Beyond the Rankings: Measuring Learning in Higher Education

AN OVERVIEW FOR
JOURNALISTS AND EDUCATORS

THE
Hechinger Institute
ON EDUCATION AND THE MEDIA
Teachers College, Columbia University

CONTENTS

Dear Colleague,

On some deep level, the notion that college students should take tests to measure how much they've learned seems antithetical to what higher education is all about. College is about finding oneself and growing up; interacting with peers from across the nation and the globe; being challenged and captivated by new and fresh ideas about how electrons work, how societies organize themselves and come into conflict, how music soothes and disturbs, and so much more. Can any of this be measured? Even if it can, how do we know that what went on in a lecture hall—be it at Harvard or Slippery Rock—was what helped the student learn what he knows?

Nonetheless, most would agree that an educated person should be curious, able to express herself and use quantitative information to solve problems, knowledgeable of consequential scientific debates and should have a sense of the lands and people beyond the U.S. border. And it is certainly in the interest of parents paying tuition, employers, taxpayers who finance much of the costs of higher education, and foundations that give scholarships to know whether students at a particular institution of higher education are gaining those capacities.

Over the next few years, journalists will almost certainly confront this question and be asked to report on the issues that surround it. With the release of the report of the Secretary's Commission on the Future of Higher Education in August 2006, recommending that colleges be required to assess their performance, this question landed in the public debate. Journalists who simplify the issue to whether the kind of testing used in elementary and secondary schools should be applied to institutions of higher education are missing the essence of the debate. And, by doing so, they are missing far richer stories. I am pleased to present this publication, which was researched and written by Hechinger's founding director and senior fellow Gene I. Maeroff, to help you, my colleagues, gain important background knowledge as you approach these stories. I am also grateful to the Teagle Foundation of New York and, in particular, W. Robert Connor, the president of the foundation, for making it possible for us to produce this publication. The Hechinger Institute takes no position on education debates, including this one. The Institute does, however, stand foursquare behind its mission, which is to encourage fair, accurate and insightful coverage of education issues. It is only through the support of foundations such as Teagle and of leaders such as Bob, who understands that Hechinger's independence is what makes Hechinger valuable to journalists, that we're able to pursue this aim.

Richard Lee Colvin
Director, Hechinger Institute
on Education and the Media

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Teachers College, Columbia University

Grading Higher Education

How can journalists assess and compare the quality of colleges and universities? A national commission's report adds fuel to the growing movement to measure what students learn.

by Gene I. Maeroff

Journalists who cover education seize on every opportunity to report on outcomes in elementary and secondary schools. They write articles about schools that don't make adequate yearly progress under No Child Left Behind regulations, end-of-year promotion tests, National Assessment of Educational Progress results, SAT and ACT scores and high school exit exams. They also take note of dropout and college-going rates.

By contrast, coverage of higher education often seems to accept as an article of faith that college students learn what they set out to learn as long as they pass their courses and get degrees. The diploma seems to matter most to journalists and, frankly, to employers; it is treated as a proxy indicating that a graduate has absorbed a body of knowledge or mastered a set of usable skills. Reporters devote few column inches and little airtime to examining what college students learn.

Journalists' lack of attention to learning outcomes is not surprising since most colleges and universities don't devote much time or many resources to the issue, either. Instead, they tend to fall back on their "best-in-the-world" reputation, cite the need for an independent professoriate and speak of the difficulty of using any test to gauge the value of higher education. Nevertheless, the debate around measuring learning outcomes is growing louder and occurring in more places across the country.

The debate intensified in August with the vote by the Commission on the Future of Higher Education—the panel formed by Secretary of Education Margaret Spellings to examine accessibility, affordability, accountability and quality in higher education—approving its final report. The commission's report decried a "remarkable absence of accountability mechanisms to ensure that colleges succeed in educating students." It said that students, parents and policymakers are "left scratching their heads" over the answers to such basic questions as "which institutions do a better job than others of not only graduating students but of actually teaching them something." As a remedy for this, the commission recommended that colleges and universities measure student learning by using the Collegiate Learning Assessment, which measures the gains students make at a college compared to those made by similar students elsewhere, or the Measure of Academic Proficiency and Progress, which seeks to improve instruction by measuring general educational outcomes. Journalists will need to consider these recommendations and their implications for students, colleges and faculty members. They will also need to consider the reaction to the recommendations, which, from some quarters of higher education, has already been negative.

The Association of American Colleges and Universities said the commission's vision was both "hollow and negligent" because it did not offer a "coherent discussion of the kind of learning graduates actually need for work, life, and active citizenship in the 21st century." The organization said that by failing to "discuss the outcomes that matter" while calling for "standardized tests to assess achievement, the commission's report effectively delegates all details about the level and quality of college learning outcomes to testing agencies."

But the issue of how much college students are learning—and efforts to try to measure those outcomes—existed long before the commission launched its work. The panel is but the latest group to clamber aboard a boat already floating in a sea of controversy. Other occupants include accrediting agencies, policymakers, higher education organizations, test-makers, editors at *U.S. News & World Report* and individual institutions that have been wrestling with various aspects of the movement to assess learning outcomes.

Why is this so? One reason is the increasing concern—also expressed by the commission—that U.S. college students just aren't learning what they need to know. A 2006 report from the American Institutes for Research, which showed that fewer than half of students graduate with broad proficiency in mathematics and reading, provided fuel for this movement.[1] The results of the National Assessment of Adult Literacy, released in 2005 and based on an examination administered in 2003, showed that only 31 percent of college graduates could read lengthy, complex texts and draw complicated inferences. The last time the test was given, in 1992, the figure was 40 percent.[2]

Features of testing and accountability that are deeply embedded in the elementary and secondary educational landscape do not readily lend themselves to replication in higher education. So campuses must find ways of their own to speak to parents, students, policymakers and taxpayers about what students learn. Doing so will

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involve a vigorous, well-informed and wide-ranging public debate—one in which journalists can play a role as they illuminate the issues.

Journalists can write many different kinds of articles from various angles about learning assessment—there is no one way to assess outcomes and no one way to report on the topic. This is much more than simply a pro-or-con story about testing. Education writers can ask faculty members to discuss what they already know about outcomes in the courses they teach. Institutions can tell how they evaluate and support instructional effectiveness. Experts on measurement can talk about the difficulties of creating reliable and valid assessments that deal with college learning. Advocates of value-added assessment can tell why the extent to which students grow intellectually may be as important as who ranks highest at the end of a college education. Interest in assessing outcomes, after all, has arisen not because higher education in America is a miserable failure, but because it can be even better and more transparent.

Tanya Schevitz, San Francisco Chronicle

"If campuses aren't assessing students, what should we look at? What questions should we be asking? I'd like to do a story on this, but obviously if my campuses aren't doing it, I can't do it in the way you've been talking about it. I'd like to know how I could get to this story and hold the campuses accountable for something."

WE DON'T KNOW WHAT WE KNOW

Saul Kripke, who in 2001 won philosophy's equivalent of a Nobel Prize and is a genius by almost anyone's definition, said in looking back on his undergraduate years at Harvard: "I wish I could have skipped college. I got to know some interesting people, but I can't say I learned anything. I probably would have learned it all anyway, just reading on my own."[3] Kripke's intelligence places him in a world of his own, but some people of average intellect have similar reservations about their college days.

The schools that journalists and just about everyone else consider the nation's best happen to be those that admit students with the highest entrance scores, which says nothing about what they learn while attending those selective colleges or, more pointedly, about the quality of the teaching that occurs in the classrooms, lecture halls and laboratories. The late Frank Newman and colleagues at the Futures Project at Brown University observed that colleges focus their energies on enhancing their institutional prestige rather than improving graduates' skills and knowledge.[4]

For example, Peter Ewell, an expert on issues involving the effectiveness of higher education, sees "a major gap in our knowledge about most general education curricula: the fact that we do not know exactly how well they are working."[5] The nation knows far too little about what students derive from various courses, academic departments and entire colleges for the more than $250 billion spent annually on higher education.

Examinations of the quality of higher education usually focus on statistics representing the number of books in the library, the size of the endowment, test scores of incoming freshmen, graduation rates and the like. Educators grumble about the influence of the ratings in *U.S. News & World Report*, which are based on so-called "inputs" rather than "outcomes," but colleges and universities help create a receptive climate for the ratings by not giving families enough data on which to gauge the effectiveness of instructional programs. With four years at a private college costing as much as $150,000 to $200,000, families rightfully want to make good choices. "It's time to stop ducking the tough questions about value and start assessing whether and how students and parents are getting their money's worth," said Daniel S. Cheever Jr., the president of Simmons College, in an op-ed piece in the *Christian Science Monitor* that he co-wrote with Sarah L. Curran, a senior at Simmons.[6]

Derek Bok, the former and now interim president of Harvard University who published a book in 2006 called *Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should be Learning More*, frames the issue this way: "If applicants could identify which colleges would help them learn most, they might gravitate to those institutions and force the rest to improve their educational programs in order to compete. But students have no way of knowing enough to make such judgments. Instead, they choose the colleges that offer lower tuitions, better financial aid, more attractive faculties, or programs—chiefly vocational—that seem especially useful."[7] Bok points to surveys showing that most seniors do not think they substantially improved their writing, critical thinking or quantitative skills during college. Other findings he cites suggest that many students in basic science courses taught by conventional methods of instruction never understand the underlying concepts but rely on memory to pass the exams.[8]

"In an era when a college degree is increasingly seen as a commodity and a credential to be possessed, when vocational training is confused with education and when the quality of higher education is increasingly questioned,

Tools for Assessing Learning Outcomes

MEASURING GAINS: The Collegiate Learning Assessment

Test-makers have developed a number of assessments that colleges and universities use to try to assess learning outcomes. Institutions administer the assessments alone or in combination. Much of the work is still ongoing, and a great deal remains to be learned. The Collegiate Learning Assessment was mentioned specifically by the Commission on the Future of Higher Education as a possible tool.

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WHAT IT MEASURES AND HOW

Administered to freshmen and seniors, the Collegiate Learning Assessment provides information on the gains in learning that colleges add over time. By asking students to complete tasks, the CLA focuses on critical thinking, analytical reasoning and written communication. The assessment claims to measure test-takers' ability to integrate and apply knowledge.

SAMPLE QUESTIONS

A student might be asked to determine whether a small company should purchase a specific model of an airplane for its sales force to use to visit customers. The student sits at a computer with a split screen, with questions and response boxes on one side and a list of documents pertaining to the plane on the other side. The exercise requires the student to identify and compare the strengths and limitations of alternative hypotheses, points of view and courses of action. The student must weigh evidence, evaluate the credibility of claims and identify questionable or critical assumptions. Then the student may have to select a course of action to resolve conflicting or competing strategies and provide a rationale for the decision. This process involves marshaling evidence from various sources, distinguishing rational from emotional arguments and synthesizing information from a number of sources.

The second part of the 90-minute assessment requires the student to write two analytic essays in response to brief prompts. The first involves making an argument supporting or rejecting a position and the second requires the test-taker to critique an argument made by someone else.

ADMINISTRATION AND SCORING

The CLA produces a score for the entire school, not individual students. The institution needs to assess just 100 randomly selected students to get a representative sample. The assessment measures the value a college adds in two ways: First, "deviation scores" indicate the degree to which students' scores vary from what one might expect based on scores of similar students at other colleges. According to data from the CLA, students at about 12 percent of schools learn more than what was predicted for them based on their entrance scores. Second, "difference scores" contrast the performance of freshmen with seniors. Students may obtain their individual scores and see where they stand in their own schools and nationally, though this information is not reported to anyone else.

Each student receives a single, aggregate score for his or her performance. The CLA is a paperless process: Students use computers, readers receive their work via the Internet, and scores are reported back online as well.

TIDBITS

Six funders, dissatisfied with the annual college ratings by *U.S. News & World Report,* provided backing for the development of a new assessment that they hoped would produce useful information on the impact of individual colleges on their undergraduates. Representatives of the CLA encourage colleges to embed the assessment in a freshman life course or in a senior "capstone" course so that students take the test seriously. By the end of 2005, some 134 colleges and universities participated in the CLA. The CLA had major backing from Carnegie Corporation of New York, the Ford Foundation, the Christian A. Johnson Endeavor Foundation, the William and Flora Hewlett Foundation, the Lumina Foundation on Education and the Teagle Foundation.

it is important to make more explicit and transparent that which we value most in an education for democracy," said Richard H. Hersh and Roger Benjamin,[9] co-directors of the Collegiate Learning Assessment project, which has created an assessment process that allows colleges to study students' gains in knowledge and skills during college. "Unless the academy constructs an educationally efficacious assessment system, one may well be imposed from the outside."[10]

HISTORY OF THE ISSUE

Discussions of assessing what students learn in college—and its corollary, how effectively teachers teach—date back more than 25 years, though most of the momentum has come since the 1990s. Tennessee in 1979 became the first state to allocate part of colleges' instructional budgets based on student performance.

In 1988, the U.S. Department of Education ordered accrediting associations to include examination of learning outcomes in their standards, and Congress later added such a directive to the Higher Education Act. Some critics of the Commission on the Future of Higher Education worry that it will be a Trojan horse to let the federal government unilaterally require accrediting groups to impose specific test requirements for college students, following the path of No Child Left Behind.

Accrediting associations have already increased the amount of information they seek about learning outcomes from institutions of higher education. "What is the evidence?" asks Ralph A. Wolff, an officer of the Western Association of Schools and Colleges, which has published "The Evidence Guide" to assist institutions seeking to generate and evaluate evidence of student learning. "All institutions are expected to be significantly along in their development of student learning outcomes," Wolff said. "If no information is submitted to us, the institution's report would not be accepted and . . . the institution would be found in violation or in noncompliance with our standards." The agency calls on institutions to employ "a deliberate set of quality assurance processes" that "involve assessments of effectiveness" and "track results over time."

Marisa Schultz, Detroit News

"Students go to college not only to learn, but ultimately to find a good job after graduation. Perhaps a good measure of how well a student learns at a particular college is to see what kind of job they get, to see how well they perform at the job, to see if their employer is satisfied with them. Is testing something that people in the business community are clamoring for? Do they think it would be helpful in preparing students better for the workforce?"

Yet, when the National Center for Public Policy and Higher Education issued its first state-by-state report card in 2000, it awarded an "incomplete" to all 50 states because the states had so little information about outcomes.[11] In the wake of that report, the center launched a demonstration project in five states—Kentucky, Oklahoma, South Carolina, Illinois and Nevada—to get a notion of how to evaluate college-level learning.

Directors of the Association of American Colleges and Universities observed in 2004 that "despite the development over the past two decades of a veritable 'assessment movement,' too many institutions and programs still are unable to answer legitimate questions about what their students are learning in college."[12] The National Commission on Accountability in Higher Education declared in 2005 that colleges and universities had to be more accountable in order to increase access and lift graduation rates. The group did not call specifically for assessing learning outcomes, but said that higher education should take a fresh approach to put more emphasis on successful student learning.[13]

One group trying to focus more attention on learning outcomes has been the Council of Independent Colleges, an organization of 550 small- and medium-size private institutions. When Richard Ekman arrived as president in 2000 he found that CIC campuses tended to describe their advantages in anecdotal and sentimental terms, rather than by citing hard evidence. Eventually, he and his staff created a kit of 16 indicators to send to CIC college presidents so that they could track the performance of their institutions against regional and national norms. More recently, 35 of the colleges have formed a consortium to share experiences and information about outcomes on the Collegiate Learning Assessment, the National Survey of Student Engagement and other measures.

The growth of the for-profit sector of postsecondary education has added to the push for accountability. These institutions, both campus-based and online, have taken advantage of federal financial aid programs to encroach on territory once the almost exclusive domain of traditional colleges and universities. Yet, for-profit schools, too, produce little evidence of effectiveness. The proprietors, including some that are publicly traded, contend that the market evaluates their performance. But newspapers are beginning to write about the high-pressure tactics that some schools use to lure

students, who may not end up in the kinds of jobs promised to them when they enrolled. Journalists should ask these schools, as well as traditional institutions, about how they measure learning. Traditional institutions might be able to make their case more effectively in staving off this sort of competition if they had more information about their own learning outcomes.

Colleges and universities are growing more conciliatory about assessing learning—very likely in response to the existence of the national commission. Both the National Association of State Universities and Land-Grant Colleges and the American Association of State Colleges and Universities issued position papers the same week in April indicating openness to a voluntary system for measuring student outcomes. "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," the state colleges association said.[14]

Michael Cass, The Tennessean

"What's the motivation for private universities and college to assess learning outcomes?"

WHAT'S A JOURNALIST TO DO?

The most important effect of the focus on learning outcomes, journalists will discover, has been to raise questions about how institutions can promote better teaching. Journalists should recognize that this goal goes hand in hand with examining outcomes and will probably end up as the most prominent aspect of the assessment movement. Covering these matters should provide a rationale for more journalists to make college classrooms venues for their reporting. Thus, a journalist who sets out to write about the assessment of learning in higher education needs to be aware of what to look for.

The process begins with colleges setting goals for learning. The next step involves turning those goals into outcomes that can be assessed, identifying methods to gather evidence, determining the crucial points at which to gather that evidence, interpreting the findings and using the evidence to improve teaching and learning.[15] Andrea Leskes and Barbara D. Wright, who have written extensively about assessments, advise higher education institutions to gather real evidence of learning, not just statistics; put the emphasis on improving learning; build on what's already occurring; make assessment ongoing, not episodic; share the responsibility among the faculty; experiment and not strive for perfection; and tell the whole story.[16] So, when journalists consider the burgeoning assessment movement, they should keep these steps in mind in their inquiries.

Exactly what is the evidence of learning? What forms do the assessments take? Are examples of student work available? How candid is the institution about learning outcomes? What will cause teaching to improve if evidence shows that students are not doing well? Will tenure decisions be affected? Will tenured professors be affected at all?

Leskes and Wright point out that assessment can simultaneously serve three purposes: informing students about their performance, demonstrating that an institution is fulfilling its mission and providing information for continuous improvement of student learning and program effectiveness.[17] Let's add a fourth purpose: informing the public—through the media.

The *New York Times* editorial page, while acknowledging the importance of the higher education community's argument that "what colleges teach cannot be fully tested," asserts nevertheless that colleges and universities should aid the search for acceptable ways to measure student progress. Otherwise, the *Times* said, "The movement aimed at regulating colleges and forcing them to demonstrate that students are actually learning will only keep growing."[18]

POINTS OF RESISTANCE

As suggested, there is likely to be resistance to efforts by outsiders to determine what students learn. Much of the opposition is apt to come from faculty members, not because they oppose good teaching but for complex reasons involving their traditional autonomy and the difficulty of evaluating the effectiveness of instruction. Trudy W. Banta of Indiana University-Purdue at Indianapolis, one of those who has labored longest on behalf of assessment of learning, cites three reasons for faculty resistance to assessing learning outcomes:

- It takes time.
- It can be used to punish them.
- They don't know how to carry out such assessments.[19]

Thus, faculty members may balk at efforts by outsiders to assess what students have learned because they don't understand the value of this exercise or simply don't think the results of their teaching can be measured accurately in any manner beyond what faculty members already do. "The resistance is born of ignorance and fear," said Karen Schilling, chair of the psychology department at Miami University in Ohio. "We're all hesitant to expose ourselves, but actually we all want to know how well we've done. The fear comes from having other people know of our weaknesses and errors." Isn't it interesting that college faculty stand firm against evaluation of their teaching even as the American Medical Association has signed an agreement with Congress to develop performance standards for physicians and the U.S. Department of Health and Human Services has moved forward on such a proposal?

The Teagle Foundation, which is underwriting this primer, has funded numerous efforts by groups of colleges to come to terms with the assessment of learning. "This can be a test case of faculty leadership," said Teagle's W. Robert Connor. "It doesn't have to wait until the president and dean come back from their fund-raising trips. If college faculties want to improve the literacy of their students, they can do it. They can make it a priority and they are surely smart enough to find ways to get results."

But Harvard's Bok suggests that the impetus to measure learning outcomes is not apt to arise from the faculty and perhaps not even from college presidents. Therefore, he urges trustees to press for innovative methods of instruction and, in turn, for assessing the quality of education.[20] Whether college presidents or even trustees support the effort, though, assessment of student learning is not likely to succeed unless faculty members cooperate. They are independent agents, as free as cowboys on the range once the classroom door shuts. Many advocates of learning assessment maintain that progress depends on planting the seeds in the faculty and then promoting a "ground up" movement in this direction. This is easier said than done. "Generally, academic culture does not value systemic cumulative assessment of undergraduate learning," Benjamin and Hersh write. "Assessment of value added requires a radical shift within higher education, a great deal of time, effort, cooperation, risk-taking and funding."[21]

Holly Hacker, Dallas Morning News

"This sounds like the complete antithesis of the U.S. News rankings. Parents and students want those rankings with SAT scores and alumni giving rates. How much demand is there from parents and students and consumer for this [assessing learning outcomes]?"

Students, too, represent a form of resistance. A lust for learning, after all, does not compel many of them in their classroom pursuits. Among the main reasons that incoming freshmen give for attending college are to make money, because their parents wanted them to go, and to get away from home[22]—hardly the bedrock upon which to construct citadels of learning.

On the other hand, resistance to assessment, especially by educators, arises from concerns about bestowing too much credibility on a single test. Furthermore, they worry about parents and policymakers making inappropriate judgments based on possibly misleading assessment results about the effectiveness of individual colleges. Professors also feel uneasy about the potential impact on instruction when tests carry high stakes for the institution. Journalists who want to be thorough should take note of such concerns.

WHAT SHOULD STUDENTS LEARN?

Some people believe that there is a body of knowledge that all undergraduates ought to acquire—regardless of major. This idea underpinned the creation of general education requirements and core curriculums for undergraduates at such pioneering institutions as Columbia University, Reed College, the University of Chicago and Harvard University. The approach has often included a canon of literature, sometimes called the Great Books, representing what certain experts considered essential learning.

The curriculum at American colleges was from the earliest days a statement, in effect, of what the ruling class thought it meant to be an educated man (yes, a man). For almost two centuries, the undergraduate curriculum was deemed a vehicle for conveying values and molding character. Ultimately, though, the unity of the curriculum was riven by the incursions of electives, science and technology, specialization and vocational interests. "The B.A. degree, once the symbol of a simple set of standards and expectations and a statement of curricular integrity, became an umbrella," Frederick Rudolph wrote in his 1977 *tour de force* history of the college curriculum.[23]

Some of the most vigorous debates in the academy have revolved around issues related to core curriculum, general education requirements and the so-called canon. The idea of a tightly prescribed curriculum has waned in

Tools for Assessing Learning Outcomes

MEASURING INFORMATION USE: The ICT Literary Assessment

Colleges and universities use assessments—either alone or in combination—developed by test-makers to gauge learning outcomes. The Information and Communications Technology test assesses how well students make use of information in solving problems.

Sponsor:
Educational Testing Service
www.ets.org

WHAT IT MEASURES AND HOW

The ICT (Information and Communications Technology) test assumes that a person skilled in gathering and using information can determine the amount of information needed for a particular task, access it effectively and efficiently, evaluate it critically and incorporate it into his or her prior knowledge of a topic. The person should be able to use the information for a specific purpose and understand the economic, legal and social issues surrounding its use—including, for example, the implications of plagiarism.

In examining a student's ability to evaluate information, for instance, the assessment requires the student—sitting at a computer with a proctor in the room—to judge the probable usefulness of sites identified in a Web search with regard to timeliness, bias, authority and the particular research need.

SAMPLE QUESTIONS

For evaluating information:

- Judge the probable usefulness of sites returned in a Web search.
- Evaluate flyers with respect to their fulfillment of particular criteria.
- Judge the usefulness of Web pages and article abstracts.

Managing information:

- Organize files into folders on a hard drive.
- Place incoming e-mails into correct folders.

Integrating information:

- Combine several electronic suggestions in order to plan a scientific experiment.
- Compare several reviews in order to choose the best product.

Creating information:

- Choose material to create a Web page.
- Create a data display based on information given.

Communicating information:

- Make a slide arguing a position based on information presented in an e-mail.
- Select the best way to advertise an event to the users of an electronic bulletin board.

ADMINISTRATION AND SCORING

Test-takers receive a personalized report on the percentile ranking of the score. For example, when asked to formulate a research statement to facilitate a search for information, the student is supposed to clarify a class assignment. Depending on the result, the report tells the student:

- You selected the best initial question to help focus the topic.
- You chose a follow-up question that was reasonable but not best.
- You selected the best additional information to clarify the topic.

TIDBITS

The California State University system, in collaboration with Educational Testing Service, piloted an assessment of information literacy on all 23 of its campuses. The pilot version of the assessment at one unidentified California campus, which required its sophomores to take a course in information literacy, found that 19 percent of the students performed in the lowest group, 45 percent in the middle group and 36 percent in the highest group. Forty-four percent of male students vs. 32 percent of females scored in the highest group. Among various majors, scores were highest in the sciences and lowest in the humanities. ETS is now marketing two versions of the ICT, one for college students to take at the end of the sophomore or beginning of the junior year and the other for younger students to take as they enter college.

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popularity since the 1960s as critics have charged that such a vision of human experience is too narrow and dominated by the perspective of dead white men.

Journalists occasionally weigh in on these curricular battles, particularly when they involve elite colleges. Extensive news coverage has accompanied periodic studies of the curriculum of Harvard College, for instance, since 1943. That was when President James B. Conant commissioned a review that led to the publication of the so-called Red Book and the implementation of distribution requirements. The latest study at Harvard, begun under President Lawrence Summers and still underway, apparently leans away from requirements and toward more choice.

Laura McCandlish, (Hampton Roads, Va.) Daily Press

"How are universities in other countries using assessments of learning outcomes? Are there any models that have really worked?"

Obviously, the curriculum plays a fundamental role in the growth and maturation of students, but students—even those with the same major—do not follow identical paths through college. Moreover, the same course taught by different professors may vary in content and emphasis. Finally, many undergraduates attend more than one institution en route to a degree, leading to a potential lack of continuity in their education.

So, while each course produces samples of work and ends in a final grade—though sometimes distorted by grade inflation—that more or less attests to a student's accomplishments, those interested in learning outcomes propose to measure attainment in ways not limited to single courses nor to particular fields of study. If college makes a difference in shaping people, then, the reasoning goes, the impact will show up in the expectations of many courses.

COMMONALITIES IN EDUCATION

What knowledge and skills do various courses and majors have in common? Are there so many routes to the bachelor's degree that those who walk across the stage and receive diplomas have almost nothing in common except the smiles on their faces? In other words, higher education reporters would do well as part of their coverage of learning outcomes to explore the manifold definitions—as well as the commonalities—of what it means to be educated in the first decade of the 21st century.

What really does the baccalaureate signify by way of accomplishment, other than an accumulation of academic credits? The learning outcomes movement shies away from the notion that a student who has majored in chemistry and a student who has majored in Chinese should know the same things. The movement does not, for example, call for everyone to be able to critique Kant's philosophy or to read classical Greek or to solve problems using advanced calculus or to describe aspects of molecular biology.

"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,'" the National Association of State Universities and Land-Grant Colleges stated in a position paper.[24]

Proponents of measuring outcomes often propose instead to look at general intellectual skills that presumably flow from many places in the curriculum. They think it is possible to zero in on skills such as these:

- Problem solving
- Analytical reasoning
- Expository writing

To a lesser extent, they would include these kinds of skills:

- Information literacy
- Integration and application of knowledge
- Working in groups
- Emotional intelligence

In 2004, a study by leaders at accrediting associations and several higher education organizations came to a consensus on some key outcomes that all students, regardless of major or academic background, should achieve during undergraduate study. They organized the categories of learning outcomes under three broad headings: knowledge of human culture and the natural world; skills pertaining to written and oral communications, critical and creative thinking, quantitative literacy, information literacy, teamwork and the ability to integrate learning; and learning related to individual and social responsibility in regard to civic responsibility, ethical reasoning and intercultural knowledge.[25] Examples of what some of these outcomes might look like for those entering the business world appeared in another

report the next year by the Association of American Colleges and Universities, a group that focuses on the vitality of undergraduate liberal arts education:

- Quantitative literacy. Businesses want employees who can deal with "real, unpredictable and unorganized situations" using mathematics quickly, accurately and frequently with a calculator.
- Information literacy. Workers are expected to use information from a number of sources and to be able to prepare reports that interpret quantitative and qualitative information. They should also be able to represent information in different forms and be able to convert it from one to the other.
- Teamwork. Extracurricular activities and college projects that require teamwork can help students learn to value diversity and deal with ambiguity.
- Ethical reasoning. Study of the liberal arts can lead to moral understandings that are invaluable to success in many fields.
- Intercultural knowledge. The ability to think critically, to understand issues from different points of view and to collaborate harmoniously with coworkers from a range of cultural backgrounds all enhance a graduate's ability to contribute to his or her company's growth and productivity.[26]

Andrew Abbott, a sociology professor at the University of Chicago, goes so far as to insist that the aforementioned process skills, and not the content of courses, are what make college most valuable. Speaking at an orientation for incoming freshmen, he said: "The argument is that college teaches you not so much particular subject matter as it does general skills that can be applied throughout your future life. . . . Everyone over 30 knows that, as far as content is concerned, you forget the vast majority of what you learned in college in five years or so. But, so the argument goes, the skills endure."[27]

This observation hints at a basic issue that confounds attempts to examine learning outcomes in higher education. The general public simply doesn't agree on the purpose of baccalaureate studies. Some believe that specific job preparation is most important and others eschew such specialization. Some recoil at the idea that anyone can be deemed educated without gaining dominion over a discrete body of liberal learning; others say that we are awash in knowledge and that requiring everyone to master any one body of knowledge is shortsighted. Then, there are disputes over whether the purposes of college should include enhancing such qualities as aesthetic sensibility, tolerance and global awareness. Assessment of learning, in other words, requires that those doing the assessing first decide what counts in an education.

THE INSTITUTION'S MISSION

Each institution that wants to address student learning must begin by deciding what undergraduates there ought to know by the time they graduate. The school's goals can be a lodestar to guide journalists in their reporting on outcomes. Almost every college and university and many individual departments have mission statements on what they expect students to learn and accomplish. Journalists should rightfully inquire about learning goals for specific courses, academic departments and the institution itself. They should ask colleges and universities to spell out the goals with some specificity and wonder about institutions that don't have goals or those that define goals in a vague manner ("They will end up as good people.") that in no way lend themselves to assessment.

In what they call a practical guide to assessment, Andrea Leskes and Barbara D. Wright illustrate this point. "To say, 'Students will be expected to understand the scientific method' begs the question of what a student can do who has such understanding," they write. By way of example, they break the goal into seven components and then provide two to five elements of each component. For instance, to demonstrate the ability to recognize, state and test hypotheses, a student should use data to formulate or recognize hypotheses; identify the evidence necessary to evaluate the hypothesis; create an experiment to test the hypothesis; and then be able to recognize when data support the hypothesis and to what degree.[28]

Wellesley College, outside Boston, took the bold step in 2003 of asking academic departments to identify the learning outcomes they expected for their students. Virtually every department stressed the need to master a body of information and to acquire relevant skills, with more emphasis on skills than on information. Generally, the departments wanted their majors to gain the ability to weigh evidence, analyze data and make arguments—using analytical and methodological skills specific to the particular discipline.

Curiously, according to Wellesley's committee on academic excellence, which oversaw the process, few if any departments mentioned the development of critical reading skills as a goal of their major programs. This left some members of the committee wondering if departments should develop greater awareness of how their majors read and the extent to which they understand the texts assigned in their courses. Lee Cuba, a sociology professor at the college and its former academic dean, questioned whether the department had done enough to let students know about what the departments expected of them.

Clearly articulated goals that translate into specific aims and outcomes for student learning should characterize education at every institution, the Association of American Colleges and Universities insists. AACU urged the Commission on the Future of Higher Education to charge accrediting agencies with ensuring that each institution articulate its educational aims and outcomes and make them part of a public document. In the hands of journalists, such documents could be roadmaps to guide the questioning of college administrators and professors about why they chose particular outcomes instead of others.

Many observers maintain that a major strength of American higher education resides in the multitude of institutions, each with its own separate mission. Indeed, William G. Durden, president of Dickinson College, believes that evaluation and accountability at each college should focus on that school's distinctive history and the precise reasons for which it was founded.[29] Fair enough. Reporters covering higher education should not be put off by this attitude. They should ask administrators and professors at each school, regardless of distinctiveness, what they know about how thoroughly students have realized the learning objectives within the context of the college's mission.

The University of Wisconsin System has the Syllabus Project, an initiative to encourage professors to include learning goals in their course descriptions. As with most initiatives involving faculty, this one is voluntary and the state's campuses are responding unevenly. "This is one of the ways we are seeking to make the teaching and learning of liberal education outcomes intentional for faculty and students," said Rebecca Karoff, an administrator in the university system. The University of Wisconsin-Oshkosh has taken a lead in complying, but course descriptions vary widely. Among the most specific is this one from a course in American history through 1877, which reads, in part, as follows:

This history course can help you become well educated in two ways. One, it can provide you with a basis of knowledge about how this nation was created. So when you hear judges claim to know what the Founding Fathers wanted, or observe the ongoing debate over the separation of church and state, or wonder why the Midwest is so different from the South or Northeast, you'll have a fighting chance of knowing what's going on. The second way . . . is by honing critical thinking skills. Making sense of history involves looking for patterns, learning to read and interpret documents, imagining a different sort of world and thinking about the choices people have made.

Carol Biliczky, Akron Beacon Journal

"It's seems to me that much of what you're testing is impossible to gauge. What goes into a successful job candidate or a graduate are things like maturity and emotional intelligence and persistence. I don't understand how you would even begin to calculate that."

TWO CASES: ALVERNO AND KING'S

Alverno College in Wisconsin was a pioneer in the early 1970s when it defined education in terms of the abilities students needed for work, making a family and contributing to the community. The skills involved related to communication, analysis, problem solving, values that guide decision-making, social interaction, global perspective, citizenship and aesthetic engagement. Alverno measures students' performance in individual courses as well as how well they integrate what they learn in various courses. Assessment of students is part of the learning process, with faculty providing the students with feedback and diagnosis via a digital portfolio for each student. A project in either the sophomore or junior year requires students to use the skills they acquire in their course work. A senior project requires students to demonstrate that they can apply the skills from several courses to solve a problem.

King's College in Pennsylvania also has made assessment an ongoing process closely connected to learning. Assessment is embedded in both the core curriculum and in individual majors. Required liberal arts courses focus on critical thinking, writing, oral communication, information literacy, creative thinking and problem solving, quantitative reasoning and moral reasoning. Each academic department addresses these skills as competencies developed in individual courses. Students receive continual feedback on their progress toward the goals.

Journalists reflecting on the approach taken at a school like Alverno or King's should distinguish between the formative assessments used at these colleges and the summative assessments that so many people have in mind when they think of testing. Formative assessment is primarily a learning tool, providing feedback to students and to professors. It is not used to compare students or reward or punish them. Summative assessment—such as a test to determine grade-to-grade promotion or whether a student receives a diploma—judges the test-taker in relation to others.

There may be good stories in the trade-offs a school makes in choosing some learning goals over others. When Wellesley went through the process of getting academic departments to enunciate objectives, for example,

Tools for Assessing Learning Outcomes

MEASURING INVOLVEMENT: The National Survey of Student Engagement

Test makers have developed a number of assessments that colleges and universities use to try to assess learning outcomes. Institutions administer the assessments alone or in combination. The survey, known as NSSE, looks at how students spend their time because it is a key indicator of how much they're likely to learn.

Sponsor:
NSSE Institute, Indiana University
www.nsse.iuab.edu/institute

WHAT IT MEASURES AND HOW

Studies show that undergraduates engaged by instruction, activities and experiences do better in college than those who feel alienated from the life of the institution. Based on these research findings, the NSSE tries to measure student engagement by asking about features of college associated with achievement, satisfaction and persistence. The survey does not assess knowledge and skills, but assumes that engagement correlates with better learning outcomes and greater personal development.

The NSSE asks about the amount of reading and writing students do; the number of hours per week devoted to schoolwork, extracurricular activities, employment and family matters; and the nature of their examinations and coursework. Students respond to the survey during their freshman and senior years, providing a basis for observing behavior over time.

"What students do during college counts more in terms of desired outcomes than who they are or even where they go to college," said George D. Kuh, a professor and director of the Center for Postsecondary Research at Indiana University. "Thus, educationally effective colleges and universities—those that add value—channel students' energies toward appropriate activities and engage them at a high level in these activities." Kuh says that higher engagement levels and higher grades go hand in hand.

SAMPLE QUESTIONS

During the current school year, about how often have you done each of the following? (Test-takers can answer very *often, often, sometimes* or *never.*)

- Attended an art exhibit, gallery, play, dance or other theater performance.
- Exercised or participated in physical fitness activities.
- Participated in activities to enhance your spirituality.
- Examined the strengths and weaknesses of your own views on a topic or issue.
- Tried to better understand someone else's views by imagining how an issue looks from his or her perspective.
- Learned something that changed the way you understand an issue or concept.

ADMINISTRATION AND SCORING

The assessment provides feedback that can help schools find ways to engage students more actively in campus life.

TIDBITS

The idea of such an assessment was broached at a meeting of higher education leaders in 1998 convened by the Pew Charitable Trusts; the first pilot version of the NSSE was administered the next year at 75 colleges and universities. The survey relies on self-reporting by students, which leads some observers to question its validity. Kuh maintains, though, that students are accurate, credible reporters of their activities and of how much they have benefited from the college experience.

questions arose about introducing more course requirements for majors and making the course content more difficult. There was concern that moves in this direction might drive students away and make it harder for undergraduates to carry double majors, as many wish to do. It takes thorough and sensitive reporting to ferret out such issues, which exist at all institutions, but the effort will enrich the coverage.

LEARNING AT THE UNIVERSITY OF MARYLAND

The Philip Merrill College of Journalism at the University of Maryland is trying to decide which classes should help students learn specific skills or knowledge. The college is delving into this issue as the university works toward re-accreditation by the Middle States Association. The desired outcomes, set by the Accrediting Council on Education in Journalism and Communications, involve the knowledge and skills that students will need as journalists: familiarity with specific facts, concepts, theories, laws and regulations, processes and effects; assimilation and comprehension of what they have learned; and application of skills, information, concepts and theories to do their job.

A faculty committee tentatively identified required journalism courses in which to assess students for outcomes. For example, students would be assessed in J320 (News Writing and Reporting II: Print) or J361 (Television Reporting and Production) for their ability to research, write, report and edit relevant, publishable news stories. Three other courses would assess students on their understanding and awareness of the history of journalism and the role of journalists in society; the ethical guidelines and practices that govern the profession; and the legal implications and considerations that inform the profession.

As mentioned, schools throughout the country debate whether the big-picture goals of a program or college—such as the attributes of good writing—should be the focus of specific courses, as at the journalism college at Maryland, or embedded in all of the courses a student takes. Carleton College in Minnesota, for instance, once limited its assessment of writing to the work a student did in a single course. More recently, though, Carleton has required students to create a portfolio of papers written in different rhetorical and disciplinary contexts. This approach "eliminates the perception that writing is something to be checked off after one course rather than a skill that underlies most of an undergraduate's education," according to Clara Shaw Hardy, a professor of classical languages.[30] Perhaps different approaches are in order, depending on whether a school aims to convey content knowledge or overarching skills that extend to many courses.

The Teagle Foundation's Connor takes a strong position on this matter. He deems it imperative, for instance, that students be taught to analyze, evaluate and persuade: "Those cognitive capacities are immensely valuable but not swiftly acquired. They take systematic development from day one, through every course and project, up to and including departmental requirements, research projects, senior theses, capstone courses and comprehensive exams."[31]

HOW TO MEASURE IT

Faculty members consistently demand evidence for almost everything in their professional world. They seek evidence in the research of peers that they judge for publication in scholarly journals. They want evidence to back up the positions that students take in classroom discussions and in papers they submit. Why, then, shouldn't schools seek evidence of the outcomes of teaching?

Of course, professors award grades to students, but do grades accurately speak to learning outcomes? The Middle States Commission on Higher Education says that "grades are not direct evidence of student learning," that a "grade alone does not express the content of what a student has learned . . . only the degree to which the student is perceived to have learned in a specific context."[32] So, this leaves unaddressed the issue of how best to measure learning outcomes.

Students already submit to a host of tests at the culmination of their undergraduate education. The Graduate Record Examination, Law School Admission Test, Graduate Management Admission Test and Medical College Admission Test all are used to determine whether students get into post-graduate programs or professional schools. Other seniors, headed into the work force, must pass licensing tests such as those mandated for certified public accountants and schoolteachers. Perhaps scores on these kinds of tests could be used to judge learning outcomes for at least some students, though this is an idea not readily accepted.

When it comes to the learning of undergraduates, many faculty members remain skeptical of the ability of almost any test to assess outcomes. With these reservations in mind, a group of selective colleges near Interstate 35 in the Midwest are collaborating to explore this issue. Each college has chosen to focus on a particular area of learning—Carleton on writing, Macalester on analytical reasoning, St. Olaf on critical thinking and Grinnell on global understanding,

The colleges are administering at least two tests in each of the four areas of learning. They are using the Collegiate Learning Assessment most extensively, but also giving assessments of their own design. The CLA, an assessment now used at nearly 150 colleges and universities, asks students to perform tasks that measure their skills in critical thinking, analytical reasoning and

written communication. In addition, the colleges are analyzing the results of individual students on the CLA to see whether the outcomes match up with the colleges' own measures of the same students.

As a school particularly interested in raising its students' awareness to globalization, for example, Grinnell wants to know how to measure the effects of encouraging students to study abroad, dealing with international topics in the curriculum and having an enrollment in which 14 percent of the students hail from other countries. What impact does making Grinnell's students "less parochial" have on their learning? wonders Bradley W. Bateman, the college's associate dean.

WHAT INFORMATION MIGHT BE GATHERED?

Institutions that want to find out what they add to a student's development during the undergraduate years need information in addition to grade point averages, graduation rates, acceptances at graduate and professional schools and job placements. Such data, while useful, reveal little about how much a person grows as a critical thinker over four years, for instance. Mark Chun of RAND Corp. has identified four approaches to gathering information about learning:

- Actuarial data
- Ratings of institutional quality
- Student surveys
- Direct assessments of student learning[33]

Jodi Cohen, Chicago Tribune

"I wonder how often a college or university loses accreditation or has its accreditation affected because it's not measuring student outcomes or has poor results."

ACTUARIAL DATA

Actuarial data means information on, for instance, graduation rates, faculty-student ratios and levels of external research funding. It might include, as well, information on enrollments in specific courses and expenditures for various programs. "A better quality educational institution (or a better quality educational experience) is necessarily associated with more and better resources—in this case, better funding," Chun said. In other words, the data—mostly linked to inputs—say something about the capacity of a college or university to promote learning, but do not reveal much about the learning itself.

The annual Performance Measurement Report issued by the Massachusetts Board of Higher Education illustrates this sort of approach. It contains summary data on each of the commonwealth's public institutions of higher education, including information on so-called "student success." However, a look at just one college, Fitchburg State, reveals statistics on first-year retention, the six-year graduation rate, degrees conferred and the pass rate on the state's test for licensing teachers—but nothing that measures learning.

RATINGS AND RANKINGS

As for ratings and rankings, institutions of higher education have a love-hate relationship with *U.S. News & World Report*, one of the most widely known purveyors of such measures. Educators consider these rankings capricious and misleading, yet some colleges and universities that win high ratings have no qualms about publicizing their lofty standing. On the other hand, low ratings cannot always be ignored, as a law school dean at the University of Houston discovered in 2006; when some faculty members criticized her after the school's standing slipped, she ended up resigning.

The 2006 edition of the *Ultimate College Guide* published by *U.S. News* contains lots of information about how to get into college and how to pay the cost, as well as statistics about the credentials of entering students in profiles of individual institutions—but virtually nothing about learning. Similarly, the 2006 edition of Princeton Review's *The Best 361 Colleges* provides individual profiles that disclose each institution's degree of selectivity, freshman class profile and financial aid facts, but omits mention of learning outcomes. Clearly, families comparing and considering colleges make decisions in the absence of knowledge about what it is that students learn at these places.

When *BusinessWeek* rated undergraduate business schools in 2006, the magazine used a formula that included an "academic quality rank" based on five factors: SAT average scores, faculty-student ratio, average class size, percentage of business majors with internships and hours per week students spend studying. The ratings did not speak directly to learning outcomes. At least *BusinessWeek* was candid about why some schools succeed on many of its measures, saying that "they pass the first test of an undergraduate program: recruiting the best high school graduates."

When Richard Hersh was president of Hobart and William Smith College in New York state he tried, as

chairman of the Annapolis Group—an organization of private liberal arts colleges—to get colleagues around the country to boycott the *U S. News* rankings by refusing to submit the data that the magazine requested. Only two other presidents in the group agreed to his proposal. Eventually, after he left the college presidency, Hersh became co-chairman of the effort to develop the Collegiate Learning Assessment, acknowledging that part of the impetus was to provide an alternative to the *U.S. News* rankings.

SURVEYS

The National Survey of Student Engagement is perhaps the best known of the student surveys. It determines the extent to which students are engaged and active in their education. Not a direct gauge of learning, NSSE purports to offer information about learning because more engaged students learn more in college, a perspective that is bolstered by research on the impact of college. Other kinds of indirect assessments of outcomes include interviews and focus groups. Also, surveys sometimes ask alumni how well their education served them in their careers. Journalists may be rebuffed but they should ask, nonetheless, whether colleges, particularly those that receive public support, would be willing to share the findings of such surveys with them.

DIRECT ASSESSMENTS

This is what most people have in mind when they think about assessments of student learning. Some direct assessments are linked to a particular course; others deal with outcomes that supposedly result from more than one course. An assessment in a so-called "capstone" course during the senior year represents a middle ground, using a specific course to examine the extent to which a student understands and integrates what has been taught during the years leading up to that course. Direct assessments may also include evaluation of senior theses and of portfolios of work.

Kelly Heyboer, (Newark, N.J.) Star-Ledger

"In New Jersey, we have performance funding, and when I came on the beat I covered it each year. Some schools got 100 percent of their funding; some got 98 percent. After a time, I just didn't cover it anymore; it was always the same. It really didn't tell readers anything. It was only 1 percent of the funding, so who cared?

Education reporters, accustomed to direct assessments in elementary and secondary schools, are apt to want to focus on direct assessments in higher education. They had better prepare themselves for some disappointments. Many academicians want to avoid anything resembling the standardized tests so common to pre-collegiate education. In fact, some of the controversy surrounding the deliberations of the Commission on the Future of Higher Education revolved around the notion that the panel might endorse standardized tests.

This dispute was exacerbated by the misapprehension that standardized tests are necessarily norm-referenced and multiple-choice, as is often the case in elementary and secondary schools. Education writers, though, should learn more about standardized tests and recognize that they may not be norm-referenced and may not use multiple-choice responses. They may be referenced to criteria that theoretically—unlike norms—every test-taker can meet. Moreover, essay responses can be standardized. In fact, the purpose of standardization is to assure fairness by using the same or equivalent questions on assessments administered under similar conditions and subject to identical guidelines for grading them.

RUBRICS FOR SCORING

Having established learning goals, institutions must develop rubrics or rating scales by which to judge a student's work—including essays—in terms of the level of performance the work represents. If, for example, a goal is to write an articulate and persuasive report in a business course, someone has to decide what characteristics make it articulate and persuasive. Moreover, there must be agreement about a scale along which to measure the performance.

As an illustration, consider the National Assessment of Adult Literacy, which last year found that one-third of the nation's adults stood at the basic level or lower in their ability to make sense of such documents as maps, television listings and blood pressure tables. To make such a statement, the designers of the assessment had to decide what abilities were associated with each level—below basic, basic, intermediate and proficient (which, incidentally, only 13 percent of adults reached).

Those below the basic level could follow written instructions in simple documents; at the basic level, they could read and understand those documents; at the intermediate level, they could locate information in dense, complex documents and draw simple inferences; at the proficient level, they could integrate, synthesize and analyze multiple pieces of information in complex documents. Such descriptions are called rubrics and help determine scores.

Tools for Assessing Learning Outcomes

MEASURING SKILLS: The Collegiate Assessment of Academic Proficiency

Test-makers have developed assessments for colleges and universities to use, either alone or in combination, in an attempt to measure learning outcomes. This assessment uses a combination of multiple choice and an essay and measures what students learn in the first two years of college.

Sponsor:
ACT (formerly American College Testing Program)
www.act.org/caap

WHAT IT MEASURES AND HOW

The Collegiate Assessment of Academic Proficiency is usually administered at the end of the sophomore year or the beginning of the junior year to examine the skills that students acquire in general education courses during their first two years of college. CAAP consists of six 40-minute examinations and leaves it to the school to decide which ones to administer. One examination is a written essay; the other five assess reading, writing skills, mathematics, science and critical thinking.

The test of writing skills, for instance, has questions on punctuation, grammar, sentence structure, strategy, organization and style. The math test examines pre-algebra, elementary, intermediate and college algebra, coordinate geometry and trigonometry. The critical thinking test deals with analysis of elements of an argument, evaluation of arguments and extension of arguments.

SAMPLE QUESTIONS

Students are asked to read a passage about conflicting views of physics as formulated by Aristotle and then Galileo. The first question shows four graphs with speed ("v") along one axis and time ("t") along the other axis. The test-taker has to identify the graph that accurately represents Galileo's theory, then answer questions like this:

> *A book dropped from a height of 1 meter falls to the floor in t seconds. To be consistent with Aristotle's views, from what height, in meters, should a book three times as heavy be dropped so that it will fall to the floor in the same amount of time?*
>
> *(A) 1/9*
> *(B) 1/3*
> *(C) 1*
> *(D) 3*
>
> (The correct answer is D.)

ADMINISTRATION AND SCORING

Information from CAAP allows institutions to make comparisons with learning outcomes of students at other schools. Institutions may use scores as indicators of students' readiness for further education, to identify interventions that students need and to ensure that students reach specified levels of success before graduation. ACT encourages institutions to use CAAP as a measure of the academic impact of a college by comparing upperclassmen with freshmen and by comparing scores of upperclassmen with their high school ACT scores.

TIDBITS

ACT, the developer of CAAP, is one of the two major companies—along with Educational Testing Service—that creates college admissions examinations.

Want to keep this discussion alive? See inside back cover for feedback direction.

The senior year, as the culmination of undergraduate education, represents an important point at which to gather the fruits of learning to see whether they fill the basket. Allegheny College in western Pennsylvania has expected its students to do a senior project ever since the college's founding in the mid-19th century. Allegheny says that the project promotes "students' abilities to develop, organize, execute and present findings from a complex project that typically requires creativity, problem solving and persistence."

If there were some way to compare the quality of such senior projects from year to year and from school to school, it would provide useful information about the attainments of students, but this is unlikely to happen any time soon. Until now, all that Allegheny—like most institutions—has offered by way of rating these projects are grades, which are as variable at that college as they are on most campuses. Allegheny did not even have common standards among professors—rubrics, if you will—by which to judge the projects.

Not to pick on Allegheny. It deserves credit for its historic attempt to encourage seniors to weave together the strands of their education through the senior project. Now, though, Allegheny has begun asking academic departments to develop rubrics for gauging the quality of these projects, which most departments say should demonstrate the ability to do independent research and to write effectively about the results. This effort is part of a 10-year project at the college to agree on learning goals and to create a process for assessing those outcomes.

Educators frequently maintain—and rightly so—that not everything that happens in college lends itself to measurement. They evince a feeling that aspects of the process and the nature of the college experience are catalysts—just as may occur in an experiment in the chemistry lab—that affect outcomes but leave no trace in the final mix. Scott Brophy, a philosophy professor at Hobart and William Smith College, puts it this way in referring to the attitudes of some of his colleagues about efforts to measure outcomes: "There is the fear of demystifying the ineffable nature of what they are trying to do."

But legislators, like journalists, want evidence and are not impressed by ineffability. They are less willing than formerly to leave scrutiny of learning outcomes to individual professors at individual colleges and universities. The states increasingly seek information on learning outcomes at institutions, particularly those in the public sector, over which they have most control. Such efforts in most states have moved at a crawl until now.

STATES AND ASSESSMENT

A review of state policy found in 2000 that only six states assessed learning outcomes in ways that made it possible to compare institutions. Ten other states mandated assessment of outcomes, but results among the colleges were not comparable as each institution could choose its own tests.[34] Moreover, states that require assessments may allow schools to measure outcomes in just a few programs rather than across the board. Other approaches are found in such places as Arkansas, Florida and South Dakota, where sophomores must pass tests to continue as juniors.

New Jersey offers an example of a state that tried with little success to tie funding to performance, which some advocates of assessment say would put more muscle in the outcomes movement. New Jersey did not require assessment of actual learning, but gathered statistics on student retention, graduation rates and efficiency. Colleges and universities with favorable results could win increases of up to 1 percent in operating aid, a sum that officials at the institutions deemed so paltry as to barely compensate for the cost of gathering the data. The state abandoned the program in 2004 and, more recently, its Commission on Higher Education has been weighing whether New Jersey should make the assessment of actual learning outcomes part of its accountability program.

The assessment demonstration project by the National Center for Public Policy and Higher Education in five states used several measures. One was the National Adult Literacy Survey; another looked at scores on various licensure tests and professional and graduate school admissions examinations; and yet another considered scores on assessments of general intellectual skills of students about to graduate from two- and four-year colleges. Based on these various indicators, the National Center concluded that this approach "tells a state the extent to which its institutions are collectively effective in contributing to its store of educational capital." The demonstration project led to the finding that "a state can benchmark its performance against that of other states and against itself over time."[35]

Virginia, which has been measuring outcomes for several years, gives schools a great deal of autonomy in the process. The governor and General Assembly mandated "Reports of Institutional Effectiveness" in 2000, to begin in 2002. Elected officials said the reports would provide evidence of institutional effectiveness by highlighting accomplishments and demonstrating progress toward improvement.

The Web site operated by the State Council of Higher Education for Virginia offers a treasure trove of outcome data, institution by institution. There is some uniformity in that all of the commonwealth's colleges and universities—whatever else they might measure—have to assess written communication and technology the first year, quantitative reasoning and scientific reasoning

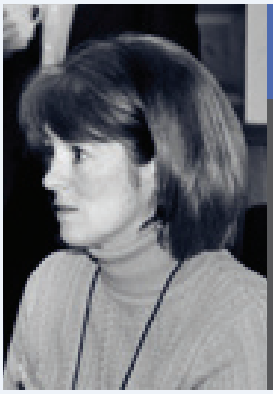
the second year and critical thinking and oral communication most recently.

The report for George Mason University, for instance, shows that of 89 graduating seniors in nursing who were tested on writing, 12 percent performed unsatisfactorily; 15 percent were unable to write a well-organized paper; 10 percent did not demonstrate critical thinking in their writing; 19 percent had problems with grammar and mechanics; and 13 percent could not incorporate key concepts in their writing.

One of the complications in assessing learning in Virginia and in most other states is that students often don't have a stake in the outcomes. If the test scores don't matter to the student, then the student may not try her best. This cavalier attitude confounds measurement experts when they need a scientific, random sample of the student population. Faculty members and administrators on various campuses tell of having to bribe students to take tests of learning outcomes by offering them pizzas, T-shirts and gift cards to the book store.

WHAT VALUE DOES COLLEGE ADD?

A student's knowledge, skills and dispositions at the end of his undergraduate years undoubtedly have much to do with where he stood upon entering college. Some people argue that a college should be measured by how much students gain while enrolled rather than on an absolute scale. Some students grow more than others in college. If the highest-achieving students generally attend the most prestigious, most selective colleges, what does it mean that those institutions boast the highest scores at the end of the process?



Kelly Simmons, Atlanta Journal-Constitution

"The governor asked all the agencies in Georgia to look at performance. They clearly hadn't thought it through. There wasn't anything that I could put on paper that was going to tell the reader anything. They were just saying things like, 'If we can get the graduation rate up 1 percent, if we can get the retention rate up 1 percent.' It kind of stalled, and I'm waiting to see what they do next."

"The value-added concept levels the playing field," Peter Ewell said. "A less selective institution can win at this game, whereas in the selectivity game, there's no way for them to win. If you're Harvard and you're bringing in the best students in the country and you're just looking at outcomes measures, you may or may not be able to say that Harvard contributed much." Assessments of students early and late in their college years can show how much they've gained during that time. Admittedly, there is no way to prove that the college caused that learning to occur. Students may read unassigned books or simply chat regularly with sagacious grandparents. Even in such instances, though, college experiences presumably have some effect.

There is no "intelligent way" to compare institutions that "are essentially different," argues the National Association of State Universities and Land-Grant Colleges. This group of major flagship universities maintains that "value-added is the appropriate outcome measure upon which to focus and that learning outcomes should be viewed in terms of students' entering test scores and grade point average from high school."[36]Another twist on value-added—not simply looking at changes from the freshman year to the senior year—involves what are known as *expected* outcomes. The Collegiate Learning Assessment, for instance, is designed to tell whether a student has achieved, exceeded, or fallen short of expected outcomes, which are based on the student's college entrance test scores and the past performance of similar students. Using this approach, one may compare learning outcomes at colleges that admit similar students to determine which schools add the most value. So, more than merely revealing the growth of the student, this assessment compares that growth with what has happened to other students who started college with more or less the same characteristics.

Three small liberal arts colleges—Kalamazoo in Michigan, Earlham in Indiana and Colorado College—share many characteristics, while having their own separate, distinctive approaches to education. Kalamazoo's K-Plan sends more than 80 percent of the college's students abroad for study; Earlham preserves Quaker traditions that it says "uphold the pursuit of truth"; and Colorado has a block plan that divides the academic year into eight segments during which students take one course at a time. What all three schools share is an interest in discovering just what value they contribute to a student's development.

During the 2005–06 academic year, the three colleges administered the Collegiate Learning Assessment to a sample of freshmen and seniors to gauge differences between students at the start of their college education and at the end. "We want to see what conclusions we can draw," said Paul Sotherland, a biology professor who is leading the project at Kalamazoo. "We may find no value added, but I don't expect that." The three schools also are collectively administering the Cooperative Institutional Research Project Survey and the National Survey

of Student Engagement and convening focus groups of students, all in pursuit of evidence about student outcomes.

Sotherland expects that eventually the colleges will make their findings available online. "It would be great," he said, "if the media look at this and pay attention to what really happens. We need to demonstrate that we are having a positive impact on students. We can say we are doing something with these students over four years, but we have to be able to back it up." Sotherland is not satisfied, though, with just testing the process skills—such as problem solving—measured by the Collegiate Learning Assessment. He also would like to know what college adds to the store of students' knowledge in the content areas—in his case, biology.

Hamilton College, a liberal arts school in upstate New York, decided to see how much students' writing improved during their undergraduate years. The college set out to do this by obtaining copies of papers students wrote in various disciplines and comparing their development in writing over their four years at the college. One hundred freshmen who entered Hamilton in 2001 were enlisted for the Writing Assessment Study, which had financial support from the Andrew W. Mellon Foundation. Papers written by the students when they were high school seniors were included for most of the students. A team of outside evaluators read the papers.

The study led to the conclusion that students' writing improved noticeably from high school to college and over the course of their college career. The biggest gains in writing ability seemed to come during the early college years, although the improvement in any particular year was not great. The evaluators found no improvement from the junior to the senior year. Wouldn't it be good to know how well students at all colleges improve their writing during their college years? That, after all, should be one of the results of a college education and journalists, of all people, should want to write about it.

HOW THE WHOLE CAMPUS AFFECTS OUTCOMES

One attraction of small, residential liberal arts colleges is that classes are only one part of the learning experience; students also learn on the sports fields, in the residence halls and while participating in a wide variety of extra-curricular activities. Four private colleges—Furman in South Carolina, Austin in Texas, Pennsylvania's Juniata and Washington and Lee—are trying to assess what students learn from undergraduate research projects, study abroad, collaborative learning and the teaching of applied ethics.

Bill Berg, the project leader at Furman, for example, says of the college's tradition of undergraduate research: "In the past, we didn't have a great deal of confidence that we knew its exact value. There was a lot of anecdotal evidence, the strongest being the success of our students in getting into graduate programs." Now, Furman is using the Internet to survey alumni from the Class of 1991, asking them to reflect on the impact of their undergraduate research experiences on their personal and professional lives.

Probably the most extensive study of how college changes people is the research that Ernest T. Pascarella and Patrick T. Terenzini have carried out over three decades. They concluded unequivocally that students acquire not only factual knowledge and general cognitive and intellectual skills but also experience changes in their values and attitudes. They found clear and consistent evidence that undergraduates' use of principled reasoning to judge moral issues increases during their college careers. These effects, according to the researchers, extend to the choices that people make as college graduates, their lifestyles and the nature of their children's lives.

The mere fact of attending college may be more important than where one goes. The crucial issue is "attending vs. not attending college," Pascarella and Terenzini write. Their research found little variation in students' cognitive and intellectual development from college to college. But they also found some evidence that the college you attend can affect aesthetic, cultural and intellectual values, as well as political and social liberalism and secularism. Furthermore, "living on campus (vs. living off campus and commuting) is the single most consistent within-college determinant of the impact of college," according to Pascarella and Terenzini. The changes induced by living on campus are indirect in that they maximize opportunities for social, cultural and extracurricular engagement.[37]

These findings have extra significance in an era in which the majority of undergraduates attend schools part time and most do not live on campus. Journalists should describe what, if anything, institutions do to give commuting students experiences that replicate somewhat those of full-time, resident students. If going to college supposedly promotes learning, it is not unreasonable to probe into whether some aspects of the college experience are missing or at least incomplete for some students.

DISCLOSING OUTCOMES

The growing interest in learning outcomes is not apt to produce some new system for across-the-board rankings of colleges, as journalists and others might hope to see. Comparisons, to the extent that the direct assessment of learning outcomes makes them possible, may be limited mostly to colleges that share attributes, particularly in regard to enrollment characteristics and selectivity. This

Tools for Assessing Learning Outcomes

MEASURING THE CURRICULUM:
The Measure of Academic Proficiency and Progress

Colleges and universities use assessments—either alone or in combination—developed by test-makers to gauge learning outcomes. The Commission on the Future of Higher Education identified MAPP as a good example of a higher education assessment.

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WHAT IT MEASURES AND HOW

The Measure of Academic Proficiency and Progress examines college-level reading, mathematics, writing and critical thinking in the context of the humanities, social sciences and natural sciences—all in a single test that yields multiple indicators.

SAMPLE QUESTION

MAPP offers this sample question as a way to gauge skills in critical thinking:

Suppose that a feminist suffragist such as Alice Paul, who was jailed for picketing the White House to gain the vote for women, argued that the state had no right to punish her, despite the claim of validity made by the Laws. Which of the following arguments could she have best used to oppose the claim by the Laws?

(A) The denial of the vote leaves her as a non-citizen outside the state and not in a position to make the argument the Laws describe.

(B) Even if the peace was disturbed by the picketing, confinement in jail was too severe for the nature of the offense.

(C) The freedom to oppose the policies of the government should be extended to all.

(D) Sincerity of opposition to one of the edicts of the government can motivate disobedience to it.

(The correct answer is A.)

Another question, dealing with the natural sciences, offers a fairly lengthy explanation of the influence of an animal's color on its absorption of solar radiation. It also cites recent findings that suggest that the properties of an animal's coat other than color affect how it uses the sun's energy. Then, questions with multiple-choice responses ask about the role and properties of an animal's coloration in various habitats and climate conditions.

ADMINISTRATION AND SCORING

ETS says the multiple-choice test looks at general education outcomes, focusing on skills rather than content-specific knowledge. This test may be given during a student's freshman, sophomore or junior year. MAPP reports both criterion-referenced scores that indicate the performance levels of students and norm-referenced scores that compare students with other groups of test-takers. Educational Testing Service claims that the proficiency classifications—showing a student's skills level—better lend themselves to measuring growth in learning.

TIDBITS

ETS says that MAAP documents program effectiveness and improvement over time in ways that enable institutions to pinpoint the strengths and weaknesses of the curriculum.

means journalists probably won't readily find data to compare learning outcomes at, say, Chadron State College in Nebraska, Adrian College in Michigan and Yale University. So, journalists should think about other ways in which to take advantage of the burgeoning activities related to learning outcomes. Even without comparisons they can develop insightful stories about the effects of college.

Some schools already take a fairly transparent approach to learning outcomes, and it is possible now to write about their assessment programs. The College of Business and Economics at California State University, Northridge, for instance, offers a Web page displaying results of examinations in six lower-division courses topic by topic. The assessment information also includes reports on the performance of seniors on tests of basic business concepts, feedback from local employers about how well the schools graduates have performed on the job and alumni survey responses about the undergraduate program.

Dorie Turner, Chattanooga Times-Free Press

"In Tennessee, it [performance] is a part of the formula that hasn't been fully funded in 17 years, I think. This past year something like 85 percent of the performance funding formula was funded. So why write about it when the state Legislature is not even really paying attention to it?"

The University of Texas system has taken giant steps in accounting to the public in ways for all to see. Its Web site offers online visitors a wealth of information about individual campuses in the state university system. The Texas system also helped pioneer the use of the Collegiate Learning Assessment, which gauges how well students do on critical thinking, problem solving and writing tasks, not on specific course-related material.

Thus, a visit to the Texas Web site reveals, for example, that freshmen and seniors scored as well or better than the national sample on measures of problem solving, critical thinking and analytical reasoning. On writing, seniors on the El Paso, San Antonio, Pan American, Austin, Tyler, Dallas and Arlington campuses surpassed the average performance of a national sample. Furthermore, seniors at the Permian Basin, San Antonio, Pan American and Arlington campuses all gained significantly during their college years.

Transparency as it unfolds in the learning outcomes movement will probably not lead to the demise of the *U.S. News* rankings, as some of its detractors would like. Diligent journalists, though, should be able to use discussions of outcomes to write penetrating articles about teaching and learning. Reporters who deal with the nuances of teaching and learning will not end up with coverage that gives stars or ratings to colleges—a la restaurant reviewers—but they will delve more deeply into the intellectual experience of college than much of the coverage has so far.

IMPLICATIONS FOR BETTER TEACHING

Assessment in higher education is about more than testing students. Learning outcomes inform the faculty about the effects of instruction, and many observers believe this is the most vital aspect of the process. Journalists are remiss if they do not pursue this part of the story even if it is not as sexy as comparing colleges. Any school in possession of evidence about learning outcomes ought to use it for faculty development—helping professors to improve their work. "Part of assessment is recognizing things that we can do better," said Miami University's Karen Schilling. Evidence that reflects on learning outcomes, in other words, should be a source of course and program improvement.

Only a tiny portion of those employed on college and university faculties will leave their greatest imprint via published research discoveries. The lasting legacy of most faculty members will be through their teaching. "A teacher affects eternity; he can never tell where his influence stops," Henry Adams wrote.[38] It was an apt observation in the 19th century and remains so in the 21st century. Given that teaching holds the greatest potential for most academics to make a mark, it is particularly intriguing that the quality of teaching and its ability to affect outcomes do not count for more. The learning outcomes movement offers those who take teaching to heart the opportunity to find new validation in their careers.

There is, in fact, growing recognition of a scholarship of teaching, and it is the subject of an increasing number of articles and other publications even if the academy still does not accord teaching the prestige that it bestows on traditional research.[39] As Jill Reich, vice president for academic affairs at Bates College in Maine, points out, assessment of learning outcomes can affect the culture of inquiry on campus, causing faculty members to ask themselves whether their teaching is successful. Assessments, as with the institutional self-studies that accompany accreditation, are a kind of inventory of strengths and weaknesses—for both the students and for the teachers who are supposed to help them learn.

Such organizations as the Carnegie Foundation for the Advancement of Teaching have made the promotion of better teaching central to their mission, pursuing work

that cultivates the capacity for responding to needs identified by the assessment of learning outcomes. "Faculty who have taken up the scholarship of teaching and learning offer ample, enthusiastic testimony of its power to change their own classrooms, to revitalize their teaching and to improve their students' learning," says a book published in 2005 under the auspices of the Carnegie Foundation.[40] For reporters, this interest in instructional improvement can serve as a sure route to more thorough coverage of teaching and learning in higher education.

Setting goals for learning at the beginning of a course, as the learning outcomes movement encourages, may well be one way to make teaching more effective. It is a step similar to what some speakers do at the outset of a presentation or what some writers do at the start of an article. In the classroom, it alerts students to what they can expect. California State University, San Diego, requires faculty members to include expected learning outcomes on course syllabi. How many reporters have thought to use such documents as a basis for interviews with students at the conclusion of courses to see whether intended outcomes have been realized?

WHAT MAKES FOR BETTER TEACHING?

Ultimately, better teaching in college depends on faculty having the time, interest and inclination to make changes. Unfortunately, there is insufficient reinforcement in higher education's reward system to get faculty to teach differently, much less even to encourage them to reflect on their teaching. The quality of teaching is nowhere near as important in winning promotions and tenure at four-year colleges and universities as research and publication. Reporters do not raise enough questions about these vital issues.

They also don't often write about *who* does the teaching in college classrooms. Adjuncts, part-timers and graduate students teach at least one-third of the credit hours at many universities. A recent report covering all 1,228 undergraduate courses in the School of Arts and Sciences at the University of Pennsylvania found that tenure-track faculty taught only 40 percent of them.[41] Articles about student learning should take note of this phenomenon and explore the implications for outcomes.

Defenders of Lawrence Summers, who resigned as Harvard's president under pressure from a disgruntled faculty, assert that his efforts to get senior faculty to teach introductory courses for freshmen and his requests for professors to explain why their research mattered helped alienate the faculty. His critics, though, say that it wasn't the substance of his interactions with the faculty but what came across as bullying and an inability to win people over to his vision that caused the breach. It remains to be seen whether the jobs of other presidents who press their faculties vigorously to demonstrate that their teaching enhances learning will be in peril. It is certain, though, that steps in this direction must take account of an academic culture that has not sufficiently valued good teaching. Higher education reporters around the country can cite articles they wrote over the years about outstanding teachers who did not win tenure.

THE CHALLENGES

To carry meaning beyond the small liberal arts colleges where it seems to be making the deepest inroads, the movement to assess learning outcomes must take account of marked changes in the demography of higher education. The majority of students around the country—especially at large public institutions, including community colleges—are older today than college students of former years. They often attend school part time, and many hold jobs and have spouses and children. A major part of the campus experience for them is the frantic search for a parking spot before rushing in and out of a classroom.

Does learning for these students follow the same script as for 18- to 22-year-old full-time, resident undergraduates whose main connection with their families is a conversation with Mom or Dad on a cell phone and whose principal concern with putting food on the table involves grabbing a tray at a campus cafeteria? Should the impact that college has on these two very different student groups be measured in the same way?

There is also the question of the educational value added by a particular college when a student may have attended several institutions that espouse different missions. A student profiled in the *New York Times* this year had sojourned on six campuses—American University, Massachusetts College of Art, University of Massachusetts at Boston, Cape Cod Community College, Suffolk University at Boston and Suffolk University at Cape Cod—en route to her degree.[42]

EXPENSE AND TIME

Another challenge to assessing learning is the time it demands of both students and faculty members and the cost of preparing, evaluating and using the tools by which to measure students. "If you want kids to learn to read and write and think, then what matters is that they meet on a regular basis with someone who's interested in working on their writing," said Columbia's James Shapiro. "But what we have now is professors lecturing to 400, 500, 600 kids and then a team of graduate students doing all the work."[43] Smaller classes mean spending more money to hire more instructors. Professional development programs to improve teaching, too, cost money.

Budgets at public colleges and universities are in fiscal distress in many states. It's not likely that new assessment procedures will readily receive financial support in so parlous a climate even if they hold promise for improving teaching and learning. Yet, Patrick Callan, president of the National Center on Public Policy and Higher Education, maintains that assessment can be done "quite cost effectively" and that it's going to be harder and harder for higher education institutions to avoid giving attention to learning outcomes. Trudy Banta thinks that some schools will have no choice but to assess learning if they want "the finances to keep going."

Financial pressure sometimes pushes private colleges, too, toward demonstrating results as a way to be more accountable for expenditures. At Mount Union College in Ohio, for instance, an academic department that wanted new facilities had to document its need, in part by pointing to learning outcomes expected for its students. The administration, persuaded by the evidence, provided the necessary funds.

Let's be frank. One reason that higher education institutions have not felt a greater imperative for assessing learning—the cost aside—is because the public has not demanded it, regardless of rising tuitions. How much more would the public want to know about learning outcomes if the media visited this topic more frequently? This is not a matter of advocacy journalism but of covering a story fully. The vast amount of space devoted to articles about tuition and admissions would be put in a broader context if the articles included discussions of the value that colleges added to students.

ACCREDITATION

No one knows what role accreditation will finally play in the unfolding learning outcomes movement. Some accrediting organizations say they are leading efforts to get colleges and universities to measure student learning. The Middle States Commission on Higher Education, for instance, states that its accreditation process calls for institutions to show that "curricula are designed so that students demonstrate college-level proficiency in general education and essential skills, including oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competence, information literacy."[44]

Yet, if Middle States and other accrediting agencies fully adhered to this mission, outcomes assessment would be far more advanced than the inchoate efforts of today. "If reporters can help the public understand how complex higher education is, it would help a lot," an officer at one accrediting association said in an interview, expecting that it would suffice for journalists to acknowledge the challenge of the complexities and write nothing further about accreditation. But this official did not understand that the story of learning outcomes remains incomplete without making readers aware of the extent to which accreditation is or is not fulfilling its potential in this regard.

Journalists should pull back the drapes from accreditation to expose the process to public scrutiny. There is a proviso, however. Discretion should accompany this kind of reportage. Accreditation depends on candor; there is a certain amount of essential confidentiality in everything from the self-study that an institution writes at the outset of the process to the honesty of faculty members in talking with members of the visiting team. Like a patient who bares his soul in psychoanalysis, those who confess to shortcomings in hope of finding succor must be assured that what they divulge will not be used to embarrass or attack the institution. This calls for skillful reporting, not sensationalism.

One of the better examples of the influence of accreditation on focusing closer attention on learning outcomes can be seen in the work of ABET, a federation of 30 professional societies and the accrediting body for college and university programs in applied science, computing, engineering and technology. In the 1990s, ABET shifted to outcomes-based accrediting criteria, a move that affected how schools educate their students. The outcomes were related to the development of skills in such areas as basic math and science, design and problem solving, engineering science applications, technical and interpersonal communication and the ability to work in teams. No longer would accreditation rely as much on measuring such inputs as faculty credentials and hours spent in classrooms and laboratories.

A study of a sample of members of the graduating class of 2004 at ABET institutions found that the students were better prepared to enter the profession than were comparable graduates in 1994, allaying the concerns of some critics of the new approach who worried that students would be less qualified for the workplace. Nonetheless, the report noted that employers had mixed reactions to the question of whether the 2004 graduates were better than those of 1994.

RETENTION

Learning outcomes inevitably have implications for retention. About half of the students who enter college never complete their degrees. This figure has remained remarkably constant for at least a half-century. College completion rates range from 29 percent for Hispanics to 70 percent for Asian-Americans, with whites and blacks in between. Females in all groups have higher completion rates than males.[45]

? Want to keep this discussion alive? See inside back cover for feedback direction.

Some students may obtain what they want without getting degrees, but many simply melt away into a working world in which their lack of credentials forecloses their prospects. Journalists pay a good deal more attention to this phenomenon at the secondary level than they do in higher education. Could it be that the more effective teaching that some proponents believe can arise from assessing learning outcomes might help reduce the dropout rate?

The result of attending college could probably be more favorable for many of the students who do not complete degrees if teachers taught more skillfully. If the heart of the learning outcomes movement is about improving instruction, surely this is a story rich in possibilities for reporters who go on campus and talk to students about their classes, their level of engagement and how much they are learning. Sometimes such stories do emerge. The *New York Times* in July published a terrific story about athletes at Auburn who essentially were given grades for no work whatsoever. Less sensational but nonetheless important stories are waiting to be told.

THE ROLE OF JOURNALISM

Almost every aspect of reporting on outcomes offers the chance for those who cover higher education to wade into the turbulent waters of teaching and learning. Higher education coverage can enrich itself by delving into the many classroom issues that have been woefully underplayed. This does not mean ignoring articles about tuition and admissions, which receive such lavish attention. But coverage of learning outcomes offers great promise at a time when daily newspapers are battling to retain readership and trying to make themselves relevant to people's lives.

Statistics show that newspapers have their lowest readership among young adults, those in their 20s. More than anything else, people want to read about issues that affect them. What could possibly be more personal and compelling for this age group than for journalists to delve into what students actually learn in college? Education writers already have some of the background knowledge and experience to cover the issues raised by the learning outcomes movement. There are many more stories to report about what is happening—and what is not—in the classrooms of American colleges and universities.

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How Should Journalists Measure Learning Outcomes?

A Roundtable Discussion

RACHELLE BROOKS
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HAROLD HARTLEY III
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STEPHEN KLEIN
is director of Research at the Council for Aid to Education and also is involved with the Collegiate Learning Assessment Project.

KIMBERLY KLINE
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ROSS MILLER
is director of programs at the Association of American Colleges and Universities in Washington, D.C.

This is an edited transcript of a conversation Gene I. Maeroff conducted with a group of researchers, educators and college officials who have been closely monitoring the movement to assess learning outcomes in higher education. The conversation occurred in March 2006 in New York City.

RACHELLE BROOKS: Our institutions are so inherently different that comparing one institution's learning outcomes to another institution's learning outcomes is very difficult. It's a lot more difficult than adding up how many alumni contribute and what the yield rate is [on admitted students], which *U.S. News* does. So, I don't know that when you're interested in learning outcomes you should be interested in ranking colleges.

Quality isn't just about learning outcomes. Higher education institutions in this country are so incredibly diverse that quality has to be thought of as something that's incredibly multidimensional. And students' experiences can be just as valuable as learning outcomes. You can pull a group of institutions together and say they offer similar experiences and that these experiences are qualitatively different from another set of institutions' experiences. These experiences contribute to a fuller notion of society and can develop better individuals in society. We can get caught up in talking about whether it's experiences or learning or what it is, but if you want to talk about quality, you have to put all of those things into the pot, in addition to plenty of other things.

Colleges train people for different places in life. All surgeons are going to have to operate, so by the time they're done, they need to know how to operate. But you can't say every Harvard graduate is going to go out and be a businessman or businesswoman. They're all going to have to write, though.

There are colleges in this country from which people are not going to be entering high-profile positions. But they can still get a college education. That's why we don't have the right instrument to measure outcomes. I think outcomes do matter, and institutions are struggling with it. It's a really hard


Rachelle Brooks

question. I don't think, no matter how much it matters, we'll be able to come up with the perfect assessment or test that everyone can take or that we're going to figure out who passes and who fails. Can we say, "If you fail, you're going to be a failure all your life, and if you pass, you'll pass life?" It just doesn't make sense to me.

I have three points for journalists. The first is that assessment can have many different units of analysis, so when you're reporting on one, don't forget to think about the others. For example, when you're reporting about how much value an institution adds, don't forget that students are studying in different disciplines and that an institution's single measure could not hold true for many individual students.

Secondly, audience is also very important. When an institution is assessing for purposes of external accountability, it's going to craft very different measures and have, probably, very different results than when it assesses for its own internal purposes.

My third point is that quality is multidimensional. You can't lose sight of the fact that there are only some dimensions of student learning that are measurable right now. There are many others that are just not currently measurable and comparable. That doesn't mean that they are less important dimensions of quality. It just means that we haven't yet advanced enough in this field to figure out how to measure them and compare them. Maybe there are things that are the essence of higher education that we really can't measure. Think about ways of reporting on these currently unmeasurable dimensions of quality.

W. ROBERT CONNOR: Reporters will most likely get onto these issues when a national report has appeared on some specific area of widespread social concern. We had one not so terribly long ago about writing. Students are not graduating with the writing skills they need to have. If I were an editor or a reporter and I saw that report, I'd go out and say, "Let's find out about that." Institutions are doing different sorts of things. You don't expect the same results.

In certain areas, though, society does expect the same results. It's not a ranking, but it's a threshold. It's a competency level.

PETER EWELL: I know it might not be popular for journalists to consider an out-of-the-way place, but the public university system in South Dakota looks at outcomes. Every student must pass an examination after completing their sophomore studies to go onto the junior level. There are other states that have done similar things. Florida has a rising junior examination system in place, too.

The National Survey of Student Engagement has a deliberate journalistic strategy that has changed some reporters' conception of how to ask questions about higher education. That was part of the reason why Pew funded it in the first place. It was an attempt to change the conversation about quality from a mechanical one, from the *U.S. News & World Report* point of view, to a question of what actually goes on in college. Now, it's not to the learning outcomes point, but it definitely has changed that conversation.

The accreditors are doing more on learning outcomes than they used to; there's been tremendous progress in the last 10 years. But they don't know how to assess for outcomes any better than the rest of us. You've got the Southern Association actually taking an


Peter Ewell


W. Robert Connor

institution or two to task. North Central is now making a version of their reports public, and there is a tremendous controversy in the accreditation committee about how far to take that. Steven Crowe [of the North Central Association of Colleges and Schools] says it's a moral imperative to get those results in detail out there, and I think that will happen. It's just going to be a matter of time, but it will happen.

The Mathematics Association of America has a project on student assessment of undergraduate mathematics that they've been engaged in for three years. These are department-level stories; they all are about how to get a disciplinary community really revved up about the idea of holding people to appropriate standards and getting better. You can do it in mathematics in a way that you can't do it in some other disciplines.

HAROLD HARTLEY III: Student learning deals with more than just cognitive, intellectual skills. It's also the life skills, the moral ethical development and character development.

Harold Hartley III

The question for journalists to ask is whether an institution is effective when it says in its mission statement that it's putting a stamp on character, for example. Ask the institution to provide the evidence of character development. The evidence may not be in a test score. It may come from interviewing some of the seniors and talking about changes that they've had in their lives. It may be looking at some of the alumni and the impact they are having.

One of the great hallmarks of American education is the diversity and independence of colleges. The marketplace works. Institutions will find that it's in their self-interest to demonstrate the quality of what they're producing. They're going to eventually come around to it. As more and more start sharing the results, others are going to fall in line. Let the marketplace generate this because it's in an institution's self-interest to be part of that.

Richard Hersh

RICHARD HERSH: There isn't a study that's been done during the last decade that doesn't, in some sense, quantify the relatively low level of outcomes on any measure you want to look at. Any journalist could actually piece together an interesting portrait of American higher education on what we call basic skills. Any school that claims to be granting a bachelor's degree should be willing to say that students must come out with some competencies that all schools that give bachelor's degrees agree on.

If you look at mission statements you find huge agreement, at least at the rhetoric level, about what schools are trying to do. Imagine if, in fact, people actually assessed some of the outcomes that their mission statements talked about. If a thousand different schools were assessing, let's say, ethical or moral development, even if they were different, there would be a different conversation about that outcome. There would be a different curriculum, and, by the way, to the degree that everybody could talk about it in their own way, we'd end up finding out there's a huge overlap in what they're doing, and, eventually, you'd find ways of comparing results.

* * *

The chickens are in charge of the chicken house [when it comes to accreditation]. It would be hard for peers to put down peers. I don't think we're going to see the accreditors being really able to actually push on this.

That's a story, if people want to hear it. I don't think it's going to be accreditation that's going to drive this to the level it has to get to. If the states or the federal government were to supersede accreditation in terms of judgment of quality, then it would sort of push accreditation out on the side.

There are outcomes of college that are what I would call selective outcomes. They can't be taught in any one course. People do not learn how to write because they took one writing course. They don't learn how to critically think because they had one course that stressed it. It turns out to be the accumulation of a lot of experience. The question is whether

? Want to keep this discussion alive? See inside back cover for feedback direction.

the cumulative effect reaches some threshold, whatever the standard would be, so that we get to deal with some sort of comparisons.

We use the words *general education* to allude to certain kinds of broad learning outside a narrow and specific area. It is just as important to learn competencies that we normally associate with general education—such as writing, reading, critical thinking, analytical reasoning and so on—in the context of the disciplines. If you're a physicist, you're going to want students in physics to critically think about those kinds of problems that might be different than [thinking critically] in a philosophy class. It's not either/or. The point is you are contributing to a general level of critical thinking by teaching physics, math and music, what have you. You're going to need to have multiple measures, asking how well can people perform in certain situations, which is why no one test is going to be sufficient.

STEPHEN KLEIN: Assessment involves more than testing. There are basically two purposes for assessment. One is to benchmark when you're measuring progress. You have to have some sort of assessment to know where you are now and, then, to determine if you've made any progress from that point to some other point.

The second purpose is the tail that wags the dog. What you assess and what you report out influences what people do. It sets policy. It's a major policy lever. If we measure something, people will attend to it. If we assess the right things, we can make some improvement, but if we assess the wrong things, they'll take us off in the wrong direction. That's why newspaper people should be concerned about this. People pay attention to what's assessed, whether it's reading scores in K-12 or math scores or something like that. The best example I've ever seen for this is the bar exam. California has questions about community property. Let me tell you, a lot of students take community property courses in California law schools. They don't do it in other states, where they don't have that same kind of thing.

Do you remember when we had that fiasco with *U.S. News & World Report* about the percentage of alumni who contributed? That was one of the major indicators, and so the schools made a big effort to get everybody to contribute at least a dollar. My point about assessment is that it has this tremendous policy lever to be used properly or improperly in the scheme of things.

* * *

There's a real misunderstanding in the press; you [think that we can] take the same sort of model as used in K-12 education and bring it over to the college. K-12 students pretty much get the same kinds of skills. We know about reading, math, science; there's a little more problem [at the secondary level], but, basically, it's the same curriculum. That goes out the window as soon as you move to college.

Journalists have to recognize that they're not going to get a single number for each school. It doesn't make sense to do it that way. One question to ask is: What are the goals of the institution? Another question to ask: How will we know whether institutions are making progress toward those goals, granted that different institutions can have different goals?


Stephen Klein

We're not putting a number on Dartmouth or this school or that school with the Collegiate Learning Assessment [see assessment profiles]. We're saying with respect to this limited set of things that we are measuring how well a school is doing relative to the raw material [the students] that it has to work with. That's different from just ranking schools based upon their average scores. We're saying, given the fact that students are coming at this or that level, here's how well they're doing relative to schools that are similarly situated. That's one of the definitions of value added.

* * *

A large number of multiple-choice tests are available on the market, and they have some very good psychometric properties in terms of reliability and things of that nature. But certain kinds of abilities and skills cannot be assessed or assessed well by multiple-choice exams. Life is not a multiple-choice test. If you want to get at some of those deeper understandings, you're going to have to go to some more open-ended kinds of measures. When things really matter to the public, we don't use the kind of testing that people are generally talking about, so if you want to test somebody who's going to be a doctor, it's a very different kind of assessment—or if somebody's going to be a dentist or an airplane pilot, we make him perform the task that they're going to have to perform.

There are two ways to think about the value added by a college.

One kind that reporters probably know about is the improvement, say, between freshmen and seniors and how much students improve during the four years that they're at a school or two years at a community college. How much progress do they make individually? Reporters could ask questions about whether improvement is average or above average. That's one kind of value added. What people are talking about today, though, is a little bit different. That is, how much more do the students gain than comparable students at other schools? In other words, given the input, is the output more or less than what you would expect? We see some evidence that would suggest that there are some schools that do more with their students than other schools.

You could also do this for groups of students within institutions, such as minority students, as to why they were narrowing or widening the gap. What is the school doing with respect to those kinds of questions? There are lots of questions that you could ask if you start thinking about it in terms of a value-added metric.

I have two points for journalists. One is to ask the college what it is doing to measure outcomes. What benchmarks, what measures is it using to assess outcomes? How confident is the college that these measures are, indeed, assessing the things that they think they're assessing? Are these measures valid indicators of what you're looking for?

The second question is how the college does relative to the caliber of students it admits. Can the school demonstrate that it's doing as well or better than institutions with comparable students? What is the value added? What is the evidence?

KIMBERLY KLINE: Colleges are as interested in assessment as are external constituents and policy-makers. Colleges are realizing that they need better ways of evaluating their performance—even for their own internal policy-making. How can they determine the strengths and weaknesses of programs vis-à-vis the other programs of their own institution without good evaluation?

I would challenge reporters to look at the mission statement. Talk with institutional leaders and different factions on campus to see how well people understand their mission. What is the primary focus? Even some campuses that have very elaborate institutional research offices and very elaborate assessment plans don't always know their mission. It looks good on paper, but when you ask someone walking across campus, they may not really know what the mission is. At other institutions people really do know, and you can feel it when you're on that campus.

Journalists should spend a little bit more time talking with individual faculty members. I know it's difficult to get your head around that because you want to report

Kimberly Kline

from the institutional level or the national level or the state level. But there are a lot of amazing things happening that you can build on, thereby demystifying the assessment movement. Ask faculty members who are comfortable with assessment specifically how they arrived at a comfort level with assessment.

ROSS MILLER: I'm always one for a good story, so I think that reporters should try to find campuses that we would think of as examples of best practice, and I can name a few—King's College [in Wilkes-Barre, Pa.], Alverno College [Milwaukee], the Air Force Academy, James Madison University [Harrisonburg, Pa.], Indiana University-Purdue University at Indianapolis, Portland State University in Oregon and Southern Illinois University, Edwardsville. They have either selective practices that are wonderful or comprehensive programs of assessment that, altogether, track student learning.

The other thing would be basically just an attitude for reporters not to look for simple answers to what is a very complex problem. Try to respect the complexity of assessment of student learning, whether it's over two years, four years or on into adulthood. Sometimes, journalists look to simplify a complex issue. It's not simple, and it may be worth the effort to find some of the nuance and subtlety in the issues. It certainly will serve the public.

Ross Miller

The assessment movement began with recognition that most faculty gave grades individually, but they had lost the collective ability to give grades that meant anything. We're one of the few countries in the world that does not have a culminating kind of experience in college. Assessment should be about the improvement of learning so that when someone is working in a classroom they're actively seeking to improve. Assessment should drive improvement.

What reporters need to know is how to ask clarifying questions: What kind of assessment are we talking about? Are we talking about assessment of individual students? Are we talking about program assessment? These questions can help clarify the situation.

Reporters who would like to get a sense of the outcomes of college should ask about senior capstone projects. Not all colleges are doing them. National Survey of Student Engagement data show that 58 percent to 68 percent of students report doing some kind of culminating work as they graduate from college. There may be something there, and reporters looking for schools that are active in looking at student achievement at that level could find something by reporting on places with significant requirements for senior capstone projects.

Because of the variability among campuses, you have to look to each campus to see how they've solved the assessment problem. For instance, Southern Illinois University at Edwardsville has senior capstones for all their students. Portland State University has senior capstones in general education, which is a kind of different twist. Wagner College in Staten Island, I believe, has significant community project work at all levels. So you can look for rich outcomes of this sort, apart from standardized tests.

The concept is that liberal education is begun in general education, and then finished in the major. So you begin learning to write in a composition course that may be followed up with a software-level experience in writing, and then it's sort of passed into a major, so you learn to write as a biologist or a chemist. This might be true of something like analytical reasoning as well. A good example would be a school like King's College in Pennsylvania that has those pathways aligned. The matrices are mapped out for all majors over four years, and they have what they call seven transferable skills of lower learning, all begun in general education and then finished off in the major area.

About the Teagle Foundation

The Teagle Foundation, based in New York City, has a major interest in value-added assessment and has provided more than $3 million in grants to groups of collaborating colleges to examine how to advance teaching and learning through such assessments. A grant from Teagle to the Hechinger Institute on Education and the Media, Teachers College, Columbia University, made it possible to prepare, produce, and distribute this primer.

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ORGANIZATIONAL VIEWPOINT

ABET
A federation of 28 professional and technical societies and the accrediting agency for college and university programs in applied science, computing, engineering, and technical education. Revised its guidelines to take account of learning outcomes.
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Accrediting Commission for Colleges and Universities of the Western Association of Schools and Colleges
Accrediting agency for institutions of higher education on the West Coast.
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American Association of State Colleges and Universities
Organization of 400 public colleges and universities that enroll more than half of the students attending public four-year institutions. Issued a paper in 2005 on assessing learning outcomes.
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(formerly American College Testing)
Sponsor of Collegiate Assessment of Academic Proficiency and other tests.
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Association of American Colleges and Universities
Organization that focuses on undergraduate liberal arts education. A leader in bringing the issue of assessing learning outcomes to the fore.
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Carnegie Foundation for Advancement of Teaching
Policy and research center on teaching and higher education.
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Commission on the Future of Higher Education
Created by the U.S. secretary of education to develop a strategy for the future of post-secondary education.
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Educational Testing Service
Sponsor of ICT Literacy Assessment, Measure of Academic Proficiency and Progress and other tests.
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Middle States Commission on Higher Education
Accrediting agency for institutions of higher education in the mid-Atlantic states.
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National Association of State Universities and Land-Grant Colleges
Organization of the flagship public universities in the 50 states. Issued a paper in 2005 on assessing learning outcomes.
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National Center for Public Policy and Higher Education
Promotes public policies that enhance Americans' opportunities to pursue and achieve education and training beyond high school . Carried out a project to examine the possibilities of assessing learning outcomes.
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Teagle Foundation
Foundation that has made numerous grants to colleges to help them explore ways to measure the value they add to learning outcomes.
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CRITICS OF TESTS TO EVALUATE LEARNING IN HIGHER EDUCATION

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Leon Botstein *is concerned about government intervention and standardized testing.*
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Patricia McGuire *thinks movement to evaluate outcomes of higher education fails to recognize schools such as hers, which mostly serves students who start out far behind.*
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Lee Shulman *says no single set of measures can assess goals of higher education.*
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David Ward *is the sole higher education commission member who didn't sign final draft report.*
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CONTENTS

Dear Colleague,

On some deep level, the notion that college students should take tests to measure how much they've learned seems antithetical to what higher education is all about. College is about finding oneself and growing up; interacting with peers from across the nation and the globe; being challenged and captivated by new and fresh ideas about how electrons work, how societies organize themselves and come into conflict, how music soothes and disturbs, and so much more. Can any of this be measured? Even if it can, how do we know that what went on in a lecture hall—be it at Harvard or Slippery Rock—was what helped the student learn what he knows?

Nonetheless, most would agree that an educated person should be curious, able to express herself and use quantitative information to solve problems, knowledgeable of consequential scientific debates and should have a sense of the lands and people beyond the U.S. border. And it is certainly in the interest of parents paying tuition, employers, taxpayers who finance much of the costs of higher education, and foundations that give scholarships to know whether students at a particular institution of higher education are gaining those capacities.

Over the next few years, journalists will almost certainly confront this question and be asked to report on the issues that surround it. With the release of the report of the Secretary's Commission on the Future of Higher Education in August 2006, recommending that colleges be required to assess their performance, this question landed in the public debate. Journalists who simplify the issue to whether the kind of testing used in elementary and secondary schools should be applied to institutions of higher education are missing the essence of the debate. And, by doing so, they are missing far richer stories. I am pleased to present this publication, which was researched and written by Hechinger's founding director and senior fellow Gene I. Maeroff, to help you, my colleagues, gain important background knowledge as you approach these stories. I am also grateful to the Teagle Foundation of New York and, in particular, W. Robert Connor, the president of the foundation, for making it possible for us to produce this publication. The Hechinger Institute takes no position on education debates, including this one. The Institute does, however, stand foursquare behind its mission, which is to encourage fair, accurate and insightful coverage of education issues. It is only through the support of foundations such as Teagle and of leaders such as Bob, who understands that Hechinger's independence is what makes Hechinger valuable to journalists, that we're able to pursue this aim.

Richard Lee Colvin
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