PERSPECTIVES

American Association of State Colleges and Universities • Spring 2006

Value-Added Assessment

Accountability's New Frontier

For most of its history, American higher education has operated according to a "trust the academy" philosophy for gauging academic quality, specifically, the value added to students' knowledge by institutions. The faith of universities' stakeholders is required, because the existing quality assurance system is built largely upon input measures (e.g. SAT/ACT scores, spending per student), rather than metrics related to educational outcomes. While efforts to develop more robust assessments of student learning in higher education are underway, they exist at the margins rather than mainstream. Progress in this area has been stymied by a lack of consensus on how or even whether to pursue student learning assessment, aided by an implicit sense that the United States, as a world leader in higher education, does not need such an initiative.

It is time for states and their colleges and universities, in conjunction with regional accrediting agencies, to lead the development of a consensus model for assessing the value added from undergraduate student learning. Public institutions are the logical leaders for such a movement, because they educate the vast majority of the nation's undergraduate students, thus providing a "critical mass" for examination and best practice cultivation. Also, a value-added system could better reflect their contributions to student learning, as the prevailing philosophy of "quality = price + selectivity" does not fit the admissions profile of many public institutions. Public higher education arguably has the longest and most substantial history of "first steps" in the area of public accountability.

What would such a model entail? To be fully effective, it should:

- *Draw on recognized and tested national instruments and be embedded in state, system, and accreditation policy according to particular educational and workforce priorities.* This promotes inter-institutional and interstate comparability that is essential for identifying pockets of promise and persistent weaknesses. At the same time, such an approach respects legitimate differences in human capital needs between states and systems.

- *Focus primarily on general intellectual skills (e.g., communication, reasoning/analysis, literacy).* These include skills obtained through the general education curriculum (or core requirements) as well as those developed through upper division courses, but not discipline-specific content. This focus of analysis offers several advantages. First, general intellectual skills are universal across diverse institutional types and there is growing consensus about their form and content, facilitated by groups such as the Association of American Colleges and Universities (AAC&U). This allows for measures that reach the broadest possible cross-section of students and steers clear of the comparability issues that would dog discipline-specific assessment. Perhaps more significantly, general intellectual skills provide the building blocks for essential career and citizenship roles. While some states or systems may include elements such as information management skills and technology literacy in their programs, general intellectual skills should receive major emphasis.

- *Employ a multi-faceted approach based on representative samples of students.* As the following analysis indicates, there are three primary means of gauging student learning—direct, indirect, and applied. Each measures a different facet of the total picture, presenting distinct advantages and drawbacks, both practical and philosophical. Pursuing a complementary approach provides a more comprehensive assessment and allows for the strengths of one mechanism to compensate for the weaknesses of another. A multi-faceted approach is important because some metrics are geared more toward internal management or institutional improvement, while others are more appropriate for informing policymakers and the general public. Using representative samples, with selected over-samples for groups of particular interest, offers a cost-effective and minimally intrusive means of gaining valid insights about the state of student learning and the learning environment.

Clearly, such a system will be difficult to develop and will require a degree of trial and error. At the same time, it will represent an essential next step in the evolution of American higher education. As the expectation of postsecondary education edges closer to universality, colleges and

universities must be prepared for a concomitant increase in scrutiny. Seasoned observers have pointed out the irony of the academy, as an institution dedicated to discerning the truth through evidence, being so seemingly resistant to measuring quality through evidence. It is an irony that puzzles—and frustrates—a widening circle of stakeholders.

Looking ahead, a convergence of factors strongly suggests that a successor to the "trust the academy" approach to learning measurement is needed. The nation's educational competitiveness continues to slip, particularly in diploma and degree production. Higher education prices continue to rise, leading stakeholders to increasingly question the value of higher education's product. The evolution of the standards movement in elementary and secondary education, exemplified by the No Child Left Behind Act, raises important and controversial questions about the purpose, scale, and scope of learning assessment. Competition for public resources is intensifying, further underscoring the fiscal vulnerability of "discretionary" services such as higher education.

Finally, a growing number of national groups, including the U.S. Secretary of Education's Commission on the Future of Higher Education, are raising the profile of learning assessment on the national agenda. Time is running out for the "trust the academy" approach to gauging student learning.

Approaches to Value-Added Assessment

Value-added assessment focuses on the impact of higher education on student learning. Unlike most quality and accountability measures, it speaks directly to the most important product of undergraduate education, the development of student knowledge and skills. Set in proper context, value-added assessment allows true comparisons of the difference college makes to students across institutions and institutional types, instead of simply reflecting institutional resources and/or reputation.

There are three general approaches to estimating the institutional "value-added" to student learning. Each analyzes a slightly different part of the picture, and they are complementary, not perfectly correlated. Each has strengths as well as challenges and limitations.

1. **Direct value-added assessment.** This method estimates institutional effect on student learning by measuring and comparing what students know and can do at two points in time—for example, at the beginning and end of college. The difference between the two measures represents the learning gain and serves as an estimate of the institutional contribution to student learning that can be compared across similar institutions. If comparisons are to be made across

different institutional types, more complex models are needed that take into account student academic abilities.

In the absence of measures at two points in time, it is possible to derive measures that enable comparisons of the institutional value-added. That is, one could estimate institutional effect on student learning by comparing actual learning outcomes at the end of college to learning outcomes that would be predicted on the basis of student characteristics. The difference between actual and expected outcomes serves as an estimate of the degree to which the institution over- or under-performs in developing the abilities of its students.

Examples:

The best example of direct value-added assessment is the Collegiate Learning Assessment (CLA), an outgrowth of RAND's Value Added Assessment Initiative (VAAI) that has been available to colleges and universities since spring 2004. The test goes beyond a multiple-choice format and poses real-world performance tasks that require students to analyze complex material and provide written responses (such as preparing a memo or policy recommendation). Other instruments for direct assessment include ACT's Collegiate Assessment of Academic Proficiency (CAAP), the Educational Testing Services's Academic Profile and its successor, the Measure of Academic Proficiency and Progress (MAPP), introduced in January 2006. Around for more than a decade, these assessments offer tools for estimating student general education skills.

Collegiate Learning Assessment (CLA)

In 2004, Kentucky administered the CLA to a representative sample of students at public and independent institutions. Funds have been requested to repeat the assessment in 2008.

Though there is no mandate for institutions to participate, the West Virginia Higher Education Policy Commission has provided funding support for institutions interested in using CLA. Seven institutions currently participate.

Both Alexander Astin of the Higher Education Research Institute at the University of California at Los Angeles and The Education Trust have developed methodologies for deriving measures of institutional effect. Focusing on another student outcome measure—the graduation rate, they controlled for such factors as median ACT/SAT scores and percentage of students receiving Pell Grants. This allowed them to predict expected graduation rate outcomes and compare this to actual results. Though there are additional challenges, researchers could explore ways to do the same for student learning measures. Similar controls could be used to derive "value-added" estimates for student learning, even in the absence of "before" and "after" measures. When two data points are available, this rich contextual data on student and institutional characteristics could be used to develop models and benchmarks for comparing results from different institutional types.

Strengths:

- This approach offers a direct measure of college-level learning, since it occurs throughout the undergraduate experience. It serves multiple stakeholders and purposes, including accountability, state policy development, and institutional improvement.

- It takes into account differences in student input and lends itself to the development of models and benchmarks for diverse institutional types.
- Because it is explicit about collegiate-level skills, it facilitates academic alignment with the K-12 sector.

Challenges/Limitations:

- Historically, there has been a great deal of autonomy concerning assessment of student learning at the classroom, department, and institutional levels. Although learning assessment is increasingly a part of the accreditation process, many faculty and administrators remain resistant to state-level "interference" in academic matters such as assessment of learning.
- More research is needed on how to develop benchmarks and models for different institutional types.
- Unlike the indirect approach, the direct approach does not point to specific directions for institutional improvement.
- Unlike the applied approach, the direct approach does not measure how college learning relates to real-world performance. It cannot capture the full impact of the college experience that continues to unfold as graduates gain maturity and experience.

2. Indirect measures of value-added. Rather than directly examining student learning, this approach measures the student behaviors and institutional actions that are known to correlate with student learning and success in college. These measures of "good practice" are treated as proxies for student learning—to the extent that they are in place, it is expected that greater student learning will occur.

Examples:

This approach has come to be nearly synonymous with the National Survey of Student Engagement (NSSE). Begun in 2000, NSSE has developed benchmarks and instruments that capture the dimensions of student engagement that correlate with student learning and success: level of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment. By collecting student self-reports on 42 aspects of their undergraduate experiences, institutions can see how well they are doing and compare the results to those of their peers.

National Survey of Student Engagement (NSSE)

Georgia, Hawaii, Kentucky, North Carolina, North Dakota, Rhode Island, and South Dakota have all used NSSE statewide.

At the system level, the California State University, the Texas A&M System, and the University of Texas participated in 2005.

Strengths:

- This method provides a useful proxy for direct learning assessment.

- It yields useful information about specific institutional strengths and weaknesses and lends itself especially well to institutional improvement efforts. Through Project DEEP (Documenting Effective Educational Practice), the NSSE Institute for Effective Educational Practice has examined the workings of 20 successful institutions and is sharing findings in order to help institutions identify strategies for using NSSE data to increase student success.

- The approach is useful for diverse institutional types and peer information is available.

Challenges/Limitations:

- Indirect assessment does not—and never will—measure actual student learning. In order to identify specific learning strengths and gaps, other types of data would be needed.

- There are always questions about the reliability of self-reports. NSSE developers have addressed this issue by identifying five conditions under which self-reports are valid: (1) when the information is known to the respondent; (2) when the questions are clear and unambiguous; (3) when the questions refer to recent activities; (4) when respondents think the questions merit a serious and thoughtful response; and (5) when answers do not threaten, embarrass, or violate the privacy of respondents.

3. Applied value-added models. Instead of examining what happens during the college years, this approach gauges the impact of higher education in an applied setting, after-the-fact. For example, alumni would be interviewed about the extent to which their education prepared them for jobs and employers would be interviewed about the extent to which their employees have the necessary knowledge and skills for the job.

Applied Assessment

The University of North Carolina System surveys its graduating seniors every year.

The Minnesota State Colleges and Universities System conducts an annual graduate follow-up survey.

Examples:

The National Center for Postsecondary Improvement designed the Collegiate Results Survey, a tool that interviews alumni to assess how postsecondary education affected academic achievement and employment outcomes. First administered in 1999, the survey asks college graduates six to nine years out of college to report on their occupations and the skills used in the workplace. It also calls for respondents to evaluate their ability to perform a variety of real-life tasks. Resulting data have been used to establish unique institutional profiles to help consumers make better choices, now available through college guidebook publisher Peterson's (petersons.com). Institutions can work with Peterson's for self-study purposes.

Strengths:

- This method measures outcomes several years out of college, when institutional effects have had time to more fully develop. It reflects implications for the real world, as assessed by employers and alumni in the workforce.
- There is potential for development of benchmarks and models for different institutional types, based on existing data.

Challenges/Limitations:

- Given the passage of time and intervention of other factors, it may be difficult to tease out institutional effects on students.
- There are questions about the reliability of self-reports; given the passage of time, alumni may not be able to report accurately about college experiences.

Analysis

In addition to weighing the strengths and limitations of the three approaches, policymakers and higher education leaders must answer two sets of basic questions. One is about the *why* of value-added assessment—how will these assessments contribute to the fulfillment of the state's human capital goals and priorities? The other pertains to the *how* of value-added assessment—what resources must be tapped and what obstacles overcome for the program to be relevant and credible? This sets the stage for a policy conversation focused around two primary issues: purpose and implementation.

Purpose. The first—and most obvious—questions surrounding the development of a value-added assessment system relate to intent. How will the information generated by such a system be used? How will it fit within the state's overall education policy framework? How will it be linked with other primary elements of higher education policy? Clarity and consensus in this area are essential to effective program design and execution, particularly on the following points:

a. Institutional improvement vs. public accountability. A value-added assessment program can—and arguably should—satisfy both objectives, but the relative emphasis will vary across states and systems. For example, states or systems wishing to focus on campus learning environments may concentrate more on indirect measures, while those more concerned with workforce readiness may give more weight to applied metrics. The point is that there should be a "fit" between the mix of approaches selected and the policy priorities of a particular state or system.

b. Relationship to other components of the educational pipeline. Value-added learning assessment cannot exist in a vacuum, and

thus, must be structured so that it complements other quality assurance mechanisms in the educational pipeline. How would a value-added program relate to high school exit or college admissions and placement exams? In many states, such questions call for the engagement of P–16 entities (provided they are active and influential) in developing, testing, and implementing a comprehensive value-added system.

c. Linkages across higher education policy. The vitality and success of a value-added program also will depend on its connection to key areas of policy, including:

- *Accountability*—What weight should be given to value-added metrics, particularly in relation to existing outcome measures (e.g. persistence, graduation, and post-baccalaureate placement rates)?
- *Finance*—Will (or should) the data gleaned from such a program play a role in funding allocation (either base or supplemental)? If so, to what extent?
- *Access and Inclusion*—In what ways can value-added assessment data be used to assess and recalibrate state and system policies designed to promote college participation and success for historically underrepresented and disadvantaged groups?
- *Economic/Workforce Development*—How can assessment findings be used to create a feedback loop with state economic development organizations and the private sector regarding the fit between what colleges and universities are producing and what the state needs or will need?

Implementation. Committing to a comprehensive value-added system requires significant and sustained investment of resources, as well as an awareness of potential roadblocks. When considering the implementation of assessment, it is important for elected officials and higher education leaders to bear in mind that fiscal and practical considerations have historically stood as the most prevalent stumbling blocks to fuller exploration of a systematic approach to value-added assessment.

a. Resources. The experiences of the National Forum on College-Level Learning and similar initiatives reinforce that while effective learning assessment requires significant and sustained financial investment, securing consistent policymaker support is even more critical—and often difficult. States and systems should think broadly in terms of securing needed leadership and logistical support. This may include the reallocation of existing resources from obsolete or lower priority accountability functions.

b. Participation. As with any new initiative, building a critical mass of interest and substantive involvement can be a challenge. What level of student/stakeholder participation is necessary for the selected assessment measures to be credible? How can that level of participation be garnered and maintained? How can the quality of stakeholder participation be assured, particularly if it is voluntary or not linked to academic advancement? Can sufficient statistical samples be developed and maintained across different groups (e.g. first generation, low income, racial/ethnic minorities) to accurately gauge differences in perception and performance? The National Forum on College-Level Learning has highlighted this as a key issue and states and systems must develop a participation strategy as part of its implementation process.

c. Application. How the value-added program is applied across a wide range of campuses in a system will greatly affect its utility and relevance. For example, will the program establish goals or benchmarks for institutions, either for individual measures or for a composite of measures? Will those goals/benchmarks account for differences in institutional mission and admissions selectivity? How will the resulting data be presented and communicated, particularly to ensure that they are understood by and useful to a broad array of internal and external stakeholders?

Next Steps for Policymakers

Questions

- How much emphasis do campus, system, or state accountability measures place on inputs (e.g. student-teacher ratios, freshman profile, research funding) compared to outcomes (e.g. persistence, completion, placement, learning)? Is student learning assessment a significant part of system/state accountability efforts or the regional accreditation process?

- To what extent are the colleges and universities in the state currently assessing learning by direct, indirect, and applied approaches? How are the results being applied?

Recommendations

- Survey the state's colleges and universities and university systems to: (a) determine what learning assessments are currently in use, according to primary category (direct, indirect, applied); and (b) explore the current extent of system and state involvement in learning assessment.

- Form a blue ribbon panel or charge an interim legislative committee to explore learning measurement issues at colleges and universities,

with particular emphasis on value-added approaches. Include policy and technical experts in the work of this group.

- Allocate research and development funds or other incentives for the development of a statewide value-added assessment framework.

Next Steps for Presidents/Chancellors

Questions

- What learning assessments are currently being used by the institution? How effective are they in guiding and evaluating the curriculum, including general education and upper division courses? Do they reflect the presence of a coherent set of principles or goals for undergraduate education?

- Does improvement of learning outcomes figure significantly (or at all) in the university's strategic plan or accreditation self-study portfolio? If so, where? If not, why not?

Recommendations

- Form and charge a group to: a) evaluate the degree of integration between the general education and major programs; and b) offer recommendations to enhance that integration across the curriculum.

- Conduct an audit of current learning assessments employed by the campus and system.

- Convene a focus group of internal and external stakeholders to explore conceptual and practical issues related to learning assessment.

- Develop strong assessment teams at the campus and system levels, comprised of both technical and policy experts.

Conclusion

The evolving national conversation regarding higher education's academic outcomes, buttressed by data showing significant proficiency gaps for college graduates, make clear that the call for better measurement of learning outcomes cannot be evaded. At the same time, university leaders are eager for tools that strengthen their instructional programs, and unfolding advances in value-added measures offer prime opportunities for doing so. Failing to take advantage of these opportunities may leave higher education vulnerable to "one size fits all" solutions that yield little useful information or do little to advance states' human capital needs.

Accountability for learning outcomes has evolved considerably, but the United States' competitiveness in the global higher education market demands better information about its product. Resisting the call for more robust learning assessment means ignoring an opportunity to significantly strengthen the postsecondary pipeline and implies a willingness to settle for something less than first place in the race to build human capital. National organizations, accrediting agencies, state policymakers, and campus and system leaders must push forward in this area to ensure that the nation remains a world leader in higher education.

Perspectives is an occasional policy paper series of the American Association of State Colleges and Universities (AASCU). Papers in the series focus on key state policy issues affecting public colleges and universities, including access (financial and academic), fiscal conditions and trends, and governance/management.

Appendix A

Resources

American Council on Education and the Association for Institutional Research. The 2001 report, *Measuring Quality: Choosing Among Surveys and Other Assessments of College Quality,* provides a guide to 27 national assessment instruments and services.
airweb.org/images/measurequality.pdf

Association of American Colleges and Universities (AAC&U). Focused on the quality of undergraduate liberal education, AAC&U supports several assessment initiatives, including the Project on Accreditation and Assessment. This project aims to influence revisions of accreditation standards to place greater emphasis on student achievement and has worked to build consensus among regional and national accreditors and higher education associations on outcomes for, and methods of, assessing liberal learning.
aacu.org/issues/assessment

Collegiate Results Survey (CRS). CRS, designed by Robert Zemsky at the University of Pennsylvania, measures the contributions institutions make to the academic achievement and subsequent lives of their graduates.
stanford.edu/group/ncpi/unspecified/students_parents_toolkit/cri.html

Collegiate Learning Assessment (CLA). The Council for Aid to Education, in partnership with RAND, has undertaken the CLA project, an initiative to assess the quality of undergraduate education by measuring the value added or the institutional contribution to student learning.
cae.org/content/pro_collegiate.htm

National Center for Postsecondary Improvement (NCPI). NCPI at Stanford University (Calif.) has conducted research on assessment of student learning and its relationship to public accountability systems and regional accreditation. In 2004, NCPI officially concluded its activities, but research findings, publications, and toolkits remain available on the Stanford Institute for Higher Education Research website.
stanford.edu/group/ncpi/index.html

National Center on Public Policy and Higher Education. When the National Center produced its first national report card on higher education in 2000, it brought national attention to the fact that there were no available data to grade states on student learning. The 2004 edition of *Measuring Up* presented, for the first time, data on student learning from a five-state pilot conducted by the National Forum on College-Level Learning.
highereducation.org

National Forum on College-Level Learning. The National Forum developed a model to measure across states what college students know and are able to do. Results of its five-state pilot study make it possible to assess both the intellectual capital available to states and the contributions their colleges and universities collectively make to it. (Pilot states were: Illinois, Kentucky, Nevada, Oklahoma, and South Carolina)
collegelevellearning.org

National Survey of Student Engagement (NSSE). NSSE, headquartered at Indiana University, measures empirically confirmed "good practices" in undergraduate education—behaviors by students and institutions that are associated with desired outcomes of college. Project DEEP (Documenting Effective Educational Practice) at the NSSE Institute for Effective Educational Practice takes this a step further, identifying practices of successful institutions and using this information to help institutions increase student success.
nsse.iub.edu/index.cfm

Appendix B

State/System Level Assessment of College-Level Learning: Selected Findings from a SHEEO/AASCU Survey[1]

Arkansas	State policy requires a rising junior test for all students (ACT CAAP). Since 2001, institutions have been permitted to develop alternative assessment plans, including sample-based approaches, as long as they assess student achievement in writing/English, math, general education science, and critical thinking or reading.
Colorado	The state has implemented performance contracts that require institutions to work with the Colorado Commission on Higher Education to develop a universal assessment of the "value added" of each institution's general education curriculum.
Florida	Students in all public institutions are required to pass the College-Level Academic Skills Project (CLASP) achievement test to receive an associate's degree or be admitted to upper-division status. The test consists of four subtests: essay, English language skills, reading, and mathematics.
Georgia	All public four-year and two-year institutions currently use NSSE/CCSSE.
Kansas	The legislature requires the Kansas Board of Regents to contract with institutions for performance funding. All institutions must address the goal to "Improve Learner Outcomes" but there is no standardized instrument or measure.
Kentucky	Public institutions are required to administer NSSE/CCSSE biannually to help measure the state's progress in preparing college graduates for life and work in Kentucky. The Kentucky Council on Postsecondary Education has requested funds to administer the Collegiate Learning Assessment (CLA) and ACT WorkKeys in 2008. As part of performance funding, institutions select one indicator that accounts for 20 percent of the overall calculation of their performance funding allocation. Northern Kentucky University and Western Kentucky University have selected NSSE as their choice variable for measuring performance.
Maryland	The Maryland Higher Education Commission requires institutions to report on five student learning outcomes in their outcomes assessment reports: written and oral communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competency, and information literacy. These are the competencies identified in the Middle States' accreditation process.
Minnesota	Graduates of colleges and universities in the Minnesota State Colleges and Universities System participate in a follow-up survey that includes questions designed to assess whether their programs prepared them for employment in their career areas.

[1] **Source:** State Higher Education Executive Officers/American Association of State Colleges and Universities Inquiry on Assessment of Student Learning, February 2006.

Missouri	Missouri has a Consortium on Measuring Value Added Student Learning that began a formal relationship with CAE/RAND last year. During year one, 23 institutions used the CLA; 17 are using it for year two. Information will be used by the state coordinating board to inform state-level assessment policy.
New York	The State University of New York (SUNY) is in the process of implementing a system-wide assessment of general education and academic majors across its 64 campuses.
North Carolina	All public four-year institutions currently conduct a graduate/alumni survey and use NSSE.
North Dakota	Public institutions administer the NSSE/CCSSE, the ACT alumni survey, and a locally-initiated employer satisfaction survey.
Oklahoma	The Oklahoma State Regents for Higher Education require that public institutions conduct assessment at entry, mid-level (or general education), exit (program outcomes), and student satisfaction and report these annually. Institutions have flexibility to "develop criteria and select assessment mechanisms."
Oregon	The Oregon University System conducts a graduate survey every two years. Surveys of employer satisfaction are under development.
Pennsylvania	All universities in the Pennsylvania State System of Higher Education administer an alunmi survey on student satisfaction and level of preparation. About half use NSSE.
Rhode Island	The Rhode Island Board of Governors requires all public four-year and two-year institutions to adopt NSSE/CCSSE for periodic assessment and reporting. The Board has required all public institutions to have outcomes assessment in place in all degree programs and in general education by 2008.
South Carolina	All public two-year institutions administer ACT WorkKeys.
South Dakota	The ACT Collegiate Assessment of Academic Proficiency (CAAP) is used by all public four-year institutions in the state, as is NSSE. A state-developed Information Literacy exam, required as part of the System General Education Requirements, is in the pilot stage.
Tennessee	Assessment of general education has been a component of Tennessee's performance funding program for many years. Institutions can choose the Academic Profile, California Critical Thinking Skills Test, or College BASE for foundation testing. Institutions also administer an Enrolled Student Survey, Alumni Survey, and Employer Survey.
Texas	All public institutions use ACT CAAP, as well as the Texas Higher Education Assessment. Each institution in the UT system participates in NSSE and CLA.
Vermont	The Vermont State Colleges assess graduation standards in writing, quantitative reasoning, information literacy, and oral communication. Colleges in the system design their own assessments for the common system-wide standards.

Virginia	Each public institution creates a plan to assess competency in written communication, information technology/literacy, scientific reasoning, quantitative reasoning, oral communication, and critical thinking. The plans are reviewed by staff at peer institutions in the Commonwealth and the staff of the State Council of Higher Education for Virginia.
West Virginia	The WV Higher Education Policy Commission has provided funding support for institutions interested in using CLA, but there is no mandate to participate. Seven institutions currently participate.
Wisconsin	All public institutions (not including the technical college system) use NSSE/CCSSE. Four-year institutions administer the ACT Alumni Survey.
Wyoming	The state's community colleges survey employers of their graduates biannually. Survey data are used to ascertain employer satisfaction with graduates' skills and abilities as they are applied on the job. The Community College Commission mandates the use of the AACC Core Indicators of Effectiveness. Several community colleges use the CAAP tests to assess critical literacy skills as part of their assessment plans. Additionally, several use internal measures and other instruments to demonstrate critical literacy skills.

The authors wish to thank Dr. Margaret Miller of the University of Virginia for her thoughtful comments on an earlier draft of this paper.

◆ ◆ ◆

The American Association of State Colleges and Universities' (AASCU) members work to extend higher education to all citizens. Access is a hallmark of AASCU institutions, colleges and universities that embrace students who traditionally have been underrepresented in higher education as well as those who are first generation college students. By Delivering America's Promise, these institutions fulfill the expectations of a public university by working for the public good through education and engagement, thereby improving the lives of people in their community, their region and their state.

AASCU represents more than 400 public colleges, universities and systems of higher education throughout the United States and its territories. AASCU schools enroll more than three million students or 55 percent of the enrollment at all public four-year institutions.

1307 New York Avenue NW ❙ Fifth Floor
Washington, DC 20005-4701
202.293.7070 ❙ fax 202.296.5819 ❙ aascu.org