graduation rates required for IPEDS is presented in Appendix A2, and the instructions for using the workbook are available in Appendix A1.

Tracking Other Cohorts

IPEDS requires institutions to track only cohorts of first-time, full-time, degree-seeking students from entry through graduation. An institution with a sizeable number of first-time, degree-seeking students enrolled part time should track this cohort in parallel. WASC also considers it appropriate for institutions admitting transfer and graduate students to track their progress toward graduation. (Please note that this report focuses primarily on undergraduate student success. A supplement that
first-time, degree-seeking students enrolled part time should track this cohort in parallel. WASC also considers it appropriate for institutions admitting transfer and graduate students to track their progress toward graduation. (Please note that this report focuses primarily on undergraduate student success. A supplement that addresses issues for graduate education is expected to follow.)

Unfortunately, cohorts for transfer and graduate students are often more difficult to define and track. Because retention and graduation data for these students are not collected by IPEDS, there are no national guidelines for defining these cohorts. Therefore, institutions must establish and adhere to their own definitions. Issues to consider include:

- **Track separate full-time and part-time cohorts, or combine both in a single cohort?**

  For IPEDS reporting, first-year cohorts are based on enrollment status at term of entry, and students remain in that cohort regardless of their subsequent enrollment status. This simplifies the process of defining and tracking cohorts, but at many institutions, students’ enrollment status varies after the term of entry.

  An institution’s decision to track transfer students as separate full- and part-time cohorts or single entering cohorts should be based on typical enrollment patterns of transfer students. If students tend to self-segregate as full- and part-time attendees, separate cohorts will be more useful. If not, a single cohort will suffice. Some graduate programs enroll only full-time cohorts, and some graduate programs are designed for part-time working professionals. But for programs that accept both full-time and part-time students, an institution will have to decide whether to track separate or combined cohorts.

- **Track transfers based on year of entry or on class standing at entry?**

  Although it may seem obvious to track transfers based on class standing, actually defining such cohorts may prove difficult. In order to assign class standing at entry, the registrar must have analyzed transfer students’ transcripts before census day, when records are frozen and cohorts are defined. Many institutions accept and admit transfer students before their transcripts have been fully analyzed, and class standing may not be available until later in the term. Furthermore, the number of previous institutions attended by transfer students—and hence, the number of transcripts per student—seems to be on the rise. The institution may not even acquire all of a student’s transcripts by the end of the student’s first term, so “class standing” becomes a moving target.

  Also, class standing implies proximity to graduation; a transfer student with 60 credits is assumed to be closer to graduation than one admitted with 30 credits. This is a legitimate assumption for students who have deliberately acquired the
background courses for entry to a specific program, but transfer students may declare majors for which they have few credits that count toward the intended degree.

An institution with articulation agreements to enroll transfer students who have completed programs at two-year colleges will probably track on class standing. An institution that is not a transfer locus for specific programs may choose to track by year of entry because tracking by class standing can mask a pattern of exits during or after the first year. An institution with transfer students in both categories might decide to track both ways.

- *Track graduate students by program, or combine similar programs as degree cohorts?*
  Tracking graduate students is more complicated than tracking undergraduates because graduate programs are far more disparate than bachelor’s degree programs. Most bachelor’s degree programs require approximately four years to complete, but completion time for graduate programs varies over a much wider time span. Separate cohorts obviously must be established for master’s and doctoral programs, but institutions must decide how much disaggregation is appropriate at the program level. Institutions with a limited number of graduate programs may choose to establish separate cohorts for each program, but this may be unduly burdensome for Institutions with large numbers of programs. The challenge for the latter is how to aggregate their programs in meaningful ways. Combining students from all master’s programs in a single cohort is misleading if the credit requirements differ substantially among programs. Similarly, combining full-time and part-time programs or combining research and professional programs may not yield meaningful graduation rates.

Students who change graduate programs present another complication for managing graduate program cohorts. For IPEDS reporting, all students are seeking bachelor’s degrees. A student remains in his or her original first-year cohort and can be removed from the cohort only under very restrictive conditions. But it makes little sense to retain a student in a master’s program cohort who decides to work toward a doctorate in the same discipline – or to retain a student in a doctoral program cohort who later decides to finish with a master’s degree – or to retain a student in an MBA cohort after that student has enrolled in the law school.

For small cohorts, it may be necessary to average results over three or more years to protect the privacy of individual students. Institutions with large graduate programs may choose to track each program; institutions with small programs may choose to aggregate and track similar groups.

The objective is to produce meaningful graduation rates without becoming
mired in excessive detail. Each institution must base these decisions on how its graduate programs are designed and the typical enrollment patterns of its students.

Tracking Other Indicators

WASC considers retention and graduation rates to be important measures of student success and urges institutions to analyze cohorts using indicators in addition to enrollment status, gender, and race/ethnicity, which are required for IPEDS reporting. Disaggregating the data by other indicators can be important for validating an institution’s mission and priorities. Such indicators might include both demographic and environmental characteristics.

Demographic characteristics are associated with the student prior to entry:

- In-state / Out-of-state status
- Race/ethnicity categories not collected by IPEDS (e.g., different Asian backgrounds; African-American and recent immigrant students from Africa)
- Multi-racial status or combinations of race/ethnicity categories
- Type of high school or college previously attended (e.g., public, private, two-year, four-year)
- Test scores required for admission (e.g., SAT, ACT, GRE, LSAT, GMAT)
- Grade point average from high school or community college
- Religious affiliation (may be important for faith-based institutions)
- Advanced standing (e.g., Advanced Placement credits, college credits earned in high school)

Academic environment characteristics become associated with the enrolled student and are more likely to change during the course of the student’s academic career:

- Resident / Commuter status
- Undergraduate major or graduate program
- STEM / non-STEM majors, particularly for underrepresented groups
- Participation in varsity athletics by team affiliation for scholarship athletes
- Financial aid (e.g., need-based and merit, grants and scholarships, institutional)
- Participation in targeted programs (e.g., honors, retention, EOP)
- Participation in remedial programs (e.g., mathematics, English)

For most of the indicators in this list, an entering student’s status will be known at time of entry. Some of these indicators may change during a student’s stay at the institution — for example, a resident student may choose to move off campus or an athlete may withdraw from the team — but the student’s status at entry is often presumed to have an impact on his or her subsequent retention or attrition.
When deciding how to disaggregate retention and graduation rates, institutions should examine the categories listed above and decide which are most relevant to them – and perhaps identify others not listed. Institutions with a significant proportion of minority students may want to calculate retention and graduation rates for race/ethnicity categories not collected by IPEDS. For example, institutions with a large population of Asian students might want to distinguish among those of different backgrounds, such as Chinese, Japanese, Vietnamese, Filipino, and others. The new federal requirements allowing multiple check-off for race/ethnicity will enable institutions to track rates for multi-racial students.

Institutions that enroll large numbers of students requiring remedial work will want to compare their success rates with those of students who did not require remediation. Most institutions do not have reliable indicators of socio-economic status for all of their students, but they can use financial aid indicators as proxies. IPEDS now requires institutions to report the number of students receiving various types of financial aid and the total dollar amount received, so that institutions can calculate, for example, retention and graduation rates for Pell Grant recipients and recipients of student loans.

Calculating retention and graduation rates by undergraduate major, however, is particularly problematic. Although the computation of these rates by major may seem straightforward, in practice such rates may be both computationally complex and difficult to interpret. Not all institutions allow new first-year students to declare majors, preferring that they begin their college careers with general education courses and explore different major field content options before making a declaration. Students at institutions where first-year students are required to declare majors often change majors during their undergraduate careers, and some changes have greater impact on time to degree than others. A change from biological sciences to plant biology will have less impact than a change from mechanical engineering to drama, for example. For that reason, it may be more meaningful to compute graduation and retention rates by college, division, discipline, or other commonality of content or instruction. For a discussion of more innovative ways to track graduation rates by major, please see Appendix B.

**Using the Results**

Once an institution has made the decisions discussed above and established internal processes and procedures necessary to produce retention and graduation reports, what are the appropriate uses of these data? The objective, of course, is to use the reports to identify groups of students whose retention and graduation rates lag the institutional averages and/or goals. But identifying differences is only the first step. More important is to discover the reasons for the differences and use the insights gained to improve the educational experiences for those students – and presumably
raise their retention and graduation rates. Disaggregation of retention and graduation data should never be an end in itself.

The collection of retention and graduation reports developed by an institution will provide insights into the rates for various groups of students. But are these rates “good” or “bad”? How should an institution set targets for retention and graduation? One approach is to compare their rates with those of other institutions. Benchmarking against similar institutions and also against institutions considered “aspirational peers” can provide valuable insights for setting targets. This is easily done using the data that institutions submit to IPEDS. All institutions complete IPEDS surveys using established definitions, so the resulting data are reasonably reliable for making inter-institutional comparisons. NCES has developed the IPEDS Data Center (http://nces.ed.gov/ipeds/datacenter/), which enables users to define a group of comparison institutions and generate a report comparing those institutions on one or more variables. Users can generate reports of overall institutional retention and graduation rates for first-time, full-time, degree-seeking students as well as reports by various combinations of gender and race/ethnicity.

What about comparisons using other indicators that an institution may have defined? Data not collected for IPEDS surveys are obviously not available through the IPEDS Data Center. Furthermore, national definitions that are widely understood and accepted have not been established for these indicators, so inter-institutional comparisons of the data can be tricky – the proverbial “apples and oranges” problem. Data-sharing consortia are one answer. Groups of institutions that have agreed to cooperate in setting definitions, submitting data to a common collector, and sharing reports have confidence that their comparisons are reliable. The Association of American Universities Data Exchange (AAUDE) and the Consortium for Student Retention Data Exchange (CSRDE) are two well-known examples. State systems often collect and report comparable data for member institutions. Groups of institutions also establish smaller, informal consortia.

In summary, using the data for both internal and external comparisons provides different insights and advantages. Internal comparisons allow an institution to identify groups of students at risk and, at large institutions, to compare one department or school with another. External comparisons can help an institution set targets based on comparisons with either benchmark or aspirational peers. The combination provides a foundation for developing institutional approaches to improve student retention and progress toward graduation.

**Time to Degree**

Time to degree (TTD) is another summary measure of institutional performance increasingly used in higher education. Like graduation rate, it can be used to compare
programs within and between institutions. However, these are two fundamentally different measures. Graduation rates measure how effectively an institution produces graduates, while time to degree measures how efficiently it produces them. Standards for calculating institution-level graduation rates for incoming students are fairly well established, but there are no federal standards for calculating time to degree.

A graduation rate is based on an entering cohort, and time to degree is based on a graduating cohort. Time to degree measures the average duration of a student’s tenure at a specific institution from matriculation to graduation. Time to degree may be easier to calculate for some cohorts because factors that may change during a student’s years of attendance (academic major, financial aid, employment) are fixed at graduation.

Data Required for IPEDS

The IPEDS Completions survey requires institutions to report the number of degrees and certificates awarded between July 1 of one year and June 30 of the next. Reporting is by award, not by student. Awards are reported by level, Classification of Instructional Programs (CIP) code, first or second major, and the gender and race/ethnicity of the award recipient. Data used to produce the IPEDS Completions survey can be used to calculate time to degree if the entry date and entry status for each student are added to the file.

Identifying Cohorts

The IPEDS Completions survey will include students who entered the institution in different years during different terms. Undergraduate award recipients may have entered as first-time students or as transfers, and they may or may not have declared a major at time of entry. Graduate award recipients usually entered in specific programs. Any of the degree recipients may have changed programs one or more times between entry and graduation.

Time to degree is a backward-looking measure, calculated by taking an IPEDS Completions cohort at a particular degree level (bachelor’s, certificate, master’s, etc.) and averaging the time elapsed between entry and graduation for all students in the cohort. A student may receive more than one award during the reporting period, and these are reported to IPEDS by award, not by student. A student awarded one degree may have completed one or two majors, so first and second majors are also reported. Both of these “extras” can increase the average time to degree for a particular program, especially if the program has few students or a substantial number of students who obtain more than one degree or major. The characteristics that an institution uses to define its cohorts for calculating time to degree will depend upon programs offered, types of students enrolled, and the challenges of assembling the necessary data. At four-year institutions, time to degree should be calculated
separately for first-time entrants and transfer students.

The most common measures used to calculate time to degree are:

- Time elapsed between entry and graduation
- Terms (semesters or quarters) enrolled between entry and graduation
- Credits accumulated at time of graduation

Each of these measures presents time to degree in a different way, and each has its advantages and disadvantages. Time elapsed between entry and graduation can be measured either in calendars years or academic years. Calendar years can be measured with simple date-difference functions, but the results are not readily comparable to graduation rates, which are based on academic years. A student who entered in September and graduated four years later in May or June has graduated in four “academic years” by the IPEDS calculation but has actually spent around 3.75 calendar years at the institution. Calculating time to degree in academic years has the disadvantage of requiring more complicated formulas, however.

The traditional “time elapsed” calculation of graduation rates or time to degree is a poor indicator of the institutional resources invested in graduating students because it does not take “stop outs” into account. It is not uncommon for students to skip an academic term, or take a year off, or complete most of the requirements for a degree and then return to finish several years later. These outliers will produce skewed measures for small cohorts and over-estimate the time actually spent in obtaining a degree. Counting terms enrolled is a better indicator of institutional resource use because it excludes student stop-outs. It is also the most data-intensive calculation because it requires records of enrollment by term for all degree recipients.

The third measure is the total number of credits accumulated by degree recipients at time of graduation. Each undergraduate major and graduate program has a minimum credit requirement for degree completion, and this measure shows how many credits students take above the minimum number required. When this report is disaggregated by major, the figures can reveal areas where the average number of credits earned is higher than might be expected. This may be due to “hidden” requirements, such as course prerequisites that are not listed as program requirements but have to be taken by most students. A high number of credits at graduation may indicate a “major of last resort” that accommodates large number of electives accumulated by students who have had difficulty choosing a program. Separate reports must be generated for incoming first-year students and incoming transfer students because transfer students often bring credits that do not count toward their chosen majors at the new institution.

**Measuring Time to Degree**

The Association of American Universities Data Exchange has published instructions for
its member institutions to use in computing each of these measures (http://apa.wisc.edu/aaude_ttd/). Small institutions can compute time to degree by using Excel pivot table techniques similar to those presented in Appendix A for graduation rates. The data set used for the IPEDS Completions survey can be supplemented with additional data needed to measure time to degree, which will depend upon the specific measure chosen, the cohorts defined, and other indicators desired for disaggregated analysis.

**Using the Results**

Institutions may choose to use time to degree as a complement to graduation rates by major because the two measures approach the retention and graduation analysis from opposite ends of the spectrum. For institutions that do not allow incoming first-year students to declare majors, time to degree may be the only option available for analyzing majors. Most attrition occurs during the first and second years of college, and some institutions discourage students from declaring majors until some time during the second year. Calculating retention and graduation rates by major after most of the attrition has already occurred does not provide very useful information.

Students declare majors at different points in their academic careers, and some change majors multiple times during their path to a degree, but the student’s major is fixed at time of graduation. The objective in studying time to degree by major is to identify possible problems with particular majors and recognize potential opportunities for improvement. A longer-than-average time to degree may be the result of a variety of causes, such as inadequate sequencing of courses through prerequisites, lack of availability of classes, poor advising, and problems with instruction. As with retention and graduation rates, time to degree does not diagnose a problem but it can alert the institution to the existence of a possible problem.

Other matters of interest that may vary throughout a student’s tenure at the institution may be more amenable to analysis after the fact than at entry. For example, individual students’ level of participation in an advising program may be aggregated into a measure such as total number of visits. These data can then be disaggregated for the completion cohort (for instance, into bands of total advising visits), and time to degree at varying levels of advising support can be assessed. Each student’s total number of declared majors at the institution is also known at graduation, so time to degree can be disaggregated by number of majors.

Unlike graduation rates, there are no standardized, widely available comparison data on time to degree for making external comparisons for benchmarking or target-setting purposes. As standards for reporting are developed by national associations such as AAUDE, comparison data are likely to become available. In the meantime, as with graduation rates for transfer students and graduate students, regional and local consortia and collaborations can provide a source of reliable comparison measures.
Section 3: Making Meaning of and Taking Action on Data

This section of the report contains two parts:

1. Explaining strategies and processes for involving the critical people (Institutional research, faculty, student affairs/support) in making meaning out of the data and integrating discussion of data-based approaches to student success into the decision-making processes
2. Providing resources and methods for identifying appropriate external comparative data and setting benchmarks or goals.

Strategies and Processes for Making Meaning of Data

Institutions already invest significant effort in deriving and reporting established measures of student success and retention (e.g., through IPEDS surveys, the Common Data Set, and other initiatives). More detailed data on student success and analyses (such as those described in the Section 2 and its workbook appendix) are available on a cyclical and sometimes ad hoc basis at many institutions. The challenge then is to get these reports “off the shelf” and to integrate the results and implications into relevant discussions and decisions. Exactly how to best approach this challenge will vary greatly from one institution to another. Several approaches are presented below as options for institutions to consider.

Take stock of existing reports and consider ways enhance them.

Institutions often assign responsibility for designing success and retention research and reports to a few individuals or a single office (typically the Institutional Research office if there is one). However, by including representatives from other appropriate groups (e.g., academic support and student affairs, faculty, students) in discussions about the scope, design, and purpose of the reports, institutions will be able to pique interest earlier and increase the likelihood that the resulting reports will be relevant and perceived as relevant. The task of designing and prioritizing student success-related research projects may be assigned to an existing group at your institution (e.g., a retention committee, or research advisory group). Alternatively, a small team might be formed and charged with this task. Some questions for exploration include:

1. What reports are already produced? For what purpose? How are they distributed? How are they used?
2. Which measures of student success (e.g., retention, graduation, time to graduation) are appropriate indicators of effectiveness at various levels of the institution (university, college, division, department, office/service area)?
3. How frequently should these measures be provided?
4. What changes or additions need to be made in order to provide the most useful information to campus leaders?

To see how one institution approached this task and developed an inventory of key measures that is used to help monitor its progress on student success please see Appendix C.

**Consider where responsibilities for student success and retention performance exist and how they are structured.**

Efforts to involve the critical people in making meaning out of the data will necessarily need to include (at least some of) those who have clear responsibility for contributing to student success.

Institutions take a variety of approaches to assigning responsibilities for student success.

1. A centralized approach is found at institutions that have a single office with responsibility for providing leadership and support for student retention and graduation.
2. A decentralized approach is found at institutions that have multiple offices or teams with shared responsibilities for supporting retention and graduation.
3. A third and common approach places responsibility for student success throughout the institution. Institutions using this approach embed use of data on retention and graduation in established routines (e.g., department meetings), and cyclical procedures (e.g., program review, annual or semi-annual goals).

Of course, these approaches are not necessarily mutually exclusive. Many institutions use more than one approach – recognizing the myriad factors that affect success and retention.

The key point is simply to take some time to deliberately and carefully consider how and when measures of student success and performance will be reviewed, and by whom. Including those who are most active and invested in retention and graduation activities is a good start. Don’t stop there. By also including representatives from areas that don’t typically consider these indicators on a routine basis (perhaps admissions, financial aid, and the Bursar’s Office), you are more likely to infuse the discussion with
fresh perspectives and build consensus about how to set goals and implement improvements.

**Consider formal campus decision making processes.**

As with most important institutional goals, improving retention and graduation rates requires sustained, cooperative efforts throughout an institution. To the extent that institutions deliberately establish goals and objectives, distribute them widely, and monitor performance, they are generally more likely to realize improvement.

Institutions wishing to assess the level to which student performance data and measures are integrated into campus decision making may wish to explore the following questions.

1. What goals or objectives have been established at the program or office level in terms of student retention, graduation, etc.?
2. How are measures of student success incorporated into the institution’s cyclical program review process?
3. Is there a comprehensive multi-year retention and graduation plan?
4. Have student success goals and objectives been established in the institution’s Strategic Plan?
5. Is performance being monitored and communicated on a regular basis?
6. How do retention and graduation rates and/or the achievement of goals and objective factor into annual and long-range resource-allocation processes?

**Plan to review and reassess success and retention performance, measures and action on a regular basis.**

In a report from the Education Trust about colleges and universities with better graduation rates, Kevin Carey observed:

“Many institutions now maintain accessible, detailed, student-level records containing a wealth of information about things like course-taking patterns, demographics, student aid amounts, residency, transfers, and much more. It’s really no longer a question of whether institutions can get the data they need – it’s whether they invest in analyzing the data they already have. Using information to drive improvement was a consistent theme among the various high-performing institutions we contacted. Many university leaders described how a thorough, careful examination of data detailing various
dimensions of university practice and student success brought them a new understanding of how to improve.”  

Resources and Methods for Identifying Appropriate External Comparative Data and Setting Benchmarks or Goals

In the following section we guide readers to several widely available sources for external data. Some of these resources provide access to data that most colleges and universities are required to report in response to various state and federal reporting requirements. Other resources integrate data from various sources. Each resource or interface has unique advantages with respect to the types of benchmarking that is possible.

1. Integrated Postsecondary Education System (IPEDS) Executive Peer Tool and Peer Analysis System

   a. The Executive Peer Tool (ExPT) ([http://nces.ed.gov/ipedspas/Expt/](http://nces.ed.gov/ipedspas/Expt/)) allows comparisons between a focus institution and peer institutions using all of the data available in the printed IPEDS Data Feedback Report and additional variables from the latest collection year. The ExPT may be used to view printed IPEDS feedback reports, create custom feedback reports, and create statistical reports on selected variables.

   b. The IPEDS Data Center ([http://nces.ed.gov/IPEDS/datacenter/](http://nces.ed.gov/IPEDS/datacenter/))\(^2\) provides a variety of analytical features for analysis. This resource includes the ability to compare and rank institutions based on the data items selected, and to view standard report templates. Users may also create a customized IPEDS dataset to meet unique data needs, or to download IPEDS data files for further statistical analyses.

2. The Association for Institutional Research (AIR) periodically provides workshops related to IPEDS. These face-to-face training sessions are geared toward IPEDS data providers and users and are taught by experienced practitioners from across the country. The workshops are co-hosted by AIR and other higher education organizations, with funding provided by the National Center for Education Statistics (NCES). There is no fee to attend these IPEDS Workshops. You do not have to be a member of AIR or the co-sponsoring organization to

\(^1\) *Choosing to Improve: Voices from Colleges and Universities with Better Graduation Rates*, by Kevin Carey, January 2005, page 14.

attend an IPEDS workshop. For additional information see http://www.airweb.org/ipedsworkshops.

3. College Results Online, www.collegeresults.org, is an interactive, user-friendly Web tool designed to provide policymakers, school counselors, parents, and students with information about college graduation rates.

Created by The Education Trust, this free tool allows users to select virtually any four-year public or private nonprofit college or university in the country and see how its graduation rate compares with that of similar institutions serving similar student populations.

It also allows an examination of graduation rates by students’ race, ethnicity, and gender. This information reveals that some institutions do a much better job of graduating students than others. It also shows that at most colleges, significant gaps continue to exist in graduation rates between white students and students of color—and between men and women.

College Results Online draws on data submitted annually by institutions throughout the nation via the IPEDS Graduation Rate Survey (GRS). It allows users to select an institution to see how its graduation rate compares with that of other similar institutions. To determine similar institutions, the tool uses a number of statistically correlated factors, such as students’ scores on college-admissions tests, the size of the institution, the percentage of low-income students on campus, and the institution’s financial resources.

With College Results Online, users may:
- Examine overall graduation rates at specific colleges and universities and see how those rates have changed over time.
- Examine graduation rates by students’ gender and race/ethnicity.
- Compare the graduation rates of similar institutions—colleges and universities that share many characteristics and serve similar student populations.
- Obtain data in one convenient place about individual colleges.
- Look for institutions based on specific student and institutional characteristics, including graduation rates.

4. College Insight (http://www.college-insight.org/), an initiative of the Institute for College Access & Success, makes data on college affordability, diversity, and student success easy to find, compare, and analyze. College InSight provides data for almost 5,000 U.S. colleges and universities. In addition to college-level data, it features totals and averages for states, sectors, and other groupings of colleges. College InSight is both an easy-to-use consumer resource and a
sophisticated research tool designed to help shed light on important trends and issues.

There are three interconnected ways to tap into College InSight’s wide range of data:

1. Spotlight - Start by selecting a college, state, or type of institution to see a snapshot of key data and a relevant comparison.
2. Topics - Start with a topic (e.g., student success), then dig deeper to see how specific colleges, states, or institutional types compare.
3. Explore All Data - Build your own table with any combination of colleges, variables, or years in the College InSight database.

5. The Consortium for Student Retention Data Exchange (CRSDE) at the University of Oklahoma is a consortium of two-year and four-year institutions dedicated to achieving the highest levels of student success through collaboratively sharing data, knowledge, and innovation. The CRSDE is probably best known for its annual retention studies which provide participating colleges with access to timely, comprehensive, comparative benchmarking data on retention and graduation. In return for providing data, members receive a comprehensive 150+ page report with benchmarks, and a customized peer report on 5-20 participating peers. The CRSDE List of Members (as of February, 2010) includes 148 California institutions (public and private), 2 in Hawaii and 1 in Guam. Institutions that chose to participate in the annual survey may also participate in more focused surveys. The STEM Survey collects institution and discipline-specific retention and graduation rates for cohorts of first-time, full-time freshmen in science, technology, engineering and math (STEM). The consortium also facilitates networking and sharing of best practices through annual retention conferences, e-communications, and a community of practice.

6. The National Survey of Student Engagement (NSSE) obtains, on an annual basis, information from hundreds of four-year colleges and universities nationwide about student participation in programs and activities that institutions provide for their learning and personal development. The results provide an estimate of how undergraduates spend their time and what they gain from attending college.³ Survey items on the NSSE represent empirically confirmed "good practices" in undergraduate education. That is, they reflect behaviors by students and institutions that are associated with desired outcomes of college.

³ There is some research to suggest that institutions should use caution when comparing NSSE results across programs or institutions. Many of the NSSE items measure "engagement" in a way that favors the types of activities typically encountered by students in Humanities and Liberal Arts studies (e.g., heavy reading and writing requirements outside of class time). Some institutions with large applied sciences or vocational programs have found that students in these programs have lower NSSE scores than their peers studying in Liberal Arts and Humanities.
Institutions can use their NSSE results to identify aspects of the undergraduate experience inside and outside the classroom that can be improved through changes in policies and practices more consistent with good practices in undergraduate education.

7. Institutions may also have access to comparative data and benchmarking tools through their membership in state systems (e.g., UC, CSU, UH) and various consortia (e.g., National Association of Independent Colleges and Universities, Association of Independent California Colleges and Universities, and the Council for Adult and Experiential Learning).
Section 4: Elements of an Effective Student Success Program

In Appendix 4 to this report you will find examples of successful retention and graduation programs developed by a wide variety of institution, both public and private, large and small. The Task Force on Student Success solicited examples from all accredited institutions and selected those that met the following three criteria:

- Data-based approaches: developed out of an analysis of disaggregated data on graduation and retention. For example, programs that targeted groups that were not succeeding at expected levels.
- Successful approaches: which the institution resulted in a measurable improvement in the related indicator(s) of student success.
- Collaborative approaches: developed collaboratively among institutional research, academic/faculty, and student services/affairs groups and individuals.

In reviewing the examples and the literature in the area of student retention and graduation, the Task Force identified some common elements. Outlined below are the key common elements of designing a successful retention program on your campus.

Start with a Thorough Data Analysis

All successful retention programs start with a thorough analysis of disaggregated data on graduation and retention. You might choose to review specific groups of students in comparison to overall retention and graduation rates or analyze factors that lead to success in graduating students. Small institutions that do not have an institutional research position/office might consider hiring a consultant for a specific project or a part-time institutional researcher and may want to start small. One effective approach is to identify a few “at risk” factors (e.g., first-generation college student, Pell eligible) and review retention and graduation rates for these groups. (See Section 2 and Appendix A of this report for a detailed methodology for collecting and analyzing data.)

Form a Cross-institution Team for Strategy Development

The most successful programs are developed collaboratively by a cross-programmatic team that include representatives from institutional research, academic affairs/faculty, student services/affairs, admissions and other key decision makers at your institution. Depending on the institutional context and structure, the team might be a committee, task force, or enrollment management group. The team should meet regularly to review data, formulate questions for additional research, propose programs, set goals, and review outcomes. Members of the team should become familiar with the literature on improving success rates so that they can develop programs that are informed by the experience of other institutions. (See Section 3 on making meaning of data.)
Identify Challenges and Develop Strategies

After identifying gaps in achievement among groups of students, ascertaining whether overall rates are “good enough,” the institution should prioritize challenges and establish goals, objectives and support programs. Given that most institutions will not have the resources to address all the challenges at once, consider strategies that will address some issues quickly and inexpensively and identify strategies that need multi-year solutions and/or considerable resources. In evaluating and prioritizing proposed programs, considering their relative impact and cost.

Assign responsibility to an individual/team for accountability

Institutions should determine who is responsible for the program. This individual/team should report on the progress of the plan on a regular basis to the entire group and to the leadership of institution.

Track the Impact of Programs

A successful plan should set specific goals, targets and timelines and be able to demonstrate measurable improvement in retention, graduation and related indicators. As plans are developed, be sure to establish the indicators of success and a plan to assess.

Learn from Experience as New and Additional Programs are Developed

Leaders of effective programs document and share the results of the programs so that others in the institution can learn what is effective and can build on this knowledge as new programs are developed.