Improving Student Learning in Higher Education Through Better Accountability and Assessment

by Peter McPherson and David
Shulenburger

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Attached is a NASULGC discussion paper that has been sent out to be reviewed by all NASULGC member presidents and provosts. It's a discussion paper and not a final product. A committee, appointed by me, will continue to work on a possible structure for a voluntary system of accountability and related issues. The Committee on Student Learning and Accountability will be chaired by Dr. William (Brit) Kirwan, Chancellor of the University System of Maryland. Kirwan previously has served as President of The Ohio State University, and President of the University of Maryland, College Park.

Joining him on the Committee will be Dr. Sally Mason, Provost of Purdue University, and Chair of NASULGC's Council of Academic Affairs (the council is comprised of all NASULGC members' provosts.) The rest of the Committee will be appointed in the coming days.

Dr. David Shulenburger, Provost of Kansas University, NASULGC Academic Affairs Vice President (starting June 1), and one of the authors of the paper will work closely with the Committee.

The full Council of Academic Affairs of NASULGC will meet in July at their regular meeting and will consider a voluntary system, including the work of the Committee, and related issues/options.

Sincerely,

Peter McPherson,
NASULGC President

IMPROVING STUDENT LEARNING IN HIGHER EDUCATION THROUGH BETTER ACCOUNTABILITY AND ASSESSMENT

A *Discussion* Paper

for the

The National Association of State Universities and Land-Grant Colleges (NASULGC)

Peter McPherson, President

David Shulenburger, Vice President, Academic Affairs as of June 1

This paper considers accountability of student learning for undergraduate education in public universities and colleges. The paper is a draft for discussion purposes. It is strongly felt that this discussion needs to take place in some important parts within the university community, and not just within the broad public policy and political community. Although all postsecondary institutions are concerned about accountability, this paper speaks specifically to the issues for four-year public colleges and universities. NASULGC will collaborate closely with AASCU in this discussion—together we represent nearly all the four-year public colleges and universities.

EXECUTIVE SUMMARY

NASULGC's overriding mission is to facilitate activities that enhance the capacity of member institutions to perform their traditional roles of fostering learning, discovery, and engagement—reflecting a strong social commitment to investing in the development of America's greatest resource, its people. Accordingly, a major goal in stimulating a discussion about accountability is to foster and strengthen learning.

The ability to learn and adapt to new circumstances has long been a distinguishing feature of the U.S. public higher education system. In fact, the existence of most NASULGC institutions is due to this continuous adaptation, including the creation of the early public colleges and universities, the establishment of the land-grant system and the founding of Historically Black Colleges and Universities, including the "1890s." The institutions of higher education have since continued to change to meet the times. The GI Bill, enacted with the strong support from many public universities and colleges, provided higher education to a whole new group of students. Colleges successfully responded to a great increase in enrollment during the '60s, '70s and thereafter. There was a large increase in the percentage of females that attended colleges and universities, and a broadening of the areas in which they studied. There has been an increase in the number of students of color going on to higher education, though much work remains. In several parts of the country many new colleges and universities have been established to meet growing enrollment requirements. In the last 50 years the university system has become a world powerhouse in research beyond the dreams of almost anyone 75 years ago. Institutions have responded to the changes of the economy, creating professional schools and new areas of study for students. Through all of this, the institutions have also kept pace with and often led, the immersion of powerful new technologies, wiring campuses, connecting students and professors in innovative ways, and adapting to the new dynamics of communication. Our history is a proud one and it has been based on changing and responding to need and opportunity through our decentralized system.

The success of our institutions has long depended on our drive to better serve our students and society. Throughout the country one hears the questions on campuses, "What do students need to learn? How will change impact students?" Real change is not easy for anyone but our institutions know that change is inevitable and continued excellence will depend on continuous and wise change. Yes, we are viewed as the strongest higher education system in the world and the model for many, perhaps most. But we know there are some serious learning issues in that not all students are obtaining the education for which they are willing to work to achieve and capable of achieving. This challenge of improving student learning is the very core of the value system of the academy and that is why NASULGC believes the academy must and will take up

the challenge to improve assessment of learning as an instrument to help in the essential quest to improve student learning.

The President of NASULGC, Peter McPherson, recently met with the Executive Committee of NASULGC's Council on Academic Affairs to discuss accountability. The council is made up of the provosts and chief academic officers of the NASULGC member institutions. The Executive Committee agreed "that NASULGC should be proactive on the accountability challenges facing higher education. It is further suggested that a voluntary system of defining outcomes and contributions, by type or classification of university, should be seriously explored. It is apparent there are opportunities to approach accountability in a number of ways, including defining and communicating the different roles of universities that are relevant to parents and students, to the community boards, to the states, and at a national level. We further agree NASULGC chief academic officers will pursue further clarification of accountability approaches, as a matter of some urgency and extensive discussions at the forthcoming summer meeting," for all the chief academic officers of member institutions.

The following paper explores the current state of accountability and some possible approaches. Note that these are ideas for discussion and it is expected that they will change considerably as they are discussed. Key points in the paper are as follows:

1) Public higher education is committed to strengthening learning and fulfilling that commitment will involve changes.

   The academy accepts the call for accountability at the institutional level and every institution now presents evidence to demonstrate its impact on students and its stewardship of resources. It should be noted that much assessment is already being done at the system and state level and that a focus on student learning outcome assessment is now nearly universally part of both institutional and specialized accreditation processes. A good deal of this accountability information, much of which is, unfortunately, not in a form that is "user friendly" to the public, must also be submitted to state and federal authorities. It is important that any information that governments require to be submitted be of value and actually be used. Data collection is a bureaucratic endeavor that is generally expensive. Some process must be put in place to weed out the unnecessary and ineffective submissions required by the federal government and state governments so that the resources used in measuring accountability produce data meaningful to students, parents and higher education decision makers.

2) A federally mandated testing system would be harmful. It is unlikely to recognize the important differences among institutions, be inflexible and cause damage to the vitality and independence of U.S. higher education. Also, such a system could result in inaccurate and unfair comparisons of institutions that serve different students, disciplines, and missions. This would be both harmful to the institutions and would do a disservice to parents and students.

3) Any system of accountability should allow for differentiation by type or classification of university or college.

4) It is important that assessments provide information that helps universities improve learning. There are instruments that measure characteristics of the educational environment, such as student engagement, which in turn impact learning. These

surveys often provide information that universities can use to make specific, beneficial changes to the environment that will improve learning. Leading examples of such surveys are the National Survey of Student Engagement (NSSE) and the Cooperative Institutional Research Program Survey (CIRP).

5) Assessments may also provide an indication of some important competencies. The outcomes of competency tests, an example being the Collegiate Learning Assessment (CLA), are likely to be closely correlated to the level of preparation of entering students as determined by SAT and ACT test scores and high school GPA. The assessment/comparison value of such measures is not so much the absolute test scores of the CLA or other such tests, but how the scores relate to the predicted outcomes for a group of students. This paper uses the CLA as an example but does not endorse the CLA, which is still being field tested. In any case, a major shortcoming of tests like the CLA is that they provide only general and limited guidance to the university on how to improve learning. .

6) An approach that combines measures of educational effectiveness with measures of a few key competencies, done with statically adequate samples, may be able to provide some understanding of how individual colleges and universities compare within their type of institutions and also help the institutions improve their learning process. Of course such an approach would also allow for many institutions to use additional assessment tools that fit their own needs.

7) A successful voluntary system would need to trust in the validity of its instruments. Considerations should be given to asking the National Academy of the Sciences to survey the existing learning assessment instruments and explore the gaps and inconsistencies. Some areas of research probably are already clear so evaluative work could be completed on these are quickly.   As institutions proceed towards a voluntary system, it would be important to begin with trial tests as needed with samples of institutions.

8) There are other data that should be made available to students, parents and the public in ways that can be easily understood. The information desired by these groups is often general institutional characteristics data, e.g., graduation rates. To serve that end consideration needs to be given to a national unit record system with careful privacy protection. It is expected that such a system would show a much higher graduation rate than the current system and would allow further insight to the majority of students who are part-time, transfers, or taking a leave of absence.

9) A voluntary system, by type or classification of university, which measures four-year undergraduate public education, is a potential alternative to the current organization of accountability efforts. Any voluntary system that could be widely adopted must be open to modification and experimentation as lessons are learned. It is understood that there are other approaches to accountability that merit consideration, e.g., the role of accreditation. Such a voluntary system should be considered and further explored.

**IMPROVING STUDENT LEARNING IN HIGHER EDUCATION
THROUGH BETTER ACCOUNTABILITY AND ASSESSMENT**

A NASULGC Discussion Paper

Faced with an array of accountability demands, public colleges and universities now provide a wealth of information to a variety of stakeholders, including the federal government, state governing boards, accrediting agencies, internal and external constituent groups (alumni, donors, students, faculty, staff, local community members), as well as the public at large. Even with these accountability requirements in place there is evidence that some students who earn baccalaureate degrees may not perform at expected levels. This leads to more demands for different types of assessments, additional burdens on public institutions, and a system that does not always provide useful information to improve institutional performance or enhance student learning.

We need to consider whether we can break this dysfunctional cycle of public expectations and greater demands for accountability and replace it with a thoughtful, voluntary accountability process that provides the necessary performance indicators to governmental entities, the information desired by the public, and the appropriate feedback to the faculty who design the curriculum so that undergraduate learning can truly be improved and students can graduate with the skills and knowledge necessary to succeed.

Current Accountability Structures and Efforts

Public colleges and universities are already accountable through many sources—accrediting bodies, state governing boards, and the federal government. Institutions are generally accredited by a recognized accrediting organization and typically go through a rigorous self-study process and campus visit by faculty evaluators. Accreditation serves as a reliable third-party evaluator of higher education quality, the integrity of an institution, the value of its credential, and the transferability of its credits (CHEA 2003). Each year, colleges and universities provide institution-level data in such areas as enrollments, program completions, graduation rates, faculty, staff, finances, institutional prices, and student financial aid to the U.S. Department of Education through the Integrated Postsecondary Education Data System (IPEDS). At the state level, institutions are facing increasing pressure from state legislatures to become more accountable for student learning. More than 40 states have created some form of accountability or statistical reporting system and more than half of those have formal report cards that characterize learning outcomes, including more than 200 performance indicators that were directly or indirectly tied to student learning (Klein, Kuh et al. 2005).

Despite the large amounts of data being provided in the name of increased accountability, the current accountability structures suffer from several flaws—the systems are often fragmented, which limit their usefulness, and the data themselves are not always effectively communicated or understood by stakeholders. In fact, the vast quantity of information currently collected might actually obscure what is vital and important information. The National Commission on Accountability (SHEEO 2005) concurs with this assessment and described the current "system" as "cumbersome, over-designed, confusing and inefficient. It fails to answer key questions, it overburdens policymakers with excessive, misleading data, and it overburdens institutions by requiring them to report it." And, most importantly, the current systems do not fulfill their intended purpose—to improve and enhance student learning. The measures do not make sense

to those that create the curriculum nor do they provide useful feedback to make appropriate changes.

From within higher education policy circles, several thoughtful and well-researched reports on the importance of accountability and the assessment of student achievement have been produced from organizations such as the Business-Higher Education Forum (BHEF 2003; BHEF 2004), The Council for Higher Education Accreditation (CHEA 2003), the State Higher Education Executive Officers (SHEEO 2005), the American Association of Colleges and Universities (AAC&U 2004; Schneider and Miller 2005), and the National Center for Public Policy and Higher Education (Miller and Ewell 2005; NCPPHE 2005; NCPPHE 2005). Key excerpts from some of these reports are highlighted below.

- **From a 2004 report from the Business-Higher Education Forum (BHEF) a national membership group of chief executives from American business and higher education:** Assessment and accountability are not just educational policy fads fueled by political rhetoric. Economic, demographic, and labor force trends point to an emerging national agenda for higher education to increase access and close achievement gaps without decreasing quality.

- **From a 2005 State Higher Education Executive Officers (SHEEO) report by the National Commission on Accountability in Higher Education on why greater accountability and attention to student learning is necessary:** For the first time in decades the United States no longer leads the developed world in the rate of college completion. Four out of ten students in colleges and universities fail to graduate within six years. One-fourth of low-income students in the top quartile of academic ability and preparation fail to enroll in college within two years of high school graduation. While more minorities and low-income students are enrolling, most minority students do not graduate. Both the price students pay and higher education costs have grown persistently faster than the consumer price index. State support and federal programs like Pell Grants are increasingly falling behind enrollment demand and inflation. Given these trends, public priorities increasingly include: improving access, graduation rates and learning; increasing efficiency; closing achievement gaps; generating beneficial research; improving the quality of life in communities; and producing graduates able to meet critical workforce needs.

- **From a 2005 National Center for Public Policy and Higher Education (NCPPHE) Policy Alert:** If current trends continue, the proportion of workers with high school diplomas and college degrees will decrease. Substantial increases in those segments of America's population with the lowest level of education, combined with the coming retirement of the baby boomers – the most highly educated generation in U.S. history – are projected to lead to a drop in the average level of education of the U.S. workforce over the next two decades, unless states do a better job of raising the educational level of all racial/ethnic groups. The projected decline in educational levels coincides with the growth of a knowledge-based economy that requires most workers to have higher levels of education. At the same time, the expansion of a global economy allows industry increased flexibility in hiring workers overseas. As other developed nations continue to improve the education of their workforces, the United States and its workers will increasingly find themselves at a competitive disadvantage. In addition, a drop in the average level of education of U.S. workers would depress personal income levels for Americans, in turn creating a corresponding decrease in the nation's tax base.

- **From a 2003 report of the Council for Higher Education Accreditation (CHEA) on the importance of student learning outcomes:** CHEA has focused its attention on the role of accreditation in accountability, encouraging additional emphasis both on student achievement and on providing information to the public. In a 2001 report that initiated work in this area, CHEA pointed out that student learning outcomes are rapidly taking center stage as the principal gauge of higher education's effectiveness.

Concerns of Quality from the Government and the Public

In addition to the feelings within higher education that accountability efforts are unfocused, there is increasing external attention that may be attributed to factors such as the rising costs of college attendance, low retention and graduation rates, employer concerns that some graduates do not have the knowledge and skills needed for the workplace and to compete in a global economy, and questions about the learning and value that higher education provides to students.

These concerns have been increased by some recent studies of educational attainment in the United States. For example, growing attention has been focused on how some college students perform poorly on literacy tests. The National Assessment of Adult Literacy results released in February of 2006, found that less than a third of college graduates it surveyed demonstrated the ability to read complex English texts and draw complicated inferences (NCES 2006).

In addition, accountability has become a public policy issue that has attracted much attention from governmentally appointed entities. Due in part to strong pressure to increase spending on student aid, federal policymakers increasingly want more data on student outcomes. In the fall of 2005, the Commission on the Future of Higher Education was appointed by Margaret Spellings, U.S. Secretary of Education, to explore issues of accountability, cost, and quality and to report its recommendations and findings by August 2006. The chair of the commission, Charles Miller, a business executive and former chair of the Board of Regents for the University of Texas system, has stated publicly that he believes a nationwide system for comparative performance purposes using standard formats is lacking, particularly in the area of student learning (Arenson 2006).

Some Commission members appear to agree that consumers and policymakers alike deserve to know how well colleges and universities are preparing students to compete in the global economy. "We must do a better job of measuring the institutional performance of colleges and universities," Miller said. "Without a transparent information system, accountability today is only guessing." Miller reported that the commission is reviewing two new "highly credible" measures of critical thinking, analytical reasoning, problem solving, and written communication: the Collegiate Learning Assessment (CLA) and a new test by the Educational Testing Service. Asked if he was proposing mandatory testing, Miller said he was not suggesting a "one size fits all" approach. However, he predicted that students and employers will soon start to press colleges to offer the tests as evidence of learning (Field 2006).

State governments have also show an increase in concern over accountability in higher education. With many states exposed to significant budget pressures, state funding of higher education is under challenge. In fact, a recent analysis by the State Higher Education Executive Officers (SHEEO) found that state and local per-student spending has hit a 25-year low. While the total contributions have increased, they have been outpaced by enrollment and inflation.

Given their enormous investment in higher education, it is not surprising that state and federal governments are interested in accountability. The government should and does require strict financial accountability of student aid and other public funds. But higher education institutions themselves are better positioned to provide improved and more systematic indicators of accountability, particularly in the areas of educational performance.

The answer is clearly not a federal standardized test that would be an intrusive, centrally controlled system. Such a move risks undermining the very institutions that concerned citizens wish to improve. The challenge before public higher education is whether we can develop a more transparent system that addresses various stakeholders' concerns, while at the same time preserving the autonomy of institutions and contributing to their diverse missions.

The underlying message from all of these different sources is that now is the time for higher education to act. We may now have a window of opportunity to shape our own future. Inaction will serve only to cede control to parties less qualified.

Outcomes of Higher Education

For any assessment tool or method to be accurate, reliable or useful, there must be agreement on what is being measured. This concept sounds deceptively simple, but because of the diversity of institutions, agreeing on common goals for higher education in general and student learning in particular are not straightforward tasks. To illustrate this complexity, highlighted below are a few examples proffered as the "common goals" of higher education.

- American companies report that many college graduates were lacking in nine key attributes: leadership, teamwork, problem solving, time management, self-management, adaptability, analytical thinking, global consciousness, and basic communications skills (listening, speaking, reading, and writing) (BHEF 2003).

- In a national poll, conducted by the National Center for Public Policy and Higher Education, the public indicated that the following goals were "absolutely essential" for higher education (Immerwahl as cited in Shavelson and Huang 2003).

  - Sense of maturity and ability to manage on one's own—71 percent

  - Ability to get along with people different from one's self—68 percent

  - Problem solving and thinking ability—63 percent

  - High-technology skills—61 percent

  - Specific expertise and knowledge in chosen career—60 percent

  - Top-notch writing and speaking ability—57 percent

  - Responsibilities of citizenship—44 percent

- In his book, *Our Underachieving Colleges*, Derek Bok (2006) states that there is not one single overarching purpose or goal of higher education and the outcomes of a college education should not be limited to intellectual development. Bok identifies several purpose he believes are essential—learning to communicate, learning to think, building character, preparation for citizenship, living with diversity, preparing for a global society, acquiring broader interests, preparing for a career.

- A series of reports from the Greater Expectations initiative of the Association of American Colleges and Universities (AAC&U) stated what they termed the "essential

outcomes of a twenty-first-century college education" that higher education leaders and external stakeholders desire. AAC&U draw from these studies and from an analysis of certain business studies and they produced a report on liberal education outcomes and student achievement. The report identifies a set of learning outcomes that can "frame and guide the national effort to accelerate student learning and success" (Schneider and Miller 2005).

- Knowledge of human culture and the natural world: science, social sciences, mathematics, humanities, and arts

- Intellectual and practical skills: written and oral communication, inquiry, critical thinking, creative thinking, quantitative literacy, information literacy, teamwork, integration of learning

- Individual and social responsibility: civic responsibility and engagement; ethical reasoning; intercultural knowledge and actions; propensity for lifelong learning.

AAC&U further recommends that these outcomes be addressed in "curriculum-embedded cumulative assessments" with standardized measures used as an external check on internal findings.

Given the many and diverse goals espoused for higher education and illustrated in the examples above, it is important to maintain perspective when discussing accountability. Although current efforts are meaningful, they hardly measure all of the skills that one might like a college graduate to possess and they should not be considered the only or definitive source on the outcomes of higher education conceived more broadly. It is important to keep the multiple purposes of higher education in mind during the discussion of assessment tools and data.

Measurement of Competency
For some, the answer to greater accountability is to quantitatively measure student learning through required standardized testing. Proponents of standardized testing assert that direct measures of student learning would allow comparisons across institutions and show areas that need to be improved. Advocates also believe standardized testing would be a "simple and straightforward" way for the public and government policymakers to know which institutions are doing the best job educating students.

However, it is appropriate to ask exactly what skills and knowledge are being measured and whether the constructs measured appropriately represent all that higher education provides. Standardized tests measure the application of cognitive abilities, so for the most part institutions with higher average ACT/SAT scores coming in are going to have higher standardized test scores coming out.

Even the best designed test would still be one single, limited measure applied to a wide range of institutions and a wider range of the learning experiences both in and out of the classroom. It is hard to imagine that one national standard could cover everything. An attempt to establish an all-inclusive measure could potentially result in a stifling uniformity to the educational system—a narrowing of academic pursuits and directions so that "success" is only possible in certain "skill areas." Although an institution could be compared and ranked by student test scores, it is less certain how that information could provide useful information to the institution and, more importantly, the faculty concerned about improving the curriculum.

As noted in a recent editorial in the *Deseret News* in Salt Lake City (2006), a federal mandate to use standardized testing to measure student learning would require someone in government to decide what should be tested and which skills ought to be taught. Policymakers carefully note they do not want to create a national curriculum, nor would they seek to punish poorly performing schools by the withholding of funds. But standardized testing certainly enables such actions.

A recent AAC&U report on the outcomes of a liberal education (Schneider and Miller 2005) more properly describes the role of standardized testing in a diverse higher education system. The authors of the report argue that, by its nature, a standardized test explores what all test takers know in common. However, the strength of U.S. higher education is that it helps students develop many different kinds of expertise, across hundreds of disciplinary and interdisciplinary fields. Further, although liberal education outcomes can be described in general terms, in practice, competencies such as communication, critical inquiry, teamwork, or ethical reasoning take very different forms in different fields. Biologists use different inquiry methods than do historians; engineers use different forms of teamwork and communication than teachers. For these reasons, the authors of the report maintain that the best evidence about students' level of achievement comes from the evaluation of students' authentic and complex performances in the context of their most advanced studies: research projects, community service projects, portfolios of student work, supervised internships, etc.

Despite the flaws in the current accountability structures, standardization testing and uniform educational outcome requirements are not the answer. Indeed, the strength of U.S. higher education is in its diversity. The fact that institutions can simultaneously produce great musicians, mathematicians, pharmacists, accountants, engineers, social workers, teachers, lawyers, writers, politicians, chefs, philosophers makes the argument for a standard set of requirements untenable. Outcome measures must be of real use to those who develop and teach the curriculum and institutions of higher education should clearly communicate the results of those measures so that parents, students, and the public understand the importance the academy places on enhancing student learning.

Another illustration of the diversity of higher education and the inherent pitfalls of forced uniformity can be seen in the recent decision by the Carnegie Foundation to restructure its classification system. The reason for this change, according to Carnegie, is that a single classification could not do justice to the complex nature of higher education today. Colleges and universities are complex organizations and a single classification masked the range of ways they can resemble or differ from one another. For example, the previous framework said nothing about undergraduate education for institutions that award more than a minimum number of graduate degrees. Yet most of these institutions enroll more undergraduates than graduate or professional students. The updated classification better accounts for such differences, as well as discouraging users from misusing the classification as a ranking.

A quote from a 1994 report on accountability by the National Association of Independent Colleges and Universities (NAICU) remains an apt description of U.S. higher education:

> *While many refer to a national "system" of higher education, American higher education is strong precisely because it is not a centrally controlled, uniform system. It is strong because the individual institutions emphasize different functions and complement each other by meeting different needs. The diversity of American colleges and universities collectively makes possible the full range of contributions to society: educating citizens; preparing a work force; increasing scientific and technical knowledge; and enhancing*

economic productivity. This strength in diversity also allows advancement of scholarly understanding of cultural heritages, insights into social problems, and a setting in which to raise religious, moral, and ethical questions. Educational excellence thrives amid diversity when each college and university clearly defines its own distinctive mission and is then responsible for fulfilling that mission (NAICU 1994).

Ratings and Rankings

Another method for determining institutional quality is through ratings and rankings by peers or other sources outside of higher education. The most infamous of these rankings are those provided by *U.S. News & World Report,* a popular source of information for prospective students and their parents who use the rankings as a proxy for quality.

Of great concern is the method *U.S. News* uses to calculate the rankings (Chun 2002; Ehrenberg 2003). A National Opinion Research Center (NORC) report cites the principle weakness of the methodology as the weights used to combine the various measures into an overall rating. The weights lack any theoretical or empirical base so that the ratings are sensitive to even small changes in the measures.

It should also be noted that the dominant focus of the data used by *U.S. News* is input variables such as endowment dollars, standardized test scores, and student selectivity, as opposed to outcome or value added. Student graduation rate is the primary outcome variable considered, and its weight is only 5 percent of the total.

The focus on resource levels rather than the nature of the undergraduate curriculum and how it is delivered is particularly problematic for public institutions as the restrictive financing of public institutions has led the publics to increasingly lag behind the privates in total resources (Ehrenberg 2003). It should not be inferred from the resource disadvantage that the public institutions are not as effective as the private institutions in producing a top quality graduates. Public universities award three-quarters of U.S. college degrees. In the absence of outcomes data, "quality" rankings that rely primarily on input measures may serve to further disadvantage public universities in the mind of the public. Unfortunately, outcomes information such as employment rates, professional certifications, etc. is not broadly available for use by either the public or *U.S. News.*

In addition, the emphasis on student quality measures such as low applicant/admit ratios and high standardized test scores may contribute to institutions taking fewer risks by admitting students with higher test scores, rather than accepting disadvantaged students. These trends are, in part, believed to be driven by rankings (2005). Indeed, institutions that recruit students from underrepresented and disadvantaged populations—students that tend to have lower scores on entrance exams—and that do a good job of educating these students through to graduation are not recognized by *U.S. News.*

If the rankings are so problematic, why do institutions participate? Quite simply it is in their best interest to do so. For example, studies have demonstrated a significant correlation between a rise in the rankings and an increase in high-quality student applicants for some institutions (Ehrenberg 2003).

Student Surveys

Another method of evaluating the educational experience of students is by asking the students themselves about their experiences, primarily through surveys. Many credible student surveys are administered at the institutional, regional, and national level in an attempt to gather information on student learning and development in college—two of the largest and most well-known are described here: the National Survey of Student Engagement (NSSE) and Cooperative Institutional Research Program (CIRP).

National Survey of Student Engagement (NSSE)
Since its inception in 2000, more than 844,000 students at 972 different four-year colleges and universities have participated in NSSE, which is administered by the Indiana University Center for Postsecondary Education. By questioning students about selected campus experiences during their current school year (typically as freshmen or as seniors) NSSE collects data on the extent to which individual campuses engage students in active forms of learning. Improving student engagement is important as educational research has consistently shown that high levels of engagement are strongly associated with improved student learning (see for example, (Astin 1993; Kuh 2001; Pascarella and Terenzini 2005). As noted by well-known education scholars Ernie Pascarella and Patrick Terenzini, "Because individual effort and involvement are the critical determinants of college impact, institutions should focus on the ways they can shape their academic interpersonal and extracurricular offerings to encourage student engagement" (Pascarella and Terenzini 2005).

According to its annual report, the goals of NSSE are to measure the dimensions of quality in undergraduate education and to provide information and assistance to colleges and universities to improve student learning. The survey asks college students to assess the extent to which they engage in educational practices associated with high levels of learning and development. This data in turn can potentially be used by institutions to improve undergraduate education, to inform state accountability and accreditation efforts, and to facilitate national and sector benchmarking efforts (NSSE 2005). One limitation of NSSE, however, is that it does not measure student learning directly—it collects student self-reports of learning (Schneider and Miller 2005).

As noted above, the survey is based on student engagement research that demonstrates that student learning can be facilitated by certain institutional practices, or what NSSE describes as the benchmarks of effective practice. The following benchmarks are based on 42 key questions from the survey that capture many of the most important aspects of the student experience. These student behaviors and institutional features are some of the more powerful contributors to learning and personal development.

- Level of academic challenge
- Active and collaborative learning
- Student–faculty interaction
- Enriching educational experiences
- Supportive campus environments

The information provided by NSSE can be a crucial component of accountability systems that focus on assessing the quality of undergraduate education and using the results to improve educational effectiveness. For example, NSSE questionnaire elements provide data that are inherently easy for faculty to use to modify teaching practices. For example, student responses

relative to the peer groups on questions such as "frequency of class presentations," "number of major writing assignments," and "time spent preparing for class," let faculty know how instruction can be improved.

More generally, NSSE strives to be an authoritative source of valid, reliable information about the quality of undergraduate education, measuring student behaviors and institutional actions that matter to student learning and success in college. In 2003, NSSE created the Institute for Effective Practice to help schools take action on their findings. Institute staff work directly with institutions to maximize the use of the NSSE data through activities such as faculty workshops on effective teaching practices and workshops on collaborations between academic and student affairs.

When comparing *U.S. News & World Report* indicators with NSSE benchmarks, researchers found that institutional selectivity was not related to any cluster of effective educational practices. This is interesting as the *U.S. News* ranking of the top 50 national universities can be roughly replicated by an institution's combined SAT or ACT score.

Participating institutions have used the NSSE data in a variety of different ways to improve the educational environment that supports actively engaged students. Below are some specific examples of institutional application taken from NSSE sources (El-Khawas 2003; NSSE 2005).

- NSSE data are regularly used by participating institutions for assessing student experiences during their first year. The survey's focus on first-year respondents and the concreteness of the NSSE items are especially helpful for documenting students' actual experiences during the first year. Survey results have sometimes led to quick actions. At one state university in New England, NSSE data that highlighted problems with the first-semester Freshman Seminar were the basis for a redesign of the seminar in time for the next class of entering students. Sorting results for individual majors has also been fruitful.

- NSSE data are valuable in understanding the undergraduate experience as reported by seniors. A Midwest research university learned from NSSE data that its seniors have lower-than acceptable scores on academic challenges and explored this issue in greater depth through other qualitative measures. At a Midwest state university, NSSE data on graduating seniors were disaggregated to compare the experiences of seniors who had transferred into the university with those who had been at the university for their entire college career.

- An Eastern state university used NSSE data to conduct a special analysis of students "undecided" about their major. It subsequently received funding from a foundation for a three-year project in which NSSE results will be used as part of campus efforts to help "undecided" students become more engaged. An environmental science department at a Midwestern state university holds a faculty retreat each fall that reviews the effectiveness of its programs. NSSE data, which are organized by department for this purpose, have become a major resource for discussion during the retreat.

- A Midwestern regional university has undertaken a broad initiative to support best practices in teaching. In an innovative teaching project designed to foster more stimulating teaching and active learning, NSSE data are regular components of project discussions and experiments with different teaching approaches. Another Midwestern state university with a large campus with many commuting students uses NSSE data in its formal orientation workshops for newly hired faculty. An Eastern state university is engaged in a long-term change project to develop best practices in engaging students

for effective learning outcomes. NSSE data are tied to a detailed set of performance indicators being used on several topics. NSSE data also help in tracking progress with an institution-wide initiative to reform general education.

Cooperative Institutional Research Program (CIRP)

The Cooperative Institutional Research Program (CIRP) is a national longitudinal study of the American higher education system. Established in 1966 and administered by the Higher Education Research Institute (HERI) at UCLA, the CIRP is the nation's largest and oldest empirical study of higher education, involving data on some 1,800 institutions and over 11 million students. It is regarded by some as the most comprehensive source of information on college students.

The CIRP Freshman Survey provides normative data on each year's entering college students and more than 263,000 incoming freshmen complete UCLA's comprehensive survey at the beginning of the fall semester, answering questions on such topics as their values, recreational habits, political preferences, family situations, and personal finances. The survey is a widely cited source of data on college demographics and attitudinal trends.

The College Student Survey (CSS) is designed to be a follow-up to the freshman survey and is typically administered to graduating seniors. Institutions often use the CSS in conjunction with the CIRP Freshman Survey to generate longitudinal data on students' cognitive and affective growth during college. The CSS has been used by institutional researchers to study the impact of service learning, leadership development, and faculty mentoring, and to assess a wide variety of instructional practices. According to HERI, institutions also use the CSS for the following purposes:

- To evaluate student satisfaction. Students rate their overall satisfaction with 28 different aspects of their college experience.

- To collect information on student involvement in academic and extracurricular experiences.

- To assess students' academic achievement. The survey includes several different measures of academic achievement and several items related to academic engagement and disengagement.

- To measure retention. The CSS provides information on whether students take a leave of absence, withdraw or transfer, as well as their plans for the following year.

- To understand students' values, attitudes, and goals. The survey assesses the importance students place on a wide array of personal goals and values.

- To study specific campus issues. Each participating campus may include up to 30 locally designed questions to collect information on topics important to individual campuses.

Below are more specific examples of how institutions have used the CIRP Freshman Survey and the CSS for conducting accreditation self-studies, satisfying state-mandated performance measures, evaluating college programs and services, and monitoring the impact of an institution on students.

- A college in the Midwest compares CIRP freshman data to CSS data on students' self-reported skill development during college and use the resulting comparison for re-accreditation purposes.

- A college in the South evaluates the success of its leadership development program by examining CSS data to determine whether the attitudes and behaviors regarding leadership have changed for students who have gone through the program.

- An institution in the Midwest describes the combination of the CIRP and the CSS as "extremely powerful." They use these surveys to determine differences among student experiences based on qualifiers such as major and race. They are able to determine how the institution impacts these students, after controlling for the students' backgrounds.

- An institution in the West compares students in a freshman-cluster curriculum to other freshmen. They found interesting differences in students' self-reported academic abilities that they can report back to the faculty teaching in the clusters.

- An institution in the East has found that students' values do not change much during college, but that their actual experiences in college are often quite different from their pre-college expectations. Staff members use these data in enrollment management and strategic planning.

- A college in the South evaluates the success of its service learning program by examining changes in students' volunteer attitudes and behaviors from students' freshman year (using CIRP) to their senior year (using CSS).

Self-reported data collected through surveys are sometimes criticized for being less accurate than other measures such as standardized tests. However, educational researchers have demonstrated that student self-reports are valid and reliable under certain conditions that listed below, conditions that are closely monitored and evaluated by organizations such as NSSE and CIRP (Carini, Kuh et al. 2006).

- The information requested is known to respondents.
- The questions are phrased clearly and unambiguously.
- Questions refer to recent activities.
- Respondents think the questions merit a thoughtful response.
- The information requested is potentially verifiable.
- The questions ask for information that is known to respondents and does not threaten, embarrass, or violate their privacy or encourage respondents to respond in a socially desirable way.

According to researchers at NSSE, one of the areas in which the results of their survey should be used with discretion is student responses to gains that they have made in various areas during college. The researchers note that the information is valuable for individual institutions but cannot reliably be used to compare or represent student outcomes across institutions as students come into college at different levels that cannot be taken into account (Kuh 2001).

Value-added Assessments

Recently, attention has focused on designing a standardized method for assessing the value-added, or the institutional contribution, to student learning. Value-added is a familiar term to

educational researchers who study the impact of college on students, and typically refers to the benefits derived by a student from alternative programs, courses of study, and experiences within a particular institution (Astin 1993). Although value-added is widely regarded as one of the best measures of the contribution of higher education, researchers point out that assessing value-added is complex for a variety of reasons, such as the following (Bennett 2001; Harvey 2004):

- Value has many dimensions. No college or university is trying to develop only a single capability in students; all are trying to develop an array of capabilities. Measurements of value-added must therefore attend to a number of different dimensions of value.

- Colleges and universities have different missions and do not seek to add the same kind of value to students' development. Any effort to rank colleges or universities along a single dimension is fundamentally misguided.

- Some of the benefits of a college education unfold over time. Some aspects of value added are more properly assessed by contacting alumni rather than graduating seniors.

While recognizing these obstacles, the Council for Aid to Education, a subsidiary of the RAND Corporation, has developed a new measure of student learning, the Collegiate Learning Assessment (CLA), based on the notion of value-added. The CLA is designed to measure critical thinking, analytic reasoning, and written communication in performance tasks and in essay tasks. The value-added, or the institutional contribution to student learning is assessed by: (1) measuring how well an institution's students perform relative to "similarly situated" students (defined in terms of their SAT or ACT scores), and (2) measuring how much students' skills improve during their tenure at the institution through a pre-test/post-test model (Benjamin and Chun 2003).

The creation of the CLA has been hailed by some as a "breakthrough" in measuring student learning and thereby differentiating the quality of education among institutions (Arenson 2006). However, there are still several limitations to using the CLA as a stand alone instrument. First, the test focuses on general education abilities (e.g., cognitive skills), just one of multiple sets of skills that college and universities seek to develop in students. Second, CLA test results are highly correlated (80 percent) with students' ACT/SAT scores, which does not leave much room for consideration of the institutional effects. However, the significant correlation could prove useful as a predictor. Comparing the CLA results to "expected" results, as projected by ACT/SAT scores, would allow schools to see if students are performing above, below, or within the expected range. It is also important to note that the actual effectiveness of the CLA is still being researched. However, a similar style instrument could likely be used in much the same way as the CLA has been.

Due to these limitations, the CLA test should be viewed as just one of many tools that an institution can use to shape an assessment agenda that is valuable and appropriate for their particular situation. For example, the CLA test has been incorporated as a component of several comprehensive assessment systems, including the University of Texas system.

- The CLA is used as the intellectual skills assessment for four-year institutions to evaluate the performance of college-educated individuals by the National Center for Public Policy and Higher Education in their five-state pilot project, the National Forum on College-Level Learning. (The final report noted that the tasks surrounding the administration of the test, such as recruiting participants and encouraging test-takers to do their best, were some of the more difficult parts of the project.)

Thirty-four institutions from Council of Independent Colleges (CIC) have signed up as participants in the CIC/Collegiate Learning Assessment (CLA) Consortium, supported by a grant from the Carnegie Corporation that complements a previous grant from the Teagle Foundation. This project will enable participating colleges and universities (primarily smaller, liberal arts colleges) to better test the effectiveness of CLA as an indicator of the value-added to students' learning in their college years.

Institutional Characteristics Data and the Public

Institutional characteristics data (also referred to as actuarial data) are often viewed as the most objective measures of higher education quality (Chun 2002). These data include graduation rates, retention rates, demographics of the student body, level of endowments, campus safety statistics, selectivity in admission, and costs. Researchers argue the primary advantages of these data are that they are relatively straightforward to collect and the resulting statistics can be compared across institutions and across times. Public institutions already report data of these types to both federal and state governing bodies through instruments such as IPEDS. Unfortunately the data are often not organized and presented in ways that are readily accessible to the public. Data of these types seem to provide ready answers to some of the calls for more information about student educational experiences and outcomes.

Two of the most important groups that need this type of information are prospective students and their parents. It seems clear that although institutions provide an overwhelming amount of information to prospective students through view books, college fairs, and websites, some students and their parents feel unable to make informed choices about which institution is the best match and/or provides the best value. Consequently, this information vacuum is often filled by organizations outside the academy. For example, the IPEDS College Opportunities On-line (COOL) presents data on institution prices, financial aid, enrollment, and type of programs that are offered by nearly 7,000 postsecondary institutions. IPEDS COOL is designed to help college students, future students, and their parents understand the differences between institutions and how much it costs to attend college. In addition, the *U.S. News & World Report* disseminates the institutional data that are used in its rankings through an online query system that allows users to generate lists of higher education institutions that meet selected criteria.

Higher education researchers have systematically studied the types of information that students and parents desire during the college selection process. After reviewing the literature and conducting additional focus groups to fill in the gaps, a well-known higher education scholar and administrator, Donald Hossler and his colleagues came to the following conclusions (Hossler and Litten 1993).

- Overall, the available information does not adequately reveal the differences or similarities among institutions or within institutions. Majors offered, listings of extracurricular organizations, and admission data are standard in college guides, but information is lacking on meaningful indicators of the experiences students have at colleges; the educational, social, and economic benefits they receive; and the costs they incur.

- Of all the characteristics that students believe are important in choosing a college, outcomes data (e.g., graduation and placement rates, not learning measures) are the most difficult for students to obtain. Hossler (1993) notes, "Given the importance that students and their parents assign to these factors, this lack is a major deficiency in any consumer-oriented information system."

- Students indicated that they would also like more information on key processes and outcomes that could be used to differentiate colleges. Such measures are missing in most commonly available sources of information about colleges.
  - How much do graduates of a college earn?
  - Which companies recruit on campus?
  - What kinds of jobs do the graduates of a college secure?
  - How satisfied are the students with the social atmosphere on campus?

Some recent observers say that direct measures of student learning, not college outcomes, would provide the information that parents and students really want to know. These sources maintain that parents are most interested in the amount of "learning" that a college provides. Research on the goals and priorities of college students would suggest otherwise. In general, college students tend to look upon knowledge and ideas less as ends in themselves and more as a means toward accomplishing other goals, such as becoming better and more mature human beings or achieving success in their careers (Bok 2006). More specifically, the results of the CIRP Freshman Survey (2006) support this more pragmatic view of a college education. Since 1970, the percentage of freshmen who rate "being very well off financially" as an "essential" or "very important" goal has risen from 36.2 percent to 74.5 percent. When citing the top reasons that are very important in selecting a college, "graduates get good jobs" (51 percent) was rated as very important almost as often as a "college has a very good academic reputation" (58 percent). Three of the top four reasons listed as very important in deciding to go to college were quite pragmatic—"to get a better job," "to make more money," and "to get training for a specific career."

Rather than measures of student learning, results from the Hossler study and the CIRP survey would suggest that indicators such as graduation rates, employment rates, and cost of attendance are some of the "consumer information" college and universities should make more readily available and accessible to prospective students and their parents. Some higher education organizations are already focusing on more systematically collecting such indicators. For example the Association of American Universities Institutional Data Committee is focusing on how to better measure and provide the following student outcomes: freshmen cohort graduation rates, time to degree by discipline, tracking and calculating transfer-out rates, actual cost of attending college, and post-graduation results.

However, the development of such standard indicators raises its own set of issues and complexities. For example, the usefulness of graduation rates has recently been a topic of discussion by higher education institutions and by federal and state entities. One concern centers around the fact that the federal reporting criteria used in IPEDS limits the student cohorts to first time, full-time degree seeking students, essentially ignoring non-traditional students and transfer students. Another issue is inability to track a student population that has become increasing mobile—some estimates show that almost 60 percent of students change institutions at least once during their undergraduate careers.

To address the rise in student mobility, about three quarters of the states use a unit record system to track individual students among the different institutions within the state. Research in Texas suggests that such a state system increases the overall graduation rate by 20 percent within the state, not including the students who transfer out of Texas to continue their studies. Such state systems reveal serious gaps in the national picture of students who successfully complete a bachelor's degree.

The development of a national unit record system that would facilitate the collection of more complete student data continues to be a subject of debate among higher education organizations, institutions, and federal policymakers. On the one hand, such a system would allow the tracking of a student's progress regardless of how many institutions the student attended, in how many states, or over what period of time. Nor would the system be limited by the traditional definition of full-time students who enter higher education directly after high school. A national unit record system would allow a more complete picture of the progress and educational attainment of all types of students. It would be a useful tool for institutions and allow them to better answer the accountability questions currently being posed. In combination with other federal systems, such as the unemployment insurance wage base system, it would also have the potential to help answer the question of where students go after college, e.g., employment or graduate school.

On the other hand, there are legitimate concerns about the development and implementation of a national unit record system. The major issues focus on privacy, reporting burdens, feedback, and security. For example, concerns have been raised about intrusions into student privacy and the possibility that future Congressional actions could allow access to the data by other federal agencies. Other concerns include the possibility that, in the future, student unit record data system might be used to sanction students. Any approach to a national unit record system must address these concerns with proper limitations to access. The Family Educational Rights and Privacy Act (FERPA) would have to be amended to allow the redisclosure of data back to the originating institution, including subsequent enrollment and completions data for students who left the prior year. The subsequent enrollment and completions information is the very data that would make the unit record system the most valuable for colleges and universities. At many campuses, information technology systems would need to be changed to provide for integrating student data across institutional units and for producing the records in the required format for submission to NCES. According to an analysis done by the Association for Institutional Research (AIR), the institutional burden in preparation for the first year of implementation would be significant. This burden should be mediated by an overall reduction and clarification of the data that is currently reported.

As pointed out by Alexander Astin, the founding director of the Higher Education Research Institute at UCLA as well as the CIRP study, the current lack of a systematic method for tracking student movement between various institutions is important from a national perspective, not an institutional perspective. In other words, the lack of reliable transfer-out rates does not address the question of whether a specific college enables the students that it admits to complete their degree at that institution. From an institution's perspective, the increased cost and educational problems caused by a high dropout rate are not mitigated by the knowledge that the student who drops out earns a degree elsewhere.

Astin argues that the true weakness in using graduation rates as a measure of institutional effectiveness is that comparing graduation rates between institutions can be misleading if the characteristics of the students are not taken into account. Specifically, the correlation between student characteristics and completion rates is 0.85 for four-year rates and 0.81 for six-year rates. Astin believes that a better measure would be to compare an institution's actual completion rate against their expected completion rate based on the characteristics of the student body. It should be noted that one component of the *U.S. News* rankings, although a very small fraction of the total score, is the difference between an institution's actual and predicted graduation rates.

Given the number and complexity of the issues surrounding this one institutional indicator, it seems apparent that these measures are neither as objective nor as straightforward as the definition of institutional characteristics data would imply, and institutions will have to work together to arrive at a common set of indicators that will be useful to stakeholders.

Accreditation

Accreditation is clearly an important part of improving quality and outcomes. Accreditation status is, of course, the minimum that most stakeholders look to when judging an institution. In recent years there have been major strides in improving accreditation. That would be a topic of a long and separate paper for this important topic. But for purposes here accreditation has moved in recent years toward looking at outcomes and somewhat less at the process and the inputs of getting there. Accreditation is an in-depth process, in which the each institution should be understood for its unique mission and circumstance. Because of such unique mission and circumstances institutions will approach the measurement of outcomes differently and often in more subtle but sophisticated ways than will be easy explained to a broader audience. Out of such work will continue to come ideas some of which will have broad application. Accreditation should continue to pursue this path institution by institution in their work to improve student learning.

We do not think the accreditation process should become the enforcement process for a uniform system of accountability. Rather, the accreditation process should work to improve quality and outcomes as described above, that being an important role for that process.

Conclusions

The previous pages have laid out some of the different attempts that are being made to better understand the complexities and outcomes of higher education. It is doubtful that there is a perfect system that 1) will accurately reflect and compare the critical facts, 2) be easily understood by the interested parties, 3) be an effective instrument for continuous quality improvement, and 4) also be a flexible dynamic system. Much of the challenge is because of the very strengths of our decentralized, ever experimenting, and complicated higher education community. Still we think we can do better. We are deeply committed to improving student learning. Over the generations we have shown a capacity to change and meet challenges and opportunities.

In that sprit we should consider a voluntary system, by type or mission of colleges and universities, based on outcomes. There should be a serious discussion on how to do this within the higher education community and not just in the public policy/political community. This is important because we have the most knowledge to bring to the table on the issues and we will insist that any system be helpful to us in doing things different and better to improve student learning.

A successful voluntary system would likely contain a small bundle of concepts. It probably would allow for measurement through both student surveys and measures of some key competencies. In fact, the combination of these surveys might provide universities and colleges with the ability to compare themselves with their peers and to find areas to improve. The system should not be complicated and should be subject to change as improvements are discovered.

Such a system would need to trust in the validity of its instruments. Consideration should be given to asking the National Academy of the Sciences to survey the existing assessment

instruments and explore the gaps and inconsistencies that remain. Some areas of research are likely to be clear now and they should begin shortly. As institutions proceed towards a voluntary system, it would be important to begin with trial tests with samples of institutions.

A successful voluntary system would also need to pay deliberate attention to the needs and inquiries of the public. It is important to make the data accessible and understandable to the different constituencies, probably through an improved communication of results or through a less complicated but better data collection effort, such as a National Unit Record System.

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