

# **JCAR Technical Conventions Manual**

American Association of State Colleges and Universities  
American Association of Community Colleges  
National Association of State Universities and Land-Grant Colleges

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## Introduction

This publication has been prepared with the institutional research and public relations or communications professional in mind. It is intended to be a detailed how-to manual for accountability reporting.

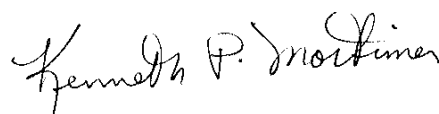
The three associations that sponsored the Joint Commission on Accountability Reporting (JCAR), the American Association of State Colleges and Universities, the American Association of Community Colleges and the National Association of State Universities and Land-Grant Colleges—are voluntary membership associations. These associations believe that the lack of comparable accountability information in higher education has hurt the credibility of our institutions with our funders and with the public. These reporting conventions are an attempt to address part of that problem.

While the sponsoring associations can persuade and recommend that their members do or don't do things, they cannot impose a requirement on those members. But one of the primary objectives of JCAR was to develop reporting conventions that would be standardized. That can only be achieved if everyone defines data elements the same way, calculates rates and indicators the same way, and reports information in the same way. These limitations and objectives brought about the recipe-style publication that follows. Unlike cookbooks, however, this publication addresses questions of how various choices were made. It is hoped that this combination of recipe and rationale will best assist the professionals who will be called upon to compile information for these reports and to present this information to their intended audiences.

We recognize that there are other ways to report this information. Commission members considered many alternatives before arriving at the reporting conventions detailed within. It is important that we are responding to accountability reporting concerns. It is important that we have achieved substantive recommendations on how to report accountability information. It is equally important that consensus was reached across all the sectors of the public higher education community on how this accountability reporting should be done. As a result, a very high value should be placed on conforming to these recommendations.

The idea and substance of these reporting convention recommendations will be promoted to governors, legislators, boards of education members and system officers as reports that should be produced *in lieu of* similar reports. We are not interested in adding to the administrative burden of our members.

Questions of interpretation and clarification will inevitably arise. Please do not hesitate to call on any of the commission's association staff, presidents or technical work group members for assistance. We hope not only to help you, but to advantage higher education by a constructive response to concerns about accountability.



Kenneth P. Mortimer  
Chair, Joint Commission on Accountability Reporting  
President and Chancellor, University of Hawaii

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## Nature of the Joint Commission

The Joint Commission consists of a nine-member Council of Presidents and 39 members of four Technical Work Groups. The Council of Presidents directed the work of the Joint Commission, was responsible for policy and political decision making, and provided guidance to the Technical Work Groups.

The presidents were appointed by the sponsoring associations. The technical work group members were selected from a national solicitation that yielded nearly four nominees for each person selected. This group performed the substantive development work of the commission. All four of the technical groups met at least four times and held several teleconferences and interacted extensively by electronic mail.

Interest in the mission of the Joint Commission was clearly widespread. The work groups developed numerous idea papers and drafts, circulated among the members of the Joint Commission; a national review and comment process elicited *hundreds* of letters suggesting detailed modifications. The commission published four issues of a special newsletter that detailed ongoing work and current issues. Readers responded by monitoring and providing input to the work in progress.

The following are members of the Joint Commission on Accountability Reporting and the association staff who coordinated the work:

### **Council of Presidents**

- Kenneth P. Mortimer, Chair, President and Chancellor, University of Hawaii System
- Eileen Baccus, President, Northwestern Connecticut Community-Technical College
- Alice Chandler, President, State University of New York-New Paltz
- Joseph N. Crowley, President, University of Nevada, Reno
- Milton Gordon, President, California State University-Fullerton
- Jeff Hockaday, Chancellor, Pima Community College
- Eddie N. Moore, Jr., President, Virginia State University
- Graham Spanier, President, Penn State University
- James D. Tschechtelin, President, Baltimore City Community College

### **Association Staff**

- John M. Hammang, Project Coordinator, Director of State and Campus Relations, AASCU
- Margaret Rivera, Executive Assistant to the President, AACC
- Jennifer M. Wingard, Director, Urban and Academic Programs, NASULGC

### **Technical Work Group Members**

*Technical Work Group 1*—Placement rates and full-time employment in the field following completion of higher education program/degree

- Teshome Abebe, Leader, Vice President for Academic Affairs, Ferris State University
- Bill Armstrong, Director of Institutional Research, San Diego Community College District

- Linda K. Gast, Director, Career Center, University of Maryland at College Park
- Joe Hagy, Director of Special Programs, Oklahoma State Regents for Higher Education
- Jack Lunsford, Director of Governmental Relations, Maricopa County Community College District
- Kenneth Meehan, Director of Academic Planning, Assessment, and Policy Analysis, University of Hawaii
- Walter Nolte, Dean of Educational Services, Flathead Valley Community College
- Robert Perkoski, Director of Placement Services, University of Pittsburgh
- Barbara Steidle, Assistant Provost for Undergraduate Education and Academic Services, Michigan State University

*Technical Work Group 2*—Graduation rates, persistence rates, withdrawal rates, licensure pass rates and transfers of students

- Marsha Hirano-Nakanishi, Leader, Director of Analytic Studies, The California State University
- Evelyn R. Babey, Registrar, University of California, Davis
- Marcia Belcher, Coordinator of Institutional Assessment, Boise State University
- Carol J. Berrey, Assistant to the President for Government Relations, Weber State University
- Trudy H. Bers, Director of Institutional Research, Oakton Community College
- Marijane E. England, Assistant Director, Science Support Services Snow and Ice Research Group, University of Nebraska - Lincoln
- Ronald B. Head, Coordinator of Institutional Research and Planning, Piedmont Virginia Community College
- Ira W. Langston, Associate Director Academic Policy Analysis, University of Illinois
- Sock-Foon C. MacDougall, Director of Planning, Accountability and Institutional Analysis, Bowie State University
- Jeremiah Ryan, Vice President for Marketing, Planning and Development, Harford Community College
- R. Eugene Schuster, University Registrar, The Ohio State University
- Ivan L. Weir, Director of the Center for Social Research, Bemidji State University

*Technical Work Group 3*—Student charges and costs

- David A. Claeys, Leader, Executive Director for Technology and Institutional Support, Eastern Iowa Community College District
- James H. Ammons, Provost and Vice President for Academic Affairs, Florida Agricultural and Mechanical University
- John Cosgrove, Director of Institutional Research and Planning, St. Louis Community College
- Phil Dane, Vice Chancellor for Business and Finance, The University of Tennessee, Martin
- Larry Gates, Assistant Vice President Office of Planning and Budget, University of Missouri System
- Roy D. Ikenberry, Director of Institutional Research, Mississippi State University
- John R. Kemp, Director of Public Information and Publications, Southeastern Louisiana University
- Michael Maestas, Director of Student Financial Resources, University of Northern Colorado
- John W. Quinley, Director of Planning and Research, Central Piedmont Community College

*Technical Work Group 4—Faculty activity*

- Deborah J. Teeter, Leader, Director of Institutional Research and Planning, The University of Kansas
- Marilyn H. Blaustein, Director of Institutional Research and Planning, University of Massachusetts, Amherst
- Margaret Heisel, University Outreach Director, University of California
- Faith Helmick, Vice President for Administrative Support Services, The University of Akron
- Robert R. Jennings, Vice President for Institutional Advancement, Albany State College
- Neil Lubow, Associate Vice President for Academic Affairs, University of New Hampshire
- Michael F. Middaugh, Director of Institutional Research and Planning, University of Delaware
- Janis H. Weiss, Vice Chancellor for Academic Affairs and Student Services, Minnesota Community Colleges

## **Apples to apples or apples to oranges? Does the public understand educational reporting? Can higher education make itself understood to its publics?**

Institutional stakeholders (parents, potential students, news organizations, funding sources, employers) want to know *more* than a college's transfer rate, graduation rate or student advancement rate. They often ask questions such as:

- Is the institution's graduation rate as good as other colleges and universities?
- What is the statewide/regional/national graduation rate?

Such broadly framed questions end up producing comparisons between "apples and oranges." To be better understood, higher education must inquire, answer and report information in more qualified and useful ways, such as:

- Is an institution's graduation rate as good as other colleges and universities like it?
- What is the statewide/regional/national graduation rate for similar colleges and universities?
- Is the institution's graduation rate changing?

One of the major concerns of the higher education community about providing accountability reporting is that, once individual institutions provide data, others will make inappropriate comparisons. For example, it could be misleading to list or rank higher education institutions on the basis of tuition or graduation rates without an equally prominent presentation of the varying purposes of the institution and the students it serves. Differences are to be expected when comparing community and technical colleges, for instance, to large research institutions, or when comparing open-enrollment to highly selective education institutions.

Since news organizations, the public and policy-makers are concerned with more than just accountability rates, colleges and universities must:

- educate stakeholders about what comparisons are appropriate, and
- anticipate the desire for comparative information by providing not only their numbers but those of peer institutions as well.

The Joint Commission on Accountability Reporting (JCAR) has developed reporting conventions that could resolve much of the confusion. Widespread adoption of the commission's conventions will make it easier to provide accurate comparisons between institutions and will reduce inappropriate comparisons.

Indicators in standard conventions should yield meaningful comparisons across institutional types *and* across time.

Understanding differences among institutions and the students they serve will help to clarify comparisons among institutions. This will only happen if it is easy for stakeholders to understand these comparisons.

An institution's ability to graduate students who enter with the intent of completing a program of study may be its primary goal, but there is an obligation to educate the public about student participation. That requires different definitions and indicators that better reflect current institutional and student realities, while remaining true to the intent of the federal Student-Right-To-Know Act (SRTK) of 1992.

### **Cost Issues**

Implementing the Joint Commission recommendations may be somewhat expensive in the beginning but will be cost-effective over time, as well as *invaluable* in increasing public understanding and support of the goal. These recommendations should make it possible to compare institutions effectively and accurately.

### **Communication**

Presenting the results of its efforts to the *general* public is a key concern of the commission. Higher education institutions must present and explain their reporting mechanisms in *simple, clear, jargon-free language*, and work with other institutions to adopt common measures and language that will let stakeholders make informed decisions based on comparing "apples to apples."

## Understanding the Cost of Higher Education—More than Tuition

This chapter discusses recommendations for presenting the cost of higher education—student charges, financial aid and tuition—to the public. It responds to the realization that many members of the general public do not understand the relationship among these elements and the total cost, and offers ways to make that relationship clearer, as well as ways to compare similar institutions more easily.

The costs of attending college continue to concern various constituencies. While political and analytical questions may introduce complications, “student charges” should be reported and presented as clearly and directly as possible. Parents and students won’t pay for, media won’t fairly present, and legislators and funders won’t support costs they do not understand and cannot compare; in fact, even the phrase “student charges” may be confusing.

### Student “Charges”—Technical Recommendations

These are the data elements and definitions needed to calculate and present information about student charges, financial aid and the tuition/total cost relationship to the public.

*Base charges*—a combination of tuition and mandatory fees, necessary because some states and some systems do not charge for tuition—some do not do so at all and others have created surrogate categories, such as university fees in lieu of tuition charges.

*Tuition*—actual amount of money charged a first-year, full-time undergraduate for two semesters or three quarters during the regular academic year; may be charged on a per-academic year, per-term, per course or per-credit basis, but applies to an annual amount based on registering for 12 (number consistent with current federal financial aid regulations) postsecondary (100-level or above) credit semester or quarter hours. Does not include services, student activities or special user fees; summer terms or special sessions; or additional fees based on distinctions between resident and out-of-state students.

*Resident*—a student who meets the state residency requirements of the college at first admission.

*Non-resident*—a student who does not meet the residency requirements of the college at first admission; usually, an out-of-state student attending a state institution.

*Mandatory fees*—actual per-student amount of money charged to all first-year, full-time undergraduates during a regular academic year for items not covered by tuition, such as university fees, student activities, health services, student center, athletics, computing services, student organizations, yearbook, recreational facilities and debt-service retirement on selected

facilities; do not include first-time admission application charges, transcript fees or graduation fees.

*Room and board*—charges, as calculated by the college's financial aid office, for a first-year, full-time undergraduate to live and dine on-campus for two semesters or three quarters during the regular academic year; should not include services for such items as cable television, phone and computer access if these are offered for additional fees. Separate room and board amounts and other elements may apply to on-campus and off-campus students.

*On-campus*—a student who lives in institution-supported housing facilities, usually sharing a room with another student, although accommodations may include single rooms, co-op arrangements, etc.

*Off-campus*—a student who lives in a private or commercial housing facility not located on the college campus.

*Books and supplies*—cost of books and course supplies for a first-year, full-time undergraduate student for two semesters or three quarters during a regular academic year.

*Other costs*—costs of personal and miscellaneous expenses for a first-year, full-time undergraduate for two semesters or three quarters during a regular academic year, as calculated by the college's financial aid office; may differ for resident on-campus, resident off-campus, non-resident on-campus and non-resident off-campus.

*Off-campus expenses*—expenses for housing, food and transportation for a first-year full-time undergraduate, living off-campus for two semesters or three quarters during a regular academic year, as calculated by the college's financial aid office.

*Non-resident charges*—additional base amount charged to an out-of-state/district or non-resident first-year, full-time undergraduate for two semesters or three quarters during a regular academic year, as calculated by the college's financial aid office.

*Special course charges*—the range (lowest to highest) of money charged beyond tuition and mandatory fees for undergraduate courses—a per-course fee, such as correspondence charge, telecourse fee, lab fee or computer lab charge.

### **Calculation Protocols**

Developing protocols for calculating the costs of higher education is a complex process, so these recommendations may sound quite technical. However, the accompanying suggestions should make the information more manageable.

Charges and costs should be calculated based on a first-year, full-time undergraduate student enrolling in 12-credit semester or quarter hours for two semesters or three quarters during a regular academic year; does not include summer terms and special sessions.

Charges and costs for tuition, mandatory fees, program and course charges, room and board, books and supplies, other costs and off-campus expenses should be calculated based on the current Federal Title IV *Student Financial Aid Handbook*, “Cost of Attendance” section. The current *National Association of Student Financial Aid Administrators Encyclopedia*, “Cost of Attendance” section, offers additional guidance.

Charges must correspond to those provided by the institution’s financial aid office. Inconsistency, even in appearance of information as opposed to content, is another major problem for general audiences and affects credibility.

To calculate non-resident charges, subtract the resident tuition rate from the non-resident tuition rate; the difference is the non-resident charge.

Various types of charges and costs can be computed as follows:

1. resident base charges = base charge (A) (i.e., tuition + mandatory fees)
2. non-resident base charges = base charge (A) + non-resident charges (F)
3. resident direct institutional charges = base charge (A) + room and board (B)
4. non-resident direct institutional charges = base charge (A) + non-resident charges (F) + room and board (B)
5. resident student cost (on-campus) = base charge (A) + room and board (B) + books and supplies (C) + other costs (D)
6. non-resident student costs (on-campus) = base charge (A) + non-resident charges (F) + room and board (B) + books and supplies (C) + other costs (D)
7. resident student cost (off-campus) = base charge (A) + books and supplies (C) + other costs (D) + off-campus expenses (E)
8. non-resident student cost (off-campus) = base charge (A) + non-resident charges (F) + books and supplies (C) + other costs (D) + off-campus expenses (E)

### Communication Recommendations

Here are possible ways of presenting information about the costs of higher education that may be easy for the public to understand and use in comparing institutions.

Table 1. Student Charges Information for Sample State College for the 199x - 9y School Year (in dollars)						
	(A)	(B)	(C)	(D)	(E)	(F)
Annual Charges	Base Charges (tuition plus mandatory fees)	Room & Board	Books & Supplies (estimate)	Personal & Miscellaneous (estimate)	Off-Campus Expenses (estimate)	Non-Resident Charges
Resident (on-campus)	2,255	3,384	813	650	0	0
Resident (off-campus)	2,255	0	813	850	650	0
Non-Resident (on-campus)	2,255	3,384	813	725	0	3,649
Non-Resident (off campus)	2,255	0	813	975	4,950	3,649

Some, but not all, courses have special course charges. At this college last year, those courses that had special course charges cost a minimum of \$15 and a maximum of \$683. These are per course charges not annual charges. Details of this year's special course charges are available in the schedule of classes for each term.

### Limitations

The concept of student charges quickly becomes complex when trying to communicate an accurate picture of educational costs, since many constituents are unlikely to devote the time needed to thoroughly understand the variations in conditions among colleges and universities. There are limitations to simplification, but a balance between complexity and meaningfulness should enhance communications with stakeholding audiences outside the field of postsecondary education.

## Presenting Financial Aid Information

Financial aid can be a significant tool in reducing the cost of a college education (this discussion involves only those forms of aid that decrease, rather than postpone, the financial obligation of a college education).

These data elements and definitions are required to calculate and present information about financial aid.

*Federal aid*—Grants and scholarships funded by the United States government—Federal Pell Grant, Federal Supplemental Education Opportunity Grant, and Paul Douglas Teachers Scholarships.

*State aid*—Grants, scholarships and aid funded by state government—vocational-technical grants, tuition grants, special scholarship programs and tuition waivers.

*Institution aid*—Grants, scholarships and aid funded by the institution. Examples include need-based and merit-based academic scholarships, athletic scholarships, family grants and tuition waivers.

*Private aid*—Grants, scholarships and aid whose source is other than federal, state and institutional. Often colleges receive and disburse private aid to students, such as Rotary scholarships.

### Calculation Protocols

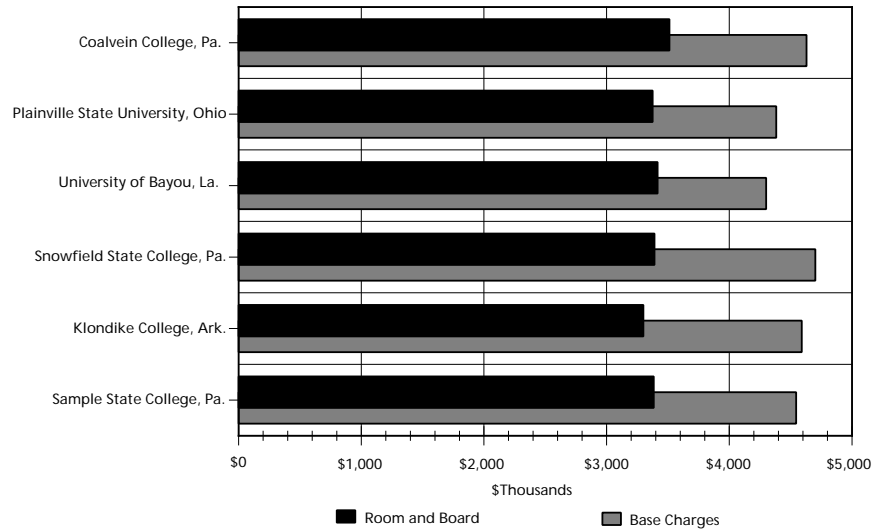
Calculation of financial aid should be based on first-year, full-time undergraduates enrolling in 12 credit semester or quarter hours for two semesters or three quarters during the previous regular academic year. Summer terms and special sessions should be excluded.

1. Number of Awards = The total number of financial aid awards given to the student population during the previous academic year. Separate calculations should be made for federal, state, institutional and private sources.
2. Total Dollars Awarded = The total dollars of financial aid awarded during the previous academic year. Separate calculations should be made for federal, state, institutional and private.
3. Average Award = The dollar amount from dividing the total dollars awarded by the number of awards. Separate calculations should be made for federal, state, institutional and private.
4. Percent of Students Receiving Aid = For the previous academic year, the number of unduplicated students receiving aid, divided by the total number of unduplicated students, expressed as a percentage.

### Communication Recommendations

Table 2. Non-Loan Financial Aid Award Information for Sample State College for the 199x - 9y School Year by Financial Aid Source				
Financial Aid Source	Federal	State	Institutional	Private
Number of Awards	2,565	828	2,777	135
Total Dollars Awarded	\$3,796,978	\$861,948	\$2,740,899	\$52,245
Average Award (for those eligible)	\$ 1,480	\$ 1,041	\$ 987	\$ 387
Percentage of All Students Receiving this form of aid	32.7%	10.6%	35.5%	1.7%
Percent of Students Receiving Some Form of Non-Loan Financial Aid		77%		

**Graph 1. 199x-9y Charges for In-State Full-Time Students at Similar Colleges and Universities**



**Limitations**

There is a great need to provide information about financial aid, because it is a significant factor in assessing the cost of an education. However, caution is recommended in making assumptions about individual eligibility—the amount of financial aid awarded, if any, depends greatly on individual circumstances and specific situations.

**Tuition as a Percentage of Total Direct Costs**

Tuition is often singled out as a barometer for monitoring educational cost, but it would help to show the relationship between tuition and total cost to the student (since some states and some systems do not charge tuition, these definitions and reports will not be meaningful or useful to consumers considering attending those institutions; such institutions should not use these conventions).

**Data Elements and Definitions**

See the earlier section for the data elements and definitions of tuition, mandatory fees, room and board, books and supplies, other costs, off-campus expenses, and non-resident charges.

**Calculation Protocols**

Calculation of tuition as a percent of total direct cost should be based on a first-year, full-time undergraduate enrolling in 12 credit semester or quarter hours for two semesters or three quarters during a regular academic year. Summer terms and special sessions should be excluded.

1. Tuition as a percent of total direct cost for resident student (on-campus) = resident on-campus tuition divided by base charge (a) + room and board (b) + books and supplies (c) + other costs (d), expressed as a percentage.

2. Tuition as a percent of total direct cost for non-resident student (on-campus) = non-resident on-campus tuition divided by base charge (a) + room and board (b) + books and supplies (c) + other costs (d) + non-resident charges (f), expressed as a percentage.
3. Tuition as a percent of total direct cost for resident student (off-campus) = resident off-campus tuition divided by base charge (a) + books and supplies (c) + other costs (d) + off-campus expenses (e), expressed as a percentage.
4. Tuition as a percent of total direct cost for non-resident student (off-campus) = non-resident off-campus tuition divided by base charge (a) + books and supplies (c) + other costs (d) + off-campus expenses (e) + non-resident charges (f), expressed as a percentage.

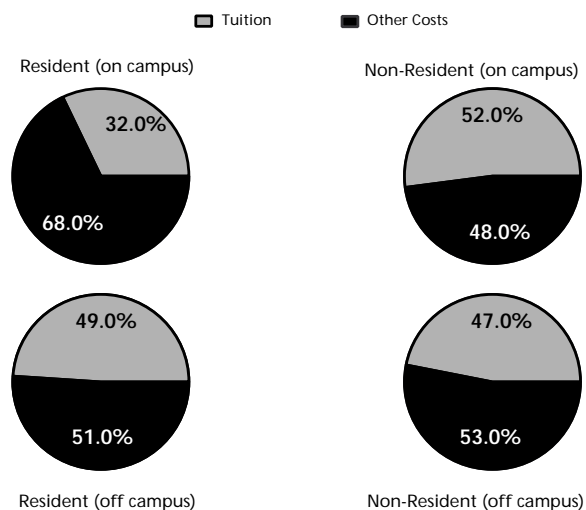
### Presenting the information

The following chart shows how these costs typically vary for different groups of students.

### Limitations

Reporting the relationship of tuition to total costs should make it clear that tuition is only a part of the total cost of obtaining a college education. Tuition receives a majority of the attention from states and governing boards, in terms of regulations, but fees, books and supplies, and room and board receive little attention. The cost of educating a student includes a significant amount of indirect costs, so institutions must present information about those costs from the perspective of a consumer purchasing services, as opposed to total costs (direct and indirect) for educating an individual. This data will enable constituents to see tuition in perspective, as part of the total cost of attending college.

**Graph 2. Tuition as a Percentage of Attendance Costs Sample State College 199x-9y**



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## Student Advancement Indicators

This section identifies meaningful, simple and responsive measures of “student success” for all public colleges and universities.

The most commonly mentioned measures of student success are graduation rates, program completion rates and transfer rates. Since there are no universal standardized definitions and computation methods for these measures throughout higher education as a whole, it has been impossible to make valid comparisons between and among institutions—until now.

These traditional measures are further complicated by the assumption that all entering students have the goal of transferring and graduating. In reality, more and more students attend part-time and discontinuously, with increasing numbers never planning to complete a degree.

In response to this changing educational scene, it is time for the higher education community to adopt a new conceptual framework and a uniform methodology: student advancement indicators, based upon a combined student advancement rate, which offers insights into what *actually* happens to new undergraduate students (both first-time freshmen and incoming transfers) in degree and certificate programs, and what occurs in public institutions as these students enroll, transfer and complete—graduate from—their programs.

This three-component measurement includes part-time enrollment, “stopping-out” and transferring to other institutions as essential parts of a larger enrollment picture, and corrects the misleading message created by reporting completion or graduation rates only at catalog award time (e.g. four years after entry for a “four-year” degree program). If students find it necessary to “stop out” frequently or enroll with partial loads, even using program completion/graduation rates at an extended award time may not be enough to give those students a fair shot at showing their promise and advancement. Today, the full measurement of a new undergraduate student cohort’s rate of graduation or program completion can only be seen once the life cycle of the group has run its course, at the eventual award time.

Using “catalog,” “extended” and “eventual” time will help public institutions and their stakeholders understand more about students, their advancement and the institutions. They provide ways of thinking about time to graduation/completion that incorporate the *actual* enrollment and courseload behaviors of many of today’s undergraduate students.

### Weaknesses

While student advancement indicators provide a framework for addressing some important aspects of student success, they do have weaknesses:

- They do not include students who only want to take three or four courses to prepare for a job, upgrade skills or to test whether college is for them. Although these students may fully meet their educational goals and be successful in their own terms, their success is not

included in this advancement indicator. A data-rich institution may still choose to report in greater depth on students who first enroll in degree and certificate programs with the tracked undergraduate student cohort and leave the institution without transferring or graduating, but also show that they satisfied their educational goals.

- They do not include students who go on to graduate school, seek and gain employment related to their undergraduate field of study, or become licensed in an occupation or profession for which they have been trained.
- The indicators do not reflect the extent to which students have learned, and can demonstrate, the critical thinking skills required for the college-educated person in the 21st century.

Despite these limitations, the student advancement indicators are judicious measures that are potentially useful, responsive, valid, reliable and consistent with federal and state laws and regulations.

### **Making Comparisons**

These discussions reflect an important aspect of higher education today: institutional stakeholders want to know more than an institution's transfer rate, graduation rate or student advancement rate. More often than not, they ask:

- is the institution's graduation rate as good as other colleges and universities?
- what is the statewide/regional/national graduation rate?
- is the institution's graduation rate as good as other colleges and universities like it?
- what is the statewide/regional/national graduation rate for colleges and universities like it?
- is the institution's graduation rate changing?

Broadly framed questions end up producing comparisons between "apples and oranges." Institutions need to inquire, answer and report in more qualified and useful ways.

The Joint Commission hopes to encourage educational institutions to produce student advancement indicators according to standard conventions that will yield meaningful comparisons across institutional types and across time. Peer groups should share indicators that relate to the topic under consideration: to compare student advancement, peer institutions would be those with similar Carnegie classifications; missions; students with similar levels of academic preparedness and support measured by indicators such as test scores, high school rank, English language competency and parental education; campus residential living versus commuting; student ethnicity; student gender; and student preferred/required pace to degree. Understanding the differences between institutions and the students they serve will facilitate comparisons among institutions.

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## **New Undergraduate Student Cohort**

Accountability indicators—such as advancement, continuing enrollment (persistence), transfer and graduation—require tracking students across time. Standard federal definitions for Integrated Postsecondary Education Data System (IPEDS) reporting (6/1/93 revision) frame the basic data elements of this new undergraduate student cohort. For accountability reporting purposes, it makes the most sense to track only fall term cohorts. Most institutions and existing state reporting systems already use the components of the recommended definition for the new undergraduate student cohort. Institutions that wish to may still establish, track and report on additional cohorts such as winter and spring term cohorts, or new graduate student cohorts.

The new undergraduate student cohort consists of first-time freshmen and undergraduate transfer students at the reporting institution who are enrolled at the institution's official fall reporting date in undergraduate programs and courses for credit leading to a certificate, associate or baccalaureate degree (if an institution only tracks enrollment in courses that can be credited toward a certificate or degree, that is considered program enrollment, according to IPEDS definitions).

Institutions should report separately about the first-time freshmen cohort and undergraduate transfer cohort because advancement indicators will mean the most to students and their parents based on the student's status at entry.

In tracking the cohorts and in compliance with Student Right-to-Know legislation, institutions may leave out those who receive full refunds for tuition during the fall term; leave for military service, religious missions or volunteer work; or die before completing a program.

## **Data Elements and Definitions**

The Joint Commission urges institutions to use these key elements of data and definitions for those elements to enhance the public's ability to make appropriate comparisons.

**Official fall reporting date:** the date (in the fall) on which an institution must report fall enrollment data to either the state, its board of trustees or governing board, or some other external governing body. Most institutions have an official fall census date on which the institution captures enrollment and other records for reporting purposes. The dates of capture and the dates of reporting may not coincide. It should be enough to note that the institution uses the basic IPEDS definition for the number of first-time freshmen reported to the state and reported through IPEDS, and that is the same as the number of first-time freshmen selected for advancement reporting.

***Undergraduate***—a student enrolled in a four- or five-year bachelor's degree program, associate's degree program or vocational or technical program below the baccalaureate.

***First-time freshmen***—students entering the reporting institution for the first time who have never attended any college, including students enrolled in the fall term who attended college for the first time in the prior summer term and students who entered with advanced standing (college credits earned before graduation from high school).

*Undergraduate transfers*—students entering the tracking institution for the first time but are known to have previously attended another undergraduate postsecondary institution. Students may transfer with or without credit.

*New undergraduate student cohort*—first-time freshmen and undergraduate transfers to the reporting institution who are enrolled at the official fall reporting date in undergraduate programs and courses for credit leading to a certificate, associate or baccalaureate degree.

*First-time freshman cohort*—the first-time freshman component of the new undergraduate student cohort.

*Student Right-to-Know cohort*—first time freshman cohort minus students enrolled less than full time (*see p. 20*).

*Undergraduate transfer cohort*—the undergraduate transfer component of the new undergraduate student cohort.

## Student Advancement Rate

Student Right-to-Know (SRTK) legislation and other efforts have tried to create a single measure of higher educational accountability that focuses on student success at institutions of higher education. While a single measure of student success is unlikely, and multiple measures of student success are quite important, the student advancement rate is the best single measure of how students progress educationally after entering educational institutions. It is a more accurate reflection of what actually happens to students than single, discrete graduation, transfer or continuation/retention rates.

To enhance the value of the student advancement rate, the student advancement rate should be reported at three points in time: catalog award time, extended award time and eventual award time ( definitions follow). Under SRTK, an institution's student success rate must be reported at "150 percent of normal time to degree." The definition of extended award time is consistent with SRTK legislation. Some higher education stakeholders may be concerned that undergraduates are not getting the four-year degree in four years. Reporting at the eventual award time is fairer to students who must juggle work, family and educational priorities by "stopping out" frequently or enrolling with partial loads, demonstrating the true advancement of such students. Reporting at all three points creates an opportunity and framework to engage in more effective dialogue about student advancement.

Institutions need not track a new undergraduate student cohort beyond the usefulness of the information. For students who enroll continuously, and who take and complete courses to get a six-month certificate in six months, two-year associate degree in two years or four-year baccalaureate in four years, reporting at catalog award time alone may allow the institution, students, parents and other institutional stakeholders to gauge and reflect effectively on the advancement of students at the institution.

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Since the student advancement rate also has components that may not be a part of an institution's student information data base at this time, the format for reporting the student advancement rate anticipates uneven availability of data. This should help such institutions make appropriate comparisons with similarly situated peers, as well as gain insights from peer institutions with more comprehensive data bases.

### **Data Elements and Definitions**

These data elements and definitions are needed to calculate and to present the student advancement rate. The student advancement rate uses the new undergraduate student cohort (the terms "cohort" or "cohort group" refers to the new undergraduate student cohort) defined earlier in this section.

*Student advancement rate*—the sum of enrolled students plus graduated students plus transferred students in the cohort group, divided by the number of students in the cohort group.

$$\text{Student advancement} = (\text{number of cohort enrolled} + \text{graduated} + \text{transferred}) \div \text{total number in cohort}$$

Students are successfully advancing if, during the term for which a report is calculated and reported, they (1) are still enrolled at the institution, (2) have transferred to another institution or (3) have graduated.

*Enrolled students*—cohort students still enrolled at the reporting institution during the term for which the student advancement rate is calculated and reported.

*Full time students*—(for SRTK reporting). At the undergraduate level, a student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week for each term.

*Graduated students*—cohort students who have received a degree or certificate from the reporting institution in which they enrolled.<sup>1</sup>

*Transferred students*—cohort students who transfer before graduating to another institution of higher education (public, private or proprietary) to continue their education. For the purpose of SRTK, disclosure an institution must report the rate of students who transferred out if the institution has information on any such students. To report a student as transferred out, the institution must verify that the student has transferred out by complying with the documentation requirements of 34 CFR 668.46.

*Not enrolled students*—cohort students not enrolled at the reporting institution during the term for which student advancement rate is calculated and reported and who have neither trans-

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<sup>1</sup>In the overall student advancement rate students who both graduate with a certificate or degree and who also transfer are counted only once. For the purposes of SRTK, students who graduate and subsequently transfer-out are included in the graduated cohort and not the transfer-out cohort.

ferred to other institutions nor graduated. If a student “stopped out” during a particular reporting term but re-enrolls, transfers or graduates over time, the student’s advancement will be recorded and reported in those later terms.

*Catalog award time*—the point of time in which all requirements for a degree or certificate are completed by students at an institution according to catalog convention, typically, four years for a “four-year” bachelor’s degree, two years for an associate degree and varied time frames for vocational programs—considered “traditional” or “normal” time to award conferral.

*Extended award time*—150 percent of the catalog award time—for a four-year bachelor’s degree, six years; for a two-year associate degree, three years—the point in time specified in SRTK legislation to measure student success. One of the major reasons why Student Right to Know (SRTK) legislation stipulated reporting at this extended award time is that financial aid regulations (and federal reporting requirements) allow students to be classified as full time while taking only 12 credits each term, even though those students would have to take at least 15 credits per term to graduate at the catalog award time. The extended award time is the time that lets federally defined full-time undergraduates who enroll and receive continuously full-time federal financial aid, to show their full measure of “student success”—graduate and receive their award.

*Eventual award time*—the point in time at which nearly all—95 percent—of a cohort has graduated or completed. This lets students who must take partial loads and “stop out” demonstrate their full measure of progress toward their completion objective. Some institutions already have tracked the life cycles of several new student cohorts, know their institution’s eventual award time and are prepared to report on a full cycle of student advancement rates. Eventual award time can be approximated from an annual degree file with a backwards assessment of time to award.

### **Calculation protocols**

Data will be collected and reported at an institution’s catalog award time, extended award time and eventual award time. However, that data may be reported at other points in time, such as student advancement after the first term or at the end of the first year.

The components of the student advancement rate, which will be expressed as percentages, are:

- a.** enrolled student rate—number of cohort students still enrolled at an institution divided by the total number in the cohort group.
- b.** graduated student rate—number of graduated cohort students divided by the total number in the cohort.
- c.** transferred student rate—number of transferred cohort students divided by the total number in the cohort.

The overall student advancement rate includes a student who earns a certificate or degree and also transfers in the “graduated students” category, not in the “transferred students” category. When the transfer rate itself becomes the accountability measure of focus, both graduates and non-graduates who transfer count.

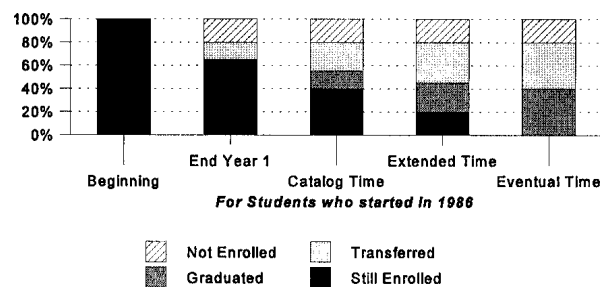
- d. student advancement rate—number of cohort students who advanced divided by the total number in the cohort, which should equal the sum total of (a), (b) and (c).
- e. SRTK transferred student rate—The transferred student rate = the number of students in the SRTK cohort who transferred out within 150 percent of normal time for which the institution has documentation ÷ SRTK cohort.

**Communication Recommendations**

To illustrate the usefulness of the student advancement rate, suppose that the first-time freshman cohort at a community college consists of 100 students. At the end of the first year, 65 are still enrolled, none have graduated and 15 have transferred. At the end of the second year (the catalog award time), 40 students are still enrolled, 15 have graduated and 25 have transferred. At the end of the third year (the extended award time), only 20 are still enrolled, but 25 have graduated and 35 have transferred. At the end of the n<sup>th</sup> year (eventual award time), no students are still enrolled, but 40 have graduated and 40 transferred. In this illustration, the student advancement rate was frozen at 80 percent to emphasize the transition from still-enrolled to transfer and graduation.

This graph shows that 40 percent of the students in the cohort eventually graduated and another 40 percent transferred. The approach called for by Student-Right-to-Know legislation only looks at student outcomes at the extended award time mark when only 25 percent of the students have completed.

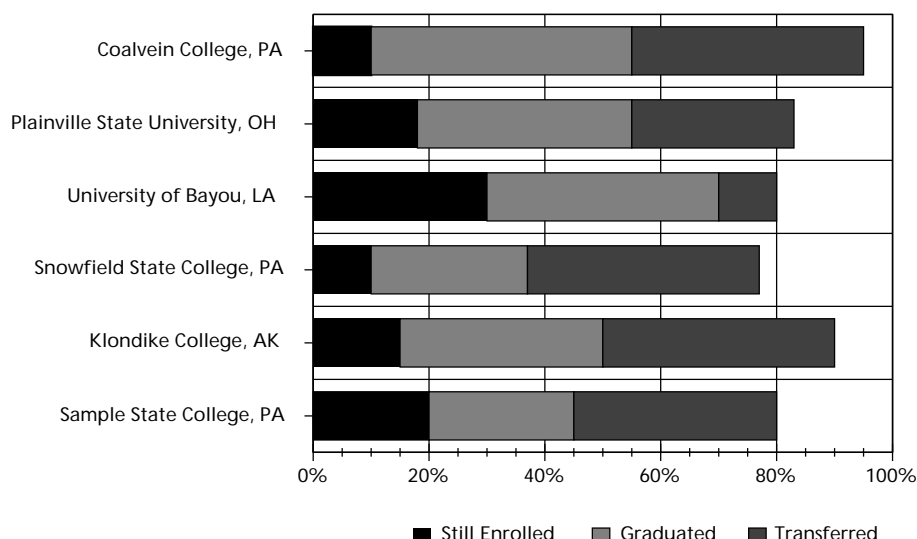
**Graph 3. Student Advancement at a Sample State College**



This approach also shows how student advancement components (Graph 4) change over time. The percent of students in a cohort who graduate ( the graduation rate) and the transfer rate for non-graduates continue to rise over time while the number still in school decreases.

Many factors prompt students to take longer to graduate than catalog award time or even extended award time. For instance, students are considered full time and eligible for federal

**Graph 4. Student Advancement Rate—1986 Cohort at Similar Colleges and Universities**



financial aid when they take as few as 12 credit hours per semester. Completing a 120 hour bachelor’s program at that rate takes more than four years unless summer session classes are a regular part of that student’s program. Other factors such as family responsibilities, job pressures, and willingness to assume debt affect the rate at which students take courses.

### Student Graduation Rate

Many in the public regard success in graduating students as an institution’s primary accountability indicator. While graduation rates represent only one aspect of student success, the Joint Commission acknowledges the fundamental importance the public accords the graduation rate and, therefore, seeks to generate a broader understanding of the complexities of a simple graduation rate.

Graduation rates usually look appealingly simple and seemingly precise. The Joint Commission recognizes that much criticism of postsecondary education reflects the often held perception that students enter higher education directly from high school and enroll continuously with the intention of completing a program of study within a traditional time frame.

Since postsecondary students increasingly do not fit this mold, the Student Right-To-Know Act (SRTK) suggests, for consumer right-to-know purposes, that institutions should report only on first-time, “full-time” students. SRTK legislation also only requires institutions to report student graduation or completion of a program of study at “150 percent of normal time to degree” (extended award time), since reporting graduation rates at the four-year marker point understated the actual graduation behavior of postsecondary students and their institutions.

While an institution’s ability to graduate students who enter with the intent of completing a program of study is primary, there is also an obligation to educate the public about the reali-

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ties of student life. The different definitions and indicators recommended here will do a better job of reflecting current institutional and student realities, while remaining true to the intent of SRTK legislation.

Reincorporating “part-time” students into graduation rate reporting is important because:

- Restricting accountability reporting only to “full-time” students makes it hard to compare “apples to apples”—students who are “full time” in the first term of entry at many institutions simply don’t stay that way. In one large state university system, for example, only a third of the first-time freshmen who enrolled in 12 or more credit units at entry enrolled continuously for 12 or more credit units in subsequent terms.
- It doesn’t make sense to exclude the majority of students at a great many public colleges and universities from the equation. More and more “non-conventional” students are juggling work and family priorities with getting a college degree. To include “non-conventional” and “non-traditional” students in the accountability framework requires new ways of categorizing students—by their enrollment and course-load patterns—but is vital to a true picture of what happens. Taking multiple “snapshots” of graduation over time and for different student attendance patterns will improve information about students’ full measure of graduation, for stakeholders and institutions.

Graduation rate snapshots should be taken at catalog award time, extended award time and eventual award time. Catalog load student, extended load student and partial-load student provide clusters that link directly to the times at which snapshots are taken.

These more realistic presentations of graduation rates will let institutions show the differing needs and goals of their student bodies, and will allow for identification and comparison between and among similar institutions.

In order to have these reporting conventions also cover SRTK requirements for disclosure, the IPEDS definition for “full time” and an appropriate calculation rule have been incorporated in these recommendations. PLEASE NOTE: These recommendations *do not* cover the requirements for reporting about students receiving athletics-related student financial aid.

### **Cost issues**

There admittedly may be a start-up cost to implement these recommendations. In addition to calculating graduation rates at three award-times for three groups of students categorized by course-load patterns, institutions also should calculate:

- separate graduation rates for programs with similar catalog lengths; and
- separate graduation rates for students entering as first-time freshmen and as undergraduate transfers, with graduation rates for transfer students reported by entry class level as determined on the basis of transfer credit accepted at the point of entry, since the expected

time to degree will vary with the amount of transfer credit accepted by the reporting institution.

However, for institutions whose students show little or no variation in enrollment and course-load patterns, institutional graduation rate reporting would basically remain unchanged from today's practices. For institutions whose students show a great deal of variation in enrollment and course-load patterns, the recommendations only require making some additional calculations at institutional entry and doing some sorting at the student cohort's catalog award time, before calculating the catalog award time graduation rate. As a practical matter, the recommended approach is comprehensive, judicious and feasible.

### **Data Elements and Definitions**

The recommended approach takes actual student behavior into account. It begins by classifying students into one of three categories, based on the average number of units per term the student attempted during the the period of enrollment at the institution, up to catalog award time.

Each student in a cohort should be classified as a catalog load student, an extended load student or a partial load student, according to data available at the end of catalog award time, for four reasons:

- The period of time is long enough for students to demonstrate basic enrollment and course-load behaviors;
- While it might be theoretically possible for students to radically change behavior and categories after catalog award time ends, the likely magnitude of such changed behavior would not significantly alter the values nor the meaning of the data reported under the proposed guidelines;
- Keeping the number of recommended snapshots to these three is practical; and
- Although subsequent re-categorization of students might be useful, adding another layer of complication would make the reporting altogether too bewildering.

These additional data elements and definitions are needed to calculate the graduation rates under this new system:

*Term*—semester, quarter or other recognized institutional time module.

Catalog load student (CLS): a student who, on average, attempts a course load per term that leads to graduation within the catalog award time for the program of study in which the student is enrolled, such as within two years for a two-year associate's degree or four years for a four-year bachelor's degree.

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*Extended load student (ELS)*—a student who, on average, attempts a course load per term that is not enough to lead to graduation by catalog award time, but is enough to graduate by the extended award time (150 percent of catalog award time or normal time to degree, according to federal Student Right-to-Know [SRTK] legislation), that is: more than two years but within three years for a two-year degree; more than four years but within six years for a four-year degree.

*Partial load student (PLS)*—a student who, on average, attempts a course-load per term that is not enough to lead to graduation by the extended award time.

*Elapsed time*—the number of regular terms, excluding summer terms, occurring from the student's first through last term of enrollment, inclusive, whether or not the student was actually enrolled in each term.

### **Calculation Protocols**

The calculation protocols assume a semester system, for simplicity of description, but can be translated to any type of term.

### **Determining Students' Load Status**

Students' average loads are based on course-load enrollment patterns over their entire period of enrollment. Students are assigned to one of three load equivalencies, based on their average course-loads per term: catalog load student (CLS), extended load student (ELS) and partial load student (PLS).

Two components are required to determine a student's load equivalency: the standard to be met for classification into the load categories and the student's average course-load.

### **Determining the Load Standards**

The standard for catalog load students is determined by dividing the number of credit units required to complete the degree by the catalog award time. Example: the standard for a four-year degree program of 120 units is 15.0, since it would, on average, require the completion of 15 units per term for eight semesters or four years, i.e.,  $120 \text{ units} / 8 \text{ semesters} = 15.0 \text{ units per term}$  (adjusted to the catalog requirements of the awards being reported by the institution).

The standard for extended load students is determined by taking the credit units required to complete the degree and dividing by the extended award time. Example: the standard for a four-year or 120 unit degree program completed in 150 percent of catalog award time is 10.0, since it would, on average, require the completion of 10 units per term for 12 semesters or six years, i.e.,  $120 \text{ units} / 12 \text{ semesters} = 10.0 \text{ units per term}$  (adjusted to the catalog award requirements of the reporting institution).

The standard for partial load students is a course-load less than that required to complete the degree by extended award time—less than 10.0 units per term for a four-year or 120-unit degree program (adjusted to the catalog award requirements of the reporting institution).

### Calculating a Student's Average Course-Load

A student's average course-load is the total number of units the student attempted while enrolled at the reporting institution, divided by the total elapsed terms of possible enrollment between the dates of the student's first and last enrollment, inclusive (including credit by exam during and after the first term of entry).

$$\text{Student average course-load} = \frac{\text{Total credit units attempted} \div \text{total elapsed terms of possible enrollment}}$$

Since the rationale underpinning these definitions and calculation algorithms is not intuitively obvious, some explanation may help.

It makes sense to try to categorize students into groupings that distinguish those who enrolled at a pace and attempted course-loads allowing them to graduate by the catalog award time, from those progressing with a pace and load pattern allowing graduation by the extended award time, from those progressing with more stop-outs and/or light course-loads. However, capturing these distinctions required more creativity than expected. Counting credit units attempted at any time (that is, including summer sessions) during and after first enrollment at the reporting institution, and anywhere (including units earned by examination), divided by the elapsed terms of possible "regular" enrollment, provides a consistent and stable indicator that categorizes students in commonsense ways. These examples illustrate the nuances of the definitions and algorithm.

*Example 1: a catalog load student (CLS)*—A student enrolls in a four-year degree program of 120 units in fall 1990, spring 1991, summer 1991 and fall 1991 (three elapsed semesters of possible enrollment: fall 1990, spring 1991 and fall 1991; summer sessions do not count) and attempts 12, 13, 6 and 15 credit units, respectively, for a total of 46 hours. This student meets the criteria for a catalog load student (46 units/3 terms = 15.3 units attempted per elapsed semester is greater than the criterion of 15).

This student's pattern of enrollment and course-load taking is consistent with our commonsense notion of a student who is making college-going and - completing truly top priority.

*Example 2: an extended load student (ELS)*—A student enrolls in a two-year degree program of 60 units in fall 1990 and summer 1991, fall 1991, spring 1992 (four elapsed semesters of possible enrollment: fall 1990, spring 1991, fall 1991, and spring 1992 with summer 1991 not being counted) and attempts 18 units, 10 units, 18 units, 8 units respectively, for a total of 54 units. This student meets the criteria of an extended load student (54 units/ 4 elapsed semesters of possible enrollment = 13.5 units per semester), since the student's average course-load is less than 15 units per semester but more than 10.

This student's pattern of enrollment and course-load taking is consistent with the getting the two-year associate degree in three years. This student could be considered "full-time" be-

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cause his/her course-load was ambitiously “full-time” at entry (18 units), but the subsequent enrollment pattern clarifies the somewhat unpredictable juggling needed to progress to degree.

*Example 3: a partial load student (PLS)*—A student enrolls in a four-year degree program of 120 units in fall 1990, fall 1991, fall 1992 and fall 1993—and attempts 16 units each semester, for a total of 64 units. This is a partial load student (64 units/7 semesters = 9.1 units attempted per elapsed semester of possible enrollment), since the student’s average course load is less than 10.0 units per semester (the seven terms of possible enrollment include spring 1991, spring 1992 and spring 1993, even though the student was not enrolled).

While this pattern of enrollment and course-load may not be a predominant pattern for most postsecondary institutions, it illuminates the shortcomings of many conventional ways of classifying “full-time” and “part-time” students. The student in this illustration carried a heavy academic load every term enrolled. Knowing the stop-out pattern clarifies that misleading nature of calling such a student “full-time.” Students with patterns like this may work for one term to pay for going to school the next, or switch school and work/home responsibilities with a spouse so both may progress to degree.

### **Calculating Entry Class Level for New Transfers**

Transfer student graduation rates are reported by the transfer student’s class level at the time of first enrollment at the reporting institution. Based on the transfer credit accepted, students should be assigned to the class levels in the following way (semester units are assumed):

- Freshman transfer—at least 12 but fewer than 30 semester units of transfer credit
- Sophomore transfer—at least 30 but fewer than 60 semester units of transfer credit
- Junior transfer—at least 60 but fewer than 90 semester units of transfer credit
- Senior transfer—at least 90 semester units of transfer credits

Reporting institutions, such as community colleges which do not have all four class levels, would only report those class levels that they have. Transfer students entering community colleges, for example, would be classified as freshmen or sophomores, based on whether they had at least 30 semester units of transfer credit.

### **Calculating the SRTK Graduation Rate**

The number of graduated students (by 150 percent of catalog award time) from the SRTK cohort divided by the total number in the SRTK cohort.

### **Communication Recommendations**

*Freshman graduation rates*—to illustrate the recommended graduation rate reporting, suppose that the fall first-time freshman student cohort at a senior institution consists of 200 students enrolled in “conventional” four-year degree programs. The recommended approach, at the end of the catalog award time, classifies cohort students (that is, those students who

**Table 3. Sample State College Freshman Graduation Rate for 1986 Cohort**

Student Study-Load Category	Cohort Size	Portion of Total Cohort	Graduation Rate By		
			Catalog Time	Extended Time	Eventual Time
Catalog-Load Students (CLS)	108	54%	65%	69%	74%
Extended-Load Students (ELS)	28	14%	0%	54%	64%
Partial-Load Students (PLS)	64	32%	0%	0%	50%
Total First-Time Freshmen	200	100%	35%	45%	65%
Student Right-To-Know (SRTK)	136	68%	–	56%	–

started together four years earlier) into course-load groups. The students who, on average, attempted credit hours at a rate needed to complete the degree in catalog award time are catalog load students (CLS). In Table 3, 108 of the 200 first-time freshmen—54 percent of the first-time freshmen—attempted course-work at this pace. An additional 28 of the 200 freshmen were classified as extended load students—about 14 percent of the first-time freshmen; and 64 were classified as partial load students (PLS)—about 32 percent of the first-time freshmen cohort.

Table 3, above, includes SRTK disclosure information. This information must be reported to the public not later than the January 1 following the elapse of 150 percent of normal (i.e., catalog time) time for your institution’s longest program.

The second and third columns of the table below detail the number and percent of CLS, ELS and PLS students in this institution’s first-time freshman cohort. This hypothetical institution has a freshman class that one might call one-half “traditional” or “conventional,” that is, students taking an average of at least 15 units per term, with one in three students taking course loads of less than 10 units per term on average.

At the catalog award time (four years for four-year programs), 65 percent or 70 of the CLS first-time freshmen received degrees. In contrast, the overall first-time freshman graduation rate at catalog award time was only 35 percent, an accountability indicator that, taken alone, might create erroneous conclusions about the graduation of institutional freshmen at this institution.

At the extended award time (six years for four-year programs), a total of 90 first-time freshmen have received their degrees—45 percent. Among CLS students, 69 percent or 75 have received their degrees; among ELS students, 54 percent or 15 have received degrees, while no PLS students have received degrees yet.

At the eventual award time (the point of time at which 95 percent of all awards to a starting cohort have been conferred), 130 first-time freshmen have received their degrees—65 per-

Table 4. Transfer Graduation Rate Illustration Fall 1986 Transfers Sample State College					
Load/Class	Cohort Size	Portion of Total Cohort	Graduation Rate By		
			Catalog Time	Extended Time	Eventual Time
Catalog load students					
Freshman	5	2%	40%	60%	60%
Sophomores	8	3%	38%	50%	50%
Juniors	20	7%	30%	45%	50%
Seniors	7	2%	14%	43%	57%
Total (CLS)	40	14%	30%	48%	53%
Extended load students					
Freshman	10	3%	10%	30%	40%
Sophomores	14	5%	14%	29%	43%
Juniors	16	6%	13%	25%	44%
Seniors	20	7%	15%	25%	40%
Total (ELS)	60	21%	13%	27%	42%
Partial load students					
Freshman	96	34%	0%	1%	2%
Sophomores	15	5%	0%	7%	13%
Juniors	35	12%	6%	6%	17%
Seniors	40	14%	0%	3%	18%
Total (PLS)	186	65%	1%	3%	9%
Total transfers	286	100%	8%	14%	22%

cent. Among CLS, nearly three in four have graduated—74 percent. The ELS first-time freshmen graduate at a rate of almost two out of three—64 percent—and one out of every two PLS received a degree.

By showing graduation rates for different levels of student enrollment-course-loads and award times, the table conveys more information than can be obtained from a single graduation rate number. It provides information on enrollment patterns of the students, and also shows the relationships of students’ pace and load patterns, award times and conferral of awards.

The SRTK Graduation Rate requires use of the SRTK cohort (defined on page 19). This number should be listed in the cohort size column. The portion of total cohort is the SRTK cohort divided by the now undergraduate student cohort of Table 3. For example, if the SRTK cohort is 136 then the portion of the total cohort is 68 percent. The SRTK graduation rate should be reported in the extended time column. SRTK does not recognize catalog time or eventual time.

*Transfer graduation rates*—to illustrate the recommended graduation rate reporting for transfer students, suppose that the fall first-time transfer student cohort at a hypothetical senior institution consists of 200 students enrolled in “conventional” four-year degree programs. At the end of the catalog award time, those students who started together as fall cohort new transfers at the reporting institution are classified by entry class levels and load equivalency groups in a two-step process.

First, the entry class levels should be assigned as follows (semester units are assumed):

- freshman transfers are new fall cohort students entering with at least 12 but fewer than 30 semester units of transfer credit.
- sophomore transfers are new fall cohort students entering with at least 30 but fewer than 60 semester units of transfer credit.
- junior transfers are new fall cohort students entering with at least 60 but fewer than 90 semester units of transfer credit.
- senior transfers are new fall cohort students entering with at least 90 semester units of transfer credit.
- institutions such as community colleges, which do not have all four class levels, would classify the new transfers into the class levels of the reporting institutions.

The second step (for each class level of transfers) is to separate them into students who, on average, have enrollment and course-load patterns at the reporting institution sufficient to get the award by catalog award time, extended award time and eventual award time. These students are then classified as catalog load students (CLS), extended load students (ELS) and partial load students (PLS), respectively. The graduation rates are calculated and reported by the combined class level/course-load categories to provide better information about student performance.

In Table 4 above, 111 of the 286 fall cohort transfers—38 percent—were classified as freshmen at first enrollment. Five of these, or 2 percent of the total cohort, attempted an average course-load sufficient to graduate in catalog award time and were classified as catalog load students. Ten other freshman transfers were classified as extended load students, while the remaining 96 were classified as partial load students. An additional 37 students—12.9 percent of the transfers —were classified as sophomore transfers at first enrollment by the reporting institution. The 37 sophomore transfers were divided into eight CLS, 14 ELS and 15 PLS students. There were 71 transfers who were classified as junior transfers. These were further divided into 20 CLS, 16 ELS and 35 PLS students. Finally, there were 67 transfers who were classified as senior transfers based on the transfer credit accepted. These 67 students were further divided into seven CLS, 20 ELS and 40 PLS students. The resulting division of the cohort into these groupings is shown in the first two columns of data.

In this table, the catalog and extended award times for reporting graduation rates must be adjusted by the class level of the students. Freshman transfers receive the standard times—the same as other freshmen. Sophomore transfers receive one less year than the freshman transfer catalog and extended award times. Junior transfers receive two fewer years than the freshman transfer catalog and extended award times, and senior transfers receive three fewer

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years than the freshman transfer catalog and extended award times. This adjusts for the course work already accumulated at the time of enrollment.

At the catalog award time (four or fewer years for four-year programs, depending on the student's class level), these CLS transfers received degrees at a higher rate than did ELS or PLS transfers. This generally held true even when entering class level was considered. Students transferring fewer number of credit units are more likely to fit those units into degree requirements at the new institution and remain on schedule for their degrees. The tables also show that none of the PLS students took enough course-work to graduate by catalog award time, as would be expected.

At the extended award time (six or fewer years for four-year programs, depending on the student's class level), the CLS students still have higher graduation rates than ELS or PLS students. Again, the CLS students outperformed the others, even when entering class level was taken into account. Even at extended award time, few PLS students have received degrees, as might be expected.

At the eventual award time (the point of time at which nearly all—95 percent—awards to a starting cohort has been conferred), the CLS transfers have the highest graduation rates, followed by the ELS and PLS transfers. This pattern holds even when entry class level is taken into account. The table makes it easy to see and understand such information about the relationship between enrollment patterns and degree completion. The table requires more effort to create than does a single graduation rate number, but provides more and better information.

#### **Alternative Versions of Tables**

The same freshman table may present a community college; minor changes would be required in the text.

## **Student Transfer Rate**

The issue of transfer rates has historically been of most interest to community colleges because of their mission to provide the first two years of undergraduate education and to prepare students to transfer to baccalaureate-granting institutions. The issue, however, is much broader.

Accountability reporting must address the reality of changing student attendance patterns throughout postsecondary education. Transfer is a national phenomenon taking place among all types of institutions and in multiple directions: community college to senior college, senior college to senior college, senior college to community college, and community college to community college. These four patterns do not even include transfer to, from and among proprietary institutions, some of which grant associate and/or baccalaureate degrees.

**Table 5. Transfer Graduation Rate Fall 1986 transfers Sample Community College**

Load/Class	Cohort Size	Portion of Total Cohort	Graduation Rate By		
			Catalog Time	Extended Time	Eventual Time
Catalog load students					
Freshman	36	18%	28%	36%	39%
Sophomores	28	14%	21%	32%	36%
Total (CLS)	64	32%	25%	34%	38%
Extended load students					
Freshman	30	15%	3%	10%	23%
Sophomores	24	12%	4%	17%	21%
Total (ELS)	54	27%	4%	13%	22%
Partial load students					
Freshman	47	23%	0%	2%	4%
Sophomores	36	18%	0%	3%	6%
Total (PLS)	83	41%	0%	2%	5%
Total transfers	201	100%	9%	15%	20%

Transferred student simply means a student who enrolls in another postsecondary institution in a term after having been previously included in a cohort in another institution. It also is important to remember that in calculating the student advancement rate discussed earlier in this chapter, the Joint Commission recommended that students who completed a program of study at the reporting institution would be reported in the graduation category, even if they also advanced and transferred to another institution. This convention was adopted to avoid double-counting. In reporting rates of students transferring to another institution, a reporting institution's transfer rate calculation includes all students who transferred, including those who also, for instance, received an associate degree or a vocational certificate, since the full measure of the transfer function is the intent of a focus on transfer rate.

Introducing the notion of committed and occasional students should clarify the transfer function. It will help demonstrate the student behavioral commitment to transfer, which is important to any serious contemplation of "holding an institution accountable."

There are, of course, many other issues and facets about the transfer function—quality of preparedness for work after transfer, extent to which college credits are accepted in transfer by another institution, transferability of specific courses, extent to which students need to repeat courses taken elsewhere thereby prolonging their education, and students' academic achievements after transfer. These are legitimate and important public policy and institutional concerns, but even the seemingly simple tracking of transfers cannot be universally accomplished today across the nation's public universities and colleges.

### Data Elements and Definitions

The new undergraduate student cohort proposed for calculating and reporting student advancement and graduation rates applies here.

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Before an institution should be “held accountable” for the progress of its students, there should be an opportunity for the institution to have an impact. There is no agreement on how much commitment it takes for a student and an institution to recognize that the student is committed to transfer, but there is consensus that some level of college-level credit completion must be visible. Completing 12 or more college-level semester credits signifies the student has made a commitment both to the institution and to his or her education. Transfer rates should be reported both on committed and occasional students, with the emphasis in accountability placed on the committed student transfer rate.

**Committed student**—a student who earns grades (including failing grades) in 12 or more more college-level semester credits, or quarter-equivalents, of college level work within the first two years of enrollment at the institution.

*Occasional student*—a student who earns fewer than 12 semester credit hours of college-level work within the first two years of enrollment at the institution.

*Transferred student*—a student who enrolls in another postsecondary institution in a term after the fall in which he/she was included in the cohort of the previous institution of enrollment.

### **Calculation Protocols**

*Transfer rate*—the number of students who transfer to another institution divided by the number in the cohort; subdivided into two subsets.

*Committed student transfer rate*—the number of committed students who transfer, divided by the number of committed students in the cohort.

*Occasional student transfer rate*—the number of occasional students who transfer, divided by the number of occasional students in the cohort.

### **Data Collection Methodology**

Unlike the calculation of graduation rates and still-enrolled rates, calculating transfer rates depends on having data about students who do not remain inside an institution’s student data base. When a student leaves an institution, knowledge about the student’s “new” location must come from outside the institution.

The most straightforward, and ultimately the most cost-effective resource for calculating transfer rates would be a national data system that includes the key data elements, including student social security numbers. Establishing such a resource can be pursued through collaborative efforts of institutions, SHEEOS, higher education associations and the Department of Education, using the experience of states that have statewide data systems in use (states’ experiences suggest that the national data system should be kept simple).

States that have established shared data systems (e.g., Florida and Illinois) will continue to use them and seek to expand them, by including independent and proprietary institutions

until a national data system might become available. Even with a national data system, it is likely that state systems will include additional data elements appropriate for statewide and specialized studies that are not feasible nor advisable for a national data system.

If there are no shared data systems, institutions might pursue the following strategies to report transfer rates:

- *Electronically obtain information to track transfers to other institutions through the “sending” institutions (institutions where students were formerly enrolled)*—“Sending” institutions provide potential “receiving” institutions with the social security numbers of former students, and request that “receiving” institutions match them against enrollment files and flag any that match. The appended file then is electronically transmitted back to the “sending” institution. To reduce costs, review potential “receiving” institutions’ statistical reports on transfers to reveal the strongest ties to the “sending” institution.
- *Electronically transmit information on transfers through the initiative of “receiving” institutions (i.e., institutions that enroll students with transfer credits)*—“receiving” institutions electronically transmit a formatted listing of new transfers to “sending” institutions, containing enough data (including social security numbers) for the “sending” institution electronically to incorporate a transfer flag in its student data base. If every “receiving” institution maintained a record of the transfer student’s last college of enrollment and transmitted information back to “sending” institutions, all “sending” institutions could fully track an institutional transfer rate.

Although institutions that receive transfer students typically record only the student’s last college of enrollment or the college at which most transferrable credits were earned (if any

	Committed Students	Occasional Students	All Students
Number in cohort	75	125	200
Number transferred	15	13	28
Transfer rate	20%	10%	14%

	Transfer Program	Vocational Program
<b>Graduated with associate degree</b>		
Number in cohort	200	150
Number who transferred	110	40
Rate	55%	27%
<b>Did not earn associate degree</b>		
Number in cohort	100	350
Number who transferred	50	65
Rate	45%	19%

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such information is recorded), and while this somewhat complicates transfer tracking under this strategy, it is still sufficient information to report transfer rates if the information is shared with prior institutions.

- *Survey students about their transfer activities*—while this will produce less complete results than institutional exchanges of data, it will be useful for institutions that cannot initiate electronic exchanges. One way to do such a survey is to send a postcard to every student who requests a transcript, asking them to indicate if they have transferred and, if so, to what institution. Another possibility is to survey non-returnees, asking them if they have transferred and, if so, to what institution—assuming a sufficiently high response rate, a sample would suffice.

Little today is reported on transfer rates because of the interinstitutional cooperation and collaboration required. Individual institutions and states may find it useful to report transfer rates at catalog, extended and eventual award times, as well as to use the concepts of catalog-load, extended-load and partial-load students to illuminate the nature and process underlying the transfer function.

### **Communication Recommendations**

The following table format is a recommended way for institutions to report transfer rates.

An institution can use the same table format to report data only for 1st-time freshmen or incoming transfers.

For community colleges, two additional dimensions that describe students' attributes are often deemed especially important in assessing transfer: (a) students' programs, transfer or vocational, and (b) whether students earned associate degrees. The suggested table below might help community colleges present additional details about transfer rates.

## **Licensure Pass Rates**

Gathering and interpreting licensure pass rates pose special problems. Most important, institutions of higher education do not control the process.

While public higher education institutions embrace valid reporting on the extent to which program completers become licensed and certified, public higher education cannot accomplish these objectives without a partnership with state agencies responsible for licensure and certification. If the federal and state governments care about institutional licensure pass rate, then executives and legislators must recognize and encourage state licensing agencies, the professions and vocations in the state, and higher education institutions to collaborate in being accountable. State attorney generals could facilitate accountability reporting on licensure with the identification and broad promulgation of occupations and professions in their states that are regulated by state licensure and certification.

Because certification and licensure are fundamentally state-mandated and-controlled activities, attempts to compare licensure pass rates across states generally is not advisable, unless states actually know that they are using the same set of criteria to measure professional and occupational readiness to practice.

Licensure data can profitably be aggregated only to the state level, except in professions with nationally enforced standards.

### **Data Elements and Definitions**

*Licensure*—granting licenses, especially to practice a profession—nursing, architecture, teaching.

*License*—a permission granted by competent authority to engage in a business or occupation, or in an illegal activity without such certification.

First-time test taker: a person who has completed a program necessary for licensure during the previous year and who takes the appropriate licensure examination for the first time.

*Passing*—achieving a “passing” grade in all components of a test taken at the same sitting.

### **Calculating the Pass Rate**

The licensure pass rate can be calculated by dividing the number of first-time test takers who take and pass the examination, by the total number of first-time test takers who take it.

### **Collecting Data**

Where there is no broad statewide collaboration between the state attorney general, state postsecondary institutions, and state licensure and certification agencies, each institution should work with the department of professional regulation (or similar body or bodies) in each state. In theory, institutions could submit a list of previous-year graduates, including, at least, social security number and program of study; gender and ethnicity could also be included. The department could match by social security number and provide a summary report to the institution on the number tested and the number who passed the first time. Optional information would include first-time pass rate by ethnicity and gender, (and later after additional testing.)

This strategy would not work in a few programs, where issuing a license is a multi-stage event, such as medical doctors and, in many states, teachers. In these cases, institutions must gather and report the data as effectively and efficiently as possible.

A survey also could be used, although its reliability and validity would depend entirely on response rates and self-reported licensure passage.

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## Placement and Employment Rates What happens after students receive a higher education?

This section discusses accountability reporting measures for displaying placement rates and full-time employment in the field of study following program completion for those students who complete vocational, technical or professional programs. The issues are so related that they have been combined for discussion purposes. Information gathered about placement of graduates into jobs related to the education received ought to generate indicators that enable institutions to compare results over time. Consistent monitoring and reporting of such data will help to develop reliable indicators to address public concerns about accountability. It should also allow colleges to monitor changes in the indicators affected by local interventions and program innovations.

These proposals reflect the intent of the 1992 amendments to the 1964 Higher Education Reauthorization Act and accompanying regulations. Although Congress has discontinued funding for these provisions, they reflect a widespread accountability agenda current in many states. Institutions may expand the analysis to include other disciplines for their own purposes. These recommendations also respect other state and federal regulations that might be barriers to such efforts.

The Joint Commission on Accountability Reporting recommends two approaches:

- *Unitary data analysis*—This methodology depends upon the collection of information by an institution, with the individual student as the point of analysis, and the subsequent ability to link the institutional record with external records from agencies, such as the State Employment Security Agency (SESA). Such approaches are increasingly common in states with strong accountability reporting requirements.
- *Survey methodology*—Most institutions already use this approach, with varying degrees of effectiveness, to ascertain placement and employment information about their graduates.

These reporting measures provide maximum flexibility to utilize the data to support institutional planning, as well as accountability. They can provide information about employment rates; earnings; and differences by programs, gender, race and ethnicity, and changes over time in these patterns; impact on state and local economies; and the perennial question of the impact of program completion on long-term earnings. They also can be used to explore academic questions such as the impact of grades; of programmatic experiences like co-ops and internships on employment rates and earnings; as well as the proportion of students who continue their education, assuming there is enough time, funding, staff availability and other organizational concerns.

The accountability reporting needed to compare similar institutions requires, at least the existence of—or willingness to adopt—student-level data collection systems and basic conformity in the data elements. There is a wide range of institutional size, curriculum and student demographics to accommodate. Unitary data analysis methodology also requires reporting based on whole populations; interinstitutional cooperation; merging data bases at state, regional or national levels; and state and/or federal agency cooperation. Since this methodology would be adopted within the framework of existing state laws, state-to-state differences must be recognized in terms of legal access to information, sharing data and other privacy issues.

### **Unitary Data Collection Methodology**

Virtually every institution of higher education probably records information about its students in a computerized data system today. The units of student data needed to generate accountability reports already exist. The unitary data analysis method is based on creating a database that contains a defined set of data elements, with the individual student as the unit of analysis. To achieve comparability and to move to linked systems, it will be necessary to align the data in a common format so that the aggregation of data into a larger data population can occur. The institution that can compare any institutional element to like-type elements in other peer institutions will be in a stronger position to validate its effectiveness.

The recommendations to match student data to unemployment insurance and possibly other files and to use a state level compiler of data is based on the successful experiences of a number of states. The advantages of the unitary data collection model are striking. States using such systems report match rates in the 90 percent range over four years. It enhances the ability to track graduates over periods of time because the institution does not depend on outdated address lists and it allows a greater variety of institutional analyses. The information is more accurate because it relies on official records. In the long run, such a system is more cost-effective and less labor-intensive than survey methodology.

There are some particular requirements for such a system and some disadvantages to using it. The need for Social Security numbers as unique identifiers to make linkages raises questions of privacy. However, conventions for protecting privacy are well-established, if not mandated, in most institutions and states. Some categories of graduates also may be missed — military personnel, federal employees, the self-employed and those who leave the state - but supplementary surveys could collect information from such groups.

Using the unitary data collection methodology lets institutions avoid some of the limitations of other systems. Whole populations are much more accurate bases for accountability data for an institution or any of its constituent parts than are sample ones. Interinstitutional linkages are critical to the ability to measure an institution's outcomes against the whole population from like institutions. This methodology mitigates against the "norming" of institutional "means," which results in ranking institutions and thus understating actual results.

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### Survey Collection Method

Because some states do not have linked systems, there must be an alternative methodology to unitary data collection. Traditionally, the survey method has been used to ascertain placement and employment results of their graduates. The major concern about the effectiveness of this method is the low response rate by students (and employers), typically from 20 to 50 percent. Survey bias, based on the population of students who actually respond, also is a concern—most of the respondents are either employed in good jobs and happy to share employment information, or they have not found employment and are anxious to complain. Since the data is self-reported, it is compromised. The mobility of new graduates is very high, making tracking over time difficult and costly; the dispersion of this population also affects the quality of follow-up institutional studies, especially for small sub-populations of students. Perhaps the most understated problem with surveys is actual cost: contrary to popular belief, surveys are expensive in terms of both time and actual dollars.

If surveys are the methodology of choice or necessity, they must be as productive as possible. There are a number of ways to increase the response rate:

- provide a short, simple survey that requires little time to respond. Some institutions begin with pre-graduation surveys; conduct multiple follow-up surveys per student and include phone survey follow-ups. The pre-graduation survey provides employment information from students who have jobs before or at graduation, and also generates information that will help the institution locate students nine months after graduation for future employment surveys.
- send a second survey to non-respondents within six weeks of the first survey.
- use phone surveys to replace or supplement the mail survey.

Consistency in coding survey elements and responses is crucial, especially in assigning employment codes for student occupations. With consistent employment coding, institutions will be able to compare their placement rates to those of similar institutions. The employment coding should be entered at the institutional level. Institutions can assign an employment code to the student's occupation based on information, such as job title and description of duties, collected from the student survey.

### Practical Concerns

Practical issues of costs, related to sampling sizes and the current lack of information access and sharing among states, must be considered when selecting and implementing an accountability reporting measure.

For both survey and unitary data collection methodologies, the insufficiency of the existing crosswalks between industry and program codes makes it difficult to identify the links between educational background and employment in the field of study—the federal Standard Industrial Classifications (SIC) groups are industry-based, while the Classification of Indus-

trial Programs (CIP) is programmatically/occupationally based. A more effective, uniform cross-walk must be developed.

There has been a long-standing debate about institutional missions, essentially centered around whether the mission should be to prepare graduates to be either “workers” or “learners” (practical vs. philosophical education). An institution’s emphasis on one or the other of these goals should be considered when choosing the unitary or survey methodology.

For a public that is very interested in bottom lines, no figures are more direct and compelling than graduation rates and placement/employment rates. Displaying information about these outcomes, simply and effectively, will speak loudly to education’s public and governmental supporters. Such efforts will enhance the ability to demonstrate to a business, the corporate world or an industry group that higher education institutions are the major source of their employees. When private, industrial and corporate support are increasingly important to public institutions, accountability reporting is both an important challenge and an opportunity.

### Presenting the Information

These standardized reports for placement/employment rates can be generated using either unitary data collection or survey collection methodology.

The data can be summarized and reported for similar institutional categories and for appropriately comparable institutions. The models are flexible enough to allow for reporting various student groupings for other local, state and/or federal accountability purposes.

<b>Table 8. Sample State College Post-College Employment Rates by Educational Attainment as of 199x for the 1993 Graduating Class</b>		
<b>Educational Attainment of Students/Program</b>	<b>Number Employed</b>	<b>Percent Employed</b>
First Professional Degree Programs	99	86%
Law	62	87%
Veterinary Medicine	37	84%
Baccalaureate Degree Programs	90	97%
Medical Laboratory Technician	24	96%
Nursing	48	100%
Occupational Therapy	18	90%
Vocational/Technical Associate Degree Programs	80	86%
Air Frame Mechanics	27	90%
Construction Technology	38	79%
Wastewater Treatment	15	100%
Vocational/Technical Certificate Programs	32	77%
Cosmetology	32	77%

The above table format can provide data for each vocational, technical and first-professional-degree major in the institution. If the state has a system for linking or assigning majors to occupational areas, these data can demonstrate the relationship between majoring in a particular field and subsequent employment in a related area. The table also can be used to report the average for all institutions in the appropriate peer group, based on IPEDS and

Carnegie classifications. Reporting also can and should be done by sex and the five federally defined race and ethnic categories, or any other classifications that are required by the U.S. Department of Education.

This format can also be used to report various student groupings for other mandatory state and federal purposes. The following display accommodates categories required for reporting under the Carl D. Perkins Vocational and Applied Technology Education Act.

**Graph 5. Professional, Vocational and Technical Employment Rates by Type of Credential at Similar Colleges and Universities**

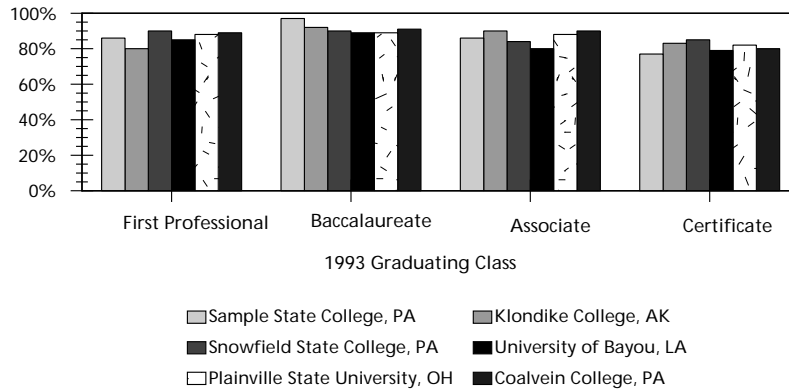


Table 9. Example Table 2 Post-College Employment Rates by Educational Attainment <i>(by program area for identified cohorts)</i>		
Program Completers by Pre-program Status	Number of Employed	Percent Employed
Educationally Disadvantaged		
Disability		
Economically Disadvantaged		
Limited English Proficiency		
Single Parent		
Underrepresented		
Female		
Male		
18-24 Years of Age		
25-35 Years of Age		
35 Years and Over		

## Technical Recommendations for Determining Placement Rates

### Data Elements and Definitions

**CIP**—Classification of Instructional Programs developed by the U.S. Department of Education’s National Center for Education Statistics (NCES) is used to classify all secondary, postsecondary and adult education programs. The CIP is used in all NCES surveys and is the accepted government standard for program coding in education information surveys. The CIP organized programs into two-digit, four-digit, and six-digit areas, moving from broad areas, such as

health and related sciences programs (code 51) to more and more detailed programs, such as health and medical assistants (code 51.08) and medical laboratory assistants (code 51.0802).

**Completers**—Students graduating with an associate degree or certificate from a CIP recognized vocational program/field of study. Also those graduating from an undergraduate or graduate educational program that is listed in the CIP and prepares students for occupations that require a bachelor's degree to qualify for entry and involves the independent practice or application of a defined or organized body of competencies that is unique to the occupation, is formally recognized and regulated under a national or state licensure, accreditation, or permit system, or satisfies a state statutory definition of the term “professional program.”

### Data Sources

**Electronic Information**—College and State Department of Education Management Information Systems; State Employment Security wage and unemployment benefit files (UI); JTPA and State JOBS files; U.S. military files; state departments of corrections files; Federal Office of Personnel, Management files; U.S. Postal Service files; State Department of Personnel files; certification and licensure agency files; organized labor files.

**Non-electronic Information**—Surveys/interviews of former and current students; surveys/interviews of employers; focus groups; college placement office records; labor market and wage projections; economic impact studies; advisory committee feedback.

**FICE**—A six-digit identification code created by the Federal Interagency Committee on Education. Originally used to identify all schools doing business with the Office of Education during the early 1960s, it is now used in IPEDS to identify institutions that are accredited at the college level by an agency recognized by the secretary, U.S. Department of Education. These are the traditional institutions of higher education, formerly surveyed under the Higher Education General Information Surveys (HEGIS), plus any schools that are newly accredited institutions of higher education. IPEDS uses FICE codes to track these institutions to maintain historical trends that began in the mid 60s.

**Field of Study**—A vocational/technical/professional program listed as an occupational specific program in CIP.

**IPEDS**—Integrated Postsecondary Education Data System conducted by the National Center for Education Statistics. IPEDS began in 1986 and involves annual data collections. Survey questionnaires are sent to all postsecondary institutions eligible for federal student financial aid, as determined by the Office of Postsecondary Education, U.S. Department of Education. IPEDS also surveys approximately 4,000 schools that are not eligible for federal student aid using the Institutional Characteristics form only.

**Placement or Entered Employment Rate**—The number and percentage of former vocational/technical/professional students by colleges or professional programs in employment, mili-

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tary service, religious mission, volunteer work, or continuing education for all or part of a 13-week period, nine months to one year after completion of education/training.

**SESA**—State Employment Security Agency.

**SIC**—The Standard Industrial Classification (SIC) groups industries according to the type of activity in which they are engaged. SIC is used by governmental agencies, such as SESAs, as well as research, trade, professional and business organizations to classify industries and compile data.

**Student**—A person who is enrolled at an institution for the purpose of obtaining a degree, certificate, or other recognized educational credential offered by that institution.

**UI**—Unemployment insurance.

### **Data Collection Methodology**

Due to the diversity among the practices at higher education institutions throughout the nation, institutions should use one of two methods to collect the data necessary to measure job placement outcomes for students who complete vocational and technical programs and first professional degrees. The unitary data analysis method is based on the creation of a data base which contains a defined set of data elements, with the individual student as the unit of analysis. This student information can then be linked with data bases from outside entities, such as the State Employment Security Agencies (SESAs), to collect student employment data. The other method consists of surveying students (and possibly employers) about their employment status after leaving the institution. Survey data may also be linked with other institutional data to provide answers to questions of institutional concern. Surveys may be used to follow populations, such as the self-employed, who are not traceable in unitary approaches.

It is probable that virtually every institution of higher education records information about its students in a computerized data system. The units of student data needed to generate accountability reports are therefore already in existence, and need not be newly created by an institution. To achieve comparability and to move to linked systems, it will be necessary to align the data in a common format so that the aggregation of data into a larger data population can occur. The institution that can compare any institutional element to like-type elements in other peer institutions will be in a stronger position to validate its effectiveness.

### **Unitary Data Collection Method**

This methodology requires institutions to collect and maintain data on students at the lowest level of information: individual name, social security number, program major, cumulative GPA and so forth. Such a data base is highly flexible and can be aggregated and disaggregated in a variety of ways to produce the reports and information that accountability reporting requires. In addition, such data can be interfaced or merged with like-type data from other campuses to create the larger data bases that will allow for broader analysis of an individual

institution's outcomes. Most important, such a system will permit matching institutional data with data from unemployment insurance files, military and other employment data sources. The maintenance of such a system at the individual institution facilitates extraction of information by sub-units such as schools, departments or programs for institutional evaluation purposes. Such practices are already common at most institutions.

Institutions of higher education traditionally have had an interest in following their graduates. College career planning and placement offices fulfill this institutional imperative through their data collection and reporting. Central to using student-level data elements at the institution is linking that institutional data with data systems containing employment and placement information within the state or within the regional marketplace. Each state has a state employment security wage and unemployment benefit file. This file is recommended as the primary source of employment data because of its reliability. Other sources of linkage data might be Jobs Training Partnership Act (JTPA) and state JOB files, U.S. military files, state department of corrections files, federal Office of Personnel files, state merit systems or Department of Personnel files, U.S. Postal Service files, certification and licensure agency files, as well as organized labor files. The source and availability of data will, of course, vary by state. The complexity of obtaining the cooperation of the agencies previously listed suggests that institutions might best address this through a consortium, or a statewide organization or agency.

There are at least three viable ways in which these larger data bases can be formed and then linked with external agency data bases. A governmental agency such as a state licensing or coordinating board could hold or coordinate the larger data base. A second alternative is a neutral state or regional association of institutions that might serve as the depository and aggregator of the larger data base. The third alternative could simply be an agreement among a group of like-type institutions to merge their data to create the larger base for accountability purposes. Critical to the success of any of these approaches is collecting data at "the lowest level of student information." At the other end of the spectrum, concern for protecting the privacy of the individual student is paramount. Established conventions for privacy protection within institutions and systems must be scrupulously observed.

### **Examples of Unitary Data Gathering Methodology Operations<sup>1</sup>**

By some estimates, as many as 30 states use administrative unitized data matches for employment placement follow-up. At least two of these, Washington and Florida, have well-developed systems and procedures that are noteworthy. Details can be found in Appendix C & D.

#### **State of Washington**

Annually, the state of Washington matches former community college students' social security numbers with an unemployment insurance (UI) wage file, a UI benefit file (recording unemployment benefits), U.S. military file and surrounding state UI wage files. This student

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<sup>1</sup>See Appendix D

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information also is matched to other community college and four-year college records. About 75 percent of former vocational/technical students are matched. The UI match provides data on quarterly hours of employment, estimated annual salary, business size, Standard Industrial Code (SIC—or type of business), and employment by county. The community colleges each receive reports on the number of students identified; the number employed in jobs related to training; the number employed in industries related to training; the number employed in various size businesses; and the number not employed and receiving UI benefits.

### **State of Florida**

Florida uses a combination of computerized record linkage and employer contact to gather placement information. The system was created by the state legislature as part of an accountability measure requiring 70 percent placement of program completers. The system is comprehensive, and provides information on students from about 75 agencies or institutions. Organizations provide the Florida Education and Training Placement Information Program (FETPIP) with participant files from management information systems. Student records are electronically linked with the State Department of Education and a variety of state and federal agencies to obtain a record match. A survey was designed to provide feedback from employers on program quality and adequacy.

### **Survey Collection Method**

The second data collection methodology requires institutions to survey graduates, and possibly employers to obtain student employment information, including: employer's name and location, length of employment, salary information, full-time/part-time status; job title and the specific duties of the position. This information will be used by the institution to assign a job code, Standard Industrial Code (SIC), Department of Transportation (DOT), etc., to the student's occupation. This job code will then be used in a crosswalk to determine the relationship between the student's job and field of study. This information will let institutions identify the employers of graduates, should they wish to solicit additional information. For example, employment site information could include the site's FICE and SIC codes and employer's size. Employee information requested from the employer could include quarterly hours of employment, wage, full-time/part-time status and job title/description (employer surveys are more likely to be useful in evaluating program quality than in providing accountability data for the institution).

It is imperative that the surveys for all institutions have the same core structure, as well as an identical distribution and collection system. Otherwise, any comparative accountability data would be suspect. To provide maximum comparability, the survey instrument should use the definitions, analysis and calculation rules detailed under Analytical Methodology and Calculation Protocols.

### **Examples of Survey Data Gathering Methodology Operations**

#### **University of California, Davis**

The University of California at Davis has surveyed five classes of graduates since 1976. Graduates from the classes of 1976, 1979, 1983, 1987, 1990 and 1993 who received their baccalaure-

ate degrees were surveyed six to 12 months after graduating from the university. The survey inquired about the graduates' employment outcomes, chosen career fields, salaries and attitudes about the preparation they received during their study at UC Davis. Results included: 50 percent of the graduates from the class of 1993 were employed full time within one year after graduating; most of the employed students, about 94 percent, found employment during the first six months after graduation. Of these employed 1993 graduates, 77 percent reported working in jobs that are directly related to their undergraduate majors. The survey also showed that 7 percent of the graduates who were looking for work were unemployed after 12 months. The mean salary of employed students from the 1993 graduating class was \$24,200. The salaries ranged from \$34,500 for engineers to \$17,800 for secretarial/clerical workers. To assess employment satisfaction, the survey measured how many of the employed graduates found jobs in their chosen field. Of the 1993 employed graduates, 64 percent were employed in their chosen field; 1 percent had not chosen a career field.

### **Los Rios Community College District**

The Los Rios Community College District has distributed follow-up surveys annually from 1984 through 1987 and biennially from 1989 through 1993. The district surveyed all graduates and certificate earners and all non-returning non-graduates who had completed an advanced occupational course during their last year of attendance. The survey recorded student demographics and measured the students' educational goals, their employment status and their satisfaction with their educational experience. The adjusted response rate of the 33,000 students surveyed over the 10 year period was 48 percent. The district aggregated the results into three groups based on the respondents' self-reported primary educational goals. The three primary educational goals are: university transfer, occupational preparation/retraining and personal interest. Of the 1992-'93 respondents 47 percent cited university transfer as their primary goal. Of these students, 92 percent completed a degree or certificate before leaving the district and 85 percent were enrolled in a university or other community college when surveyed. In the same group, 44 percent cited occupational preparation/retraining as their primary goal. At the time they were surveyed, 73.1 percent of these students were employed in a field related to their college courses. The percentage of students surveyed in 1992-'93 who cited personal interest as their primary goal was 8.3 percent. Aggregating the data over the 10 years revealed that two-thirds of these respondents earned an associate's degree or certificate and almost half had transferred or re-enrolled at the time they were surveyed. Survey items designed to measure student satisfaction with their educational experience showed that when a scale of 1 to 5 was used (5=highest rating), 88.8 percent of all 1992-'93 students rated their experience a 4 or 5. Using the same scale, 83.2 percent of the 1992-'93 students whose primary goal was university transfer rated the district as a 4 or 5 when asked how well their community college courses prepared them for continuing their education. When asked to rate the usefulness of their training as it relates to their occupation, 83.2 percent of the 1992-'93 students whose primary goal was occupational rated their experience as a 4 or 5.

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### **University of Maryland System**

All campuses of the University of Maryland administer a biennial alumni survey to baccalaureate degree recipients one year after graduation. In addition to a core of questions, each campus may tailor an additional section of the survey to its specific interests.

## **Analytical Methodology and Calculation Protocols**

### **Unitary Data Collection Methodology**

Interinstitutional collaboration is essential to this effort. Data bases should be linked for two reasons:

- to accomplish record matches between the education data bases and the employment data bases. The matches will establish the relationship between an individual's education and employment experiences. The unique elements in either type of data base are tied together by the data common to both data bases, which are generally name and Social Security Number.
- to provide an adequate and fair basis for comparison. If used to make comparisons, the merged data should be treated as a whole population. Institution by institution comparisons inevitably result in one being first and one being last. Conversely, comparing a single institution to the whole population gives a more accurate and appropriate measure of the institution's performance.

The institution's position in relation to the whole population of data can be presented through different statistical scores, standard deviations, quartiles, quintiles, percentages or any technique that describes position relative to the mean. The proper presentation will demonstrate how the institution's mean behavior relates to the mean behavior of the population of data, whether for its peer group, system or Integrated Postsecondary Education System (IPEDS) sector.

There are at least two interlocking systems used to group the students from like institutions into peer groups for comparability purposes:

- IPEDS. The Carnegie classification system can be used within each IPEDS sector.
- peer groups, to further ensure that students in institutions of like type, size and function are aggregated into like populations.

Combining these two calculation criteria will enhance proper comparisons (see Appendix A and Appendix B).

### **Survey Collection Method**

To ensure comparability of placement rates, the survey design should be constructed so that the elements, when coded, are consistent with the elements in Appendix 2 to Chapter III. Use

of identical coding structures will ensure interinstitutional comparability. These coded elements should be compiled in a computerized data base that can be linked to the information found on the preexisting student data file. This may help institutions determine whether the student's program of study relates to the reported occupation by disclosing patterns of program majors who report similar jobs. It also allows institutions to create accountability reports that consider student demographic information, classification level, and other student-level data.

For both unitary data collection and survey methodologies, the time from graduation to analysis of placement/employment data should be standardized into three time periods, consistent with the U.S. Department of Education regulations and federal statutes, as well as the current data collection procedures for federal and state agencies. All of these systems define full-time employment as employment for a quarter-year or 13-week cycle. Calculations should be based on employment of graduates for any part of a quarter, at a nine-month to one-year interval after graduation.

A refined standards crosswalk matching CIP and SIC codes should be formulated, in cooperation with the U.S. Departments of Education and Labor to permit matching types of employment with educational program codes. These are basic code systems that represent a fundamental means of comparison available to all states. Expanded code systems and possibly even new indicators are being planned; however, CIP and SIC codes are recommended. Without such a uniform system, there can be little consistency in matches from one state to another.

## Calculation Formulas

### Placement Rate Formula

The following formula should be used in calculating "placement rates."

$$PR = \frac{E + T + R + V + M}{C - (N + D)}$$

where

- E = Number of completers reporting<sup>2</sup> employment within one year<sup>3</sup> after completion
- T = Number of completers enrolled for additional study
- R = Number of completers on religious mission
- V = Number of completers in volunteer work (AmeriCorps, Peace Corps, Vista)
- M = Number of completers in military service
- C = Number of vocational/technical/professional certificate or degree recipients in academic year<sup>4</sup>

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<sup>2</sup>Reporting includes information from the aggregated unemployment insurance wage record data through surveys, student surveys or other databases.

<sup>3</sup>See Analytical Methodology section.

<sup>4</sup>Academic year refers to the IPEDS "graduation" year—summer, fall, spring semesters.

- 
- N = Number of completers not available for employment (includes incarcerated, institutionalized, non-resident aliens, and those who choose not to work)  
D = Number of deceased completers

**Full-time Employment in the Field of Study Formula**

The following formula should be used in the calculation of “full-time employment in the field of study.” The terms of the formula include definitions found in Student Right-to-Know legislation, along with terms for those deceased (D) and those in volunteer service (V).

$$FEF = \frac{FT}{C - [T + D + R + V + M]}$$

where

- FT = Number of graduates reporting<sup>5</sup> full-time employment<sup>6</sup> in a related occupation<sup>7</sup> within one year<sup>8</sup> after graduation  
C = Number of vocational/technical/professional certificate or degree recipients in academic year<sup>9</sup>  
T = Number of graduates enrolled for additional study  
D = Number of deceased graduates  
R = Number of graduates on religious mission  
V = Number of graduates in volunteer work (AmeriCorps, Peace Corps, Vista)  
M = Number of graduates in military service<sup>10</sup>

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<sup>5</sup>Includes the collection of information from the aggregated unemployment insurance wage record data through surveys, student surveys, or from other data bases.

<sup>6</sup>Means full-time employment for a period of 13 weeks.

<sup>7</sup>Determined by using the crosswalk created by U.S. Department of Labor.

<sup>8</sup>See Analytical Methodology section.

<sup>9</sup>Refers to the IPEDS “graduation” year—summer, fall, spring semesters.

<sup>10</sup>Students who completed a ROTC program or who are graduates of military academies should not be included in this category, since the military is the career outcome for which those students were pursuing a higher education and they are among the degree recipients

## Appendix A

IPEDS Universe of Institutions by Sector:  
Degree/Program Level and Financial Control

Degree/Program Level	Type of Financial Control		
	Public Institutions	Private Nonprofit	Private for-Profit
<p><b>Baccalaureate or Higher Institutions</b> Institutions or subsidiary elements whose primary purpose is the provision of postsecondary education and that award at least a baccalaureate or higher degree or award in one or more programs.</p>	Sector 1	Sector 2	Sector 3
<p><b>Two-Year Award Institutions</b> Institutions or subsidiary elements whose primary purpose is the provision of postsecondary education and that confer at least a two-year formal award (certificate or associate degree) or have a two-year program that is creditable toward a baccalaureate or higher degree in one or more programs, but do not award a baccalaureate degree.</p>	Sector 4	Sector 5	Sector 6
<p><b>Less Than Two-Year Award Institutions</b> Institutions or subsidiary elements whose primary purpose is the provision of postsecondary education and whose programs are less than two years in duration and result in a terminal occupational award, or are creditable toward a formal two-year or higher award.</p>	Sector 7	Sector 8	Sector 9

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## Appendix B

### Carnegie Classification Definition of Categories

The 1994 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education.

**Research Universities I:** These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees<sup>1</sup> each year. In addition, they receive annually \$40 million or more in federal support.<sup>2</sup>

**Research Universities II:** These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees<sup>1</sup> each year. In addition, they receive annually between \$15.5 million and \$40 million in federal support.<sup>2</sup>

**Doctoral Universities I:** These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least 40 doctoral degrees<sup>1</sup> annually in five or more disciplines.<sup>3</sup>

**Doctoral Universities II:** These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award annually at least 10 doctoral degrees—in three or more disciplines—or 20 or more doctoral degrees in one or more disciplines.<sup>3</sup>

**Master's (Comprehensive) Colleges and Universities I:** These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 40 or more master's degrees annually in three or more disciplines.<sup>3</sup>

**Master's (Comprehensive) Colleges and Universities II:** These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 20 or more master's degrees annually in one or more disciplines.<sup>3</sup>

**Baccalaureate (Liberal Arts) Colleges I:** These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award 40 percent or more of their baccalaureate degrees in liberal arts fields<sup>4</sup> and are restrictive in admissions.

**Baccalaureate Colleges II:** These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award less than 40 percent of their baccalaureate degrees in liberal arts fields<sup>4</sup> or are less restrictive in admissions.

**Associate of Arts Colleges:** These institutions offer associate of arts certificate or degree programs and, with few exceptions, offer no baccalaureate degrees.<sup>5</sup>

**Specialized Institutions:** These institutions offer degrees ranging from the bachelor's to the doctorate. At least 50 percent of the degrees awarded by these institutions are in a single discipline. Specialized institutions include:

**Theological seminaries, Bible colleges, and other institutions offering degrees in religion:** This category includes institutions at which the primary purpose is to offer religious instruction or train members of the clergy.

**Medical schools and medical centers:** These institutions award most of their professional degrees in medicine. In some instances, their programs include other health professional schools, such as dentistry, pharmacy, or nursing.

**Other separate health profession schools:** Institutions in this category award most of their degrees in such fields as chiropractic, nursing, pharmacy, or podiatry.

**Schools of engineering and technology:** The institutions in this category award at least a bachelor's degree in programs limited almost exclusively to technical fields of study.

**Schools of business and management:** The schools in this category award most of their bachelor's or graduate degrees in business or business-related programs.

**Schools of art, music and design:** Institutions in this category award most of their bachelor's or graduate degrees in art, music, design, architecture, or some combination of such fields.

**Schools of Law:** The schools included in this category award most of their degrees in law. The list includes only institutions that are listed as separate campuses in the 1994 Higher Education Directory.

**Teachers colleges:** Institutions in this category award most of their bachelor's or graduate degrees in education or education-related fields.

**Other specialized institutions:** Institutions in this category include graduate centers, maritime academics, military institutes, and institutions that do not fit any other classification category.

**Tribal colleges and universities:** These colleges are, with few exceptions, tribally controlled and located on reservations. They are all members of the American Indian Higher Education Consortium.

### **Notes on Definitions**

<sup>1</sup>Doctoral degrees include Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Ph.D. in any field.

<sup>2</sup>Total federal obligation figures are available from the National Science Foundation's annual report called *Federal Support to Universities, Colleges, and Nonprofit Institutions*. The years used in averaging total federal obligations are 1989, 1990 and 1991.

<sup>3</sup>Distinct disciplines are determined by the U.S. Department of Education's Classification of Instructional Programs 4-digit series.

<sup>4</sup>The liberal arts disciplines include English language and literature, foreign languages, letters, liberal and general studies, life sciences, mathematics, philosophy and religion, physical sciences, psychology, social sciences, the visual and performing arts, area and ethnic studies, and multi- and interdisciplinary studies. The occupational and technical disciplines include agriculture, allied health, architecture, business and management, communications, conservation and natural resources, education, engineering, health sciences, home economics, law and legal studies, library and archival sciences, marketing and distribution, military sciences, protective services, public administration and services, and theology.

<sup>5</sup>This group includes community, junior and technical colleges.

## Appendix C

### Data Elements and File Structures

#### Student Record File

Columns	Data Elements	Data
1-21	1	Student's Last Name _____
22	2	First Initial-First Name _____
23	3	First Initial-Middle Name _____
24-32	4	Social Security Number _____
33-34	5	Year of Birth _____
35	6	Sex _____
36	7	Race _____
37-43	8	Disability Status _____
44-49	9	Reporting Institution's Code _____
50-55	10	Current Degree Program _____
56	11	Highest Degree Earned _____
57-62	12	Date of Program Completion _____
63-65	13	Total Credits Earned _____

#### Employment Record File

1-21	1	Employee's Last Name _____
22	2	First Initial-First Name _____
23	3	First Initial-Middle Name _____
24-32	4	Social Security Number _____
33-42	5	Federal Employer ID _____
43-45	6	Quarterly Hours of Employment _____
46-51	7	Wage _____
52-55	8	SIC _____
56-61	9	Size of Business _____
62-70	10	Primary Employment Location _____
71-74	11*	Length of Employment _____
75-94	12*	Most Recent Position/Job Title _____
95	13	Full-Time/Part-Time _____

\*This data will probably be available by survey.

**Alternative Placement File**

1-2	1	Reporting Agency _____
3-23	2	Student's Last Name _____
24	3	First Initial-First Name _____
25	4	First Initial-Middle Name _____
26-34	5	Social Security Number _____
35-40	6	Degree Program (CIP code) _____
41	7	Class Level _____
42-47	8	Degree Level _____

**Data Element Descriptions**

**Student Record File**

Element Title: Student's Last Name  
Description: Enter the first 21 characters of the student's last name.

Element Title: First Initial-First Name  
Description: Enter the first initial of the student's first name.

Element Title: First Initial-Middle Name  
Description: Enter the first initial of the student's middle name.

Element Title: Social Security Number  
Description: Enter the student's 9 digit social security number.

Element Title: Year of Birth  
Description: Enter the last two digits of the student's birth year. For example, the birth year 1972 would be entered as "72".

Element Title:	Sex	
Description:	Category	Code
	Male	1
	Female	2

Element Title:	Race	
Description:	Category	Code
	Non-Resident Alien	1
	Black, Non-Hispanic	2
	American Indian or Alaskan Native	3
	Asian or Pacific Islander	4
	Hispanic	5
	White, Non-Hispanic	6

Element Title: Disability Status  
 Description: Enter a “1” in the appropriate column if the following categories apply to the student. If a category does not apply to the student enter “0”. For example, if a student has a hearing impairment but none of the other categories apply, the element would be entered “0100000”.

Column	Category	Code	
		Yes	No
37	Mobility Impairment	1	0
38	Hearing Impairment	1	0
39	Visual Impairment/Blindness	1	0
40	Learning Disability	1	0
41	Speech Impairment	1	0
42	Psychological Disability	1	0
43	Other	1	0

Element Title: Reporting Institution’s Code  
 Description: Enter the reporting institution’s FICE code.

Element Title: Current Degree Program  
 Description: Enter the appropriate 6-digit CIP code of the instructional program being pursued by the student this term. If the student is degree-seeking but is undecided on a major, enter all 8s. If the student is non-degree seeking, enter all 9s. For example:

Instructional Program	CIP Code
Elementary Teacher Education	131202
Degree Seeking, Undecided	888888
Non-Degree Seeking	999999

Element Title: Highest Degree Earned  
Description: Enter the highest degree earned by the student.

Category	Code
No degree or certificate earned	1
Certificate (Less than 2 years)	2
Associate	3
Bachelor's	4
Master's	5
Certificate (between Master's and Doctor's)	6
Doctor's	7
First Professional	8

Element Title: Date of Program Completion  
Description: Enter two digits each for the month, day, and year. For example, the program completion date of May 7, 1994, would be entered as "050794." For students not completing enter 00000.

Element Title: Total Credits Earned  
Description: Enter the number of cumulative credit hours earned to date by the student at the reporting institution. For undergraduate students, credits earned since first admitted to the reporting institution. For graduate students, credits earned since first being admitted to graduate school at the reporting institution. The data should be entered right justified with preceding zeros. For example, if the total number of credits earned by a student at the reporting institution is 34, the total credits earned would be entered as "034".

### **Employment Data Elements**

Element Title: Employee's Last Name  
Description: Enter the first 21 characters of the employee's last name.

Element Title: First Initial-First Name  
Description: Enter the first initial of the employee's first name.

Element Title: First Initial-Middle Name  
Description: Enter the first initial of the employee's middle name.

Element Title: Social Security Number  
Description: Enter the employee's 9-digit social security number.

Element Title: Federal Employer ID  
Description: Enter the reporting employment site's 9-digit federal employer identification number.

Element Title: Quarterly Hours of Employment  
Description: Enter the number of hours the employee worked at the employment site during the reported quarter. The data entered should be right justified with preceding zeros. For example, if an employee worked 89 hours during the reported quarter this element would be entered as "089."

Element Title: Wage  
Description: Enter the total amount of wage earned by the employee at the reporting employment site during the quarter. The data should be rounded to the dollar amount and entered right justified with preceding zeros. For example, if the total amount of wage earned by the employee during the reported quarter is \$2166.67 this element would be entered as "002167."

Element Title: SIC (Standard Industrial Classification)  
Description: Enter the employer's 4 digit SIC code.

Element Title: Business Size  
Description: Based on your pay periods, enter the maximum number of persons employed at the employment site at one time during the last year. The data should be right justified with preceding zeros. For example, if the largest number of employees during any one pay period was 15,000, the business size would be entered as "015000".

Element Title: Primary Employment Location  
Description: Enter the 9-digit zip code for the primary employment location.

Element Title: Length of Employment  
Description: Enter the total number of quarters an employee has been employed at the reporting employment site. The data should be entered right justified with preceding zeros. For example, if an employee has been employed at the employment site for 25 quarters, this element would be entered as "0025".

Element Title: Position/Job Title  
Description: Enter the first 20 characters of the employee's most recent position/job title.

Element Title: Full-Time/Part-Time Employment  
 Description: Enter the code that best describes the employee's status.

Category	Code
Full time	1
Part time	2

**Alternative Placement Elements**

Element Title: Reporting Agency  
 Description: Enter the appropriate code for the reporting agency.

Reporting Agency*	Code
Employment Security Commission	01
Job Training	02
U.S. Military Files	03
State Department of Corrections	04
Federal Office of Personnel/Civil Service Files	05
U.S. Postal Service	06

\*This list is an example of some of the possible reporting agencies. This is not an exhaustive list.

Element Title: Student's Last Name  
 Description: Enter the first 21 characters of the student's last name.

Element Title: First Initial-First Name  
 Description: Enter the first initial of the student's first name.

Element Title: First Initial-Middle Name  
 Description: Enter the first initial of the student's middle name.

Element Title: Social Security Number  
 Description: Enter the student's 9-digit social security number.

Element Title: CIP  
 Description: Enter the appropriate 6-digit CIP code of the instructional program the student was enrolled in just prior to leaving the institution. If the student was degree-seeking but was undecided on a major, enter all 8s. If the student was non-degree seeking, enter all 9s. For example:

Instructional Program	CIP Code
Elementary Teacher Education	131202
Degree Seeking, Undecided	888888
Non-Degree Seeking	999999

Element Title: Class Level

Description: Enter the appropriate code for the class level of the student when the student left the institution.

Category	Code
Freshman	1
Sophomore	2
Junior	3
Senior	4
Graduate	5

Element Title: First Time Entering Date

Description: Enter the date that the student first entered the institution. Enter two digits each for the month, day and year. For example, if the student first entered the institution on August 20, 1993, this element would be "082093".

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## Appendix D

### Examples of Actual Unitary Data Gathering Methodology Operations in Two States Washington and Florida

#### State of Washington

At least two states use administrative unitized data matches for employment placement follow-up. Washington State matches former community college students social security numbers with an unemployment insurance (UI) wage file, a UI benefit file (receiving unemployment benefits), U.S. military file, and surrounding state UI wage files. In addition, student information is matched to other community college and four-year college records. Approximately 75 percent of former vocational/technical students are matched. The process takes about three months to run and is done annually. Students are included in the “program completers,” “course completers,” or “leavers.” “Program completers finish an approved vocational program with the survey year and have obtained an associate degree, two-year certificate, one-to-two year certificate, or less than one-year certificate. “Course completers” or “leavers” attended during the survey year were enrolled as vocational/technical students in an approved program and were not enrolled in the subsequent academic year. Course completers are defined as students who have earned 10 or more quarter credits in vocational courses.

The Washington State Board for Community and Technical Colleges (SBCTC) extracts data from the transcript files of the 33 colleges in the state. This procedure is relatively easy, as Washington community colleges use a common computer and data system. The transcript files contain data identifying graduation/certificate awarded, vocational program CIP code, student intent, and years in attendance. Biographic-information is also extracted. A system file is created and forwarded to the Department of Employment Security (ES) and other agencies for matching.

Former students are considered positively matched if they are employed, continuing education at a community or four-year college, serving in the military, or receiving unemployment benefits. ES matches students with their wage and benefits files. The matching occurs approximately one year after the end of the survey year, but extracts data for the time period six to nine months after the survey year. The ES match provides data on quarterly hours of employment, estimated annual salary, business size, Standard Industrial Code (SIC—or type of business), and employment by county. Hourly salary rates are calculated by dividing reported hours by 2080. Adjustments occur for those students with more than one employer. The SIC code is correlated with CIP code to determine if the student is employed in an occupation field related to training. To determine if the student attended college to upgrade their skills rather than train for a new career, ES matches wage files for the quarter before enrollment in college and the last quarter enrolled. If the student worked in the same firm before, during and after college, or was employed in the same industry, or if the student’s SIC code was related to the CIP code, a “job upgrade/retraining” indicator is attached to the student record.

Students not matched in the Washington ES wage file or other state ES wage files are matched in ES employment benefits files. Students are also matched to a Department of Defense Personnel File, other community college transcript files, and four-year college files. Codes are attached to student records in the last three categories. Approximately 25 percent of follow-up students are not matched. These students are most likely working in states not participating in the data match, self-employed or employed by the federal government, retired, homemakers, disabled, or unemployed but not receiving benefits. Every five years, an attempt is made to reach these students through a mail survey.

The amount of data provided by this computerized system is substantial. Data can be sorted by institution or by statewide totals. Typical biographic-information is provided, including age, sex, ethnic origin, limited English status, academic and economic disadvantage status, disabilities, prior education of student, student family status, student's original planned length of attendance, and planned purpose of attendance. This last category provides data on whether the student is upgrading, retraining, or training for a new career. Washington State community colleges each receive reports on the number of students followed, number employed in jobs related to training, number employed in industries related to training, number employed in various sized businesses and number not employed receiving UI benefits. Average annual wages and average hours worked per week are computed in these categories, except the last. A count is provided for former students in the military or attending other community or four-year colleges. Additional information is provided for students upgrading and retraining that relates to day-evening course work or on/off campus training. All this is cross-referenced to student's status as a degree or certificate completer or course/program leaver. [The above description is taken from Washington State Board for Community and Technical College Education (SBCTC) "Administrative Data Matches for Vocational Follow-Up, July 1993.]

### **State of Florida**

Florida uses a combination of computerized record linkage and employer contact to gather placement information. The system was created by the state legislature as part of an accountability measure requiring 70 percent placement of program completers. The system is comprehensive, and provides information on students from approximately 75 agencies or institutions, including public high schools, community colleges, secondary and postsecondary vocational students, university students, JTPA programs, and the correctional system, totaling 1.8 million students. Organizations provide the Florida Education and Training Placement Information Program (FETPIP) with participant files from management information systems. Similar to the Washington State system, files include program and demographic data.

Student records are electronically linked with the State Department of Education and a variety of state and federal agencies to obtain a record match. The Florida Department of Labor and Employment Security provides information on most of the follow-up group. Information on pay grade, job titles, SIC, number of employees, and name and address of employers is gathered for a five-quarter period. A sample of employers who employed students who com-

pleted or graduated from education and training programs in selected programs being evaluated are surveyed. About 26,000 employers are contacted annually. The return rate is approximately 86 percent each year. The survey is designed to provide feedback from employers on program quality and adequacy.

A unitary system may seem expensive at first, however, there is substantial cost avoidance in their long-term use. FETPIP administrators estimate that the system saves school's districts and community colleges \$3.1 million in annual expenses related to conducting the legislative mandated follow-up requirements. The cost of the program is \$320,000 per year. Jay J. Pfeiffer, director of FETPIP, has prepared a manuscript describing the Florida system as well as cautions about the use of data matches related to privacy issues. The manuscript details a step-by-step process for working with agencies and institutions and setting up a computerized follow-up system.