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The Relationship Between University Assessment and Library Assessment

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It will not come as a surprise if I say that these are difficult times for universities, especially for research universities. In the 20 years leading up to 2008, states cut real per student appropriations to Carnegie very high research universities by an average of 17% and by 15% to Carnegie high research universities.

Then, of course, the deluge struck with the recession that began in fall 2008. During the last two years, states on average cut higher education appropriations by 6.9%, with 35 states cutting appropriations and only 11 adding to them. In some states the two year cuts in total higher education appropriations were huge: Alabama, 26%; Nevada, 19%; Iowa, Louisiana, New Mexico and Florida, 17% each. Thus, the average cut in real state appropriations per student experienced by public research universities from 1988 to date is well over 20%.

Of course, it was not just public universities that lost funds. Every university with a meaningful endowment saw declines in endowment values in the 20 to 35% range during fall 2008 and spring 2009. Private research universities tend to have larger endowments so the reversal affected them more than it did public universities. A drop of that magnitude in endowment value generally forces an even larger cut in operating funds flowing from endowments because large, unavoidable obligations that had been made into the future based on earnings from 100% principal had to be covered out of a principal that was suddenly 65% of its former value. Contractually obligated expenditures like payments on building bonds or salaries for tenured faculty crowded out current operating expenditures.

For the last two decades nearly all public university presidents and provosts and, for the last couple of years, nearly all public and private university presidents and provosts, have had budget cutting on their minds. Yes, they also had revenue enhancement front and center, but budget cuts had primacy because revenue disappeared so suddenly.

For most research universities the only significant source of net revenue available is from tuition. Additional tuition revenue comes from charging more, enrolling more students or a mixture of the two. Unfortunately, additional revenue from increased tuition receipts carries with it a moral obligation to spend it for items of direct benefit to the educational process or student welfare. Thus \$1M in additional tuition revenue cannot be used simply to replace \$1M in lost state appropriations or endowment payout. Research faculty salaries, research facilities, specialized library collections and computing resources are politically very difficult to fund from tuition sources. So while some universities succeeded in replacing lost appropriated or endowment revenue with increased tuition revenue, cuts in the non-education portions of the budget were nonetheless required.

My organization, the Association of Public and Land-grant Universities, surveyed its provosts last fall and again this fall to learn of their short run and long run strategies to cope with these budget reversals. In the short run, nearly every budget item was slated for cuts; the long-run plans focused on strategic reviews of most major activities. Some of those strategic reviews have been completed and budget realignments are underway; other reviews are still on-going.

What is most at risk from being cut as a result of these strategic reviews? If you judge from the frequency with which activities were to be subjected to strategic reviews, it is administrative structures, for 85% of schools with appropriations cuts of more than 10% intended to make them a focus of strategic review. But the second area most frequently targeted for strategic review is academic support services, with 79% of the schools intending to do reviews. Of course, the university budgeting category in which libraries appear is “academic support services.” While IT and miscellaneous other functions are in this area, libraries constitute a major portion of it. The third ranked strategic review area is academic programs,

with 67% of universities putting this area in which the largest proportion of the university budget is spent under strategic review.

So, how do you do a “strategic planning review”? A standard dictionary definition of the term is “the process of planning the activities of a business so that it competes well with other businesses and makes a profit.” Now, the universities represented by librarians in this room do not have profit-making as a goal. (But I would note as an aside that the for-profit universities so much in the news of late appear to spend only tiny fractions of their budgets on libraries.) While universities don’t have the simple element of profit to maximize, they nonetheless have bottom lines. Let me list a few of them:

For undergraduate programs:

- student recruitment
- retention and graduation
- student learning
- time to degree
- cost per credit hour
- cost per degree granted
- placement in employment and graduate schools
- earnings of graduates

For graduate and professional programs:

- student recruitment
- attrition
- graduation rates
- time to degree
- placement
- National Research Council rankings of programs

For Research Programs and individual faculty:

- the array of bibliometric measures
- external grant production
- teaching effectiveness
- Patents and licenses
- Companies started

For the institution as a whole:

- NSF funding rankings
- NRC composite program ranking
- placement in any of the 11 international university rankings

If your provost begins a strategic review and asks that the library specify its degree of effect on any of these university bottom lines or, more likely, asks what the impact on them would be if there were a 10% cut in the library's budget, how do you respond? "Our serials would have to be cut by A%, our monographs by B%, our hours by C%, our uncatalogued acquisitions would increase by D%, and our document delivery would decline by E%?" Or perhaps you supply what a friend used to call "Aunt Emma Stories," which are essentially anecdotes from patrons who benefitted in some way from library activities that might be cut or who suffered in some specific way in the last round of cuts. Neither approach is responsive to the provost's question.

As provost for over a decade, I sifted through mounds of such responses during the four budget cuts or rescissions that occurred on my watch. I tell you from experience that that kind of evidence is not very convincing. The university world is increasingly data-driven and the data that counts relates changes in an activity to changes in one of the critical university outcomes. Provosts don't always get such data, but when they do it is very powerful.

On September 14th I found a gem in my e-mail in the form of an announcement that ACRL had just released a new volume entitled The Value of Academic Libraries, prepared by Megan Oakleaf.¹ Most of you had the opportunity hear Megan deliver a plenary presentation on this volume's topic yesterday morning. My judgment is that her work is on target and farsighted.

In this digital age you are in possession of a valuable resource, library transactions data for your student, staff and faculty patrons. That data can be used to evaluate the impact of library services and resources on outcomes of value to the university. As Megan puts it, ". . .until libraries know that student #5 with major A has downloaded B number of articles from database C, checked out D of books, participated in E workshops and online tutorials and completed course F, G and H, libraries cannot correlate any of those student information behaviors with attainment of other outcomes."²

¹ Megan Oakleaf, The Value of Academic Libraries: A Comprehensive Research Review and Report, Association of College and Research Libraries, 2008.
http://www.ala.org/ala/mgrps/divs/acrl/issues/value/val_report.pdf

² Ibid., p. 97

Let's examine a case study involving sophisticated use of assessment. Kalamazoo College was an early adopter of the Collegiate Learning Assessment test,³ first administering it in 2005-06. The CLA consists of several open-ended essays in which students use information from various sources to make an argument and to critique an argument. The essays are scored to measure the student cohort's high level cognitive skills development in critical thinking and written communications. Administration of the test to samples of freshmen and seniors tells a school whether its students are improving in these critical cognitive areas and, if so, whether the improvement is better or worse than would be expected in comparison with other schools with similar students.

(An important aside is that Kalamazoo used the CLA, but the ETS instrument CAAP and the ACT instrument MAPP can be used to measure the same cognitive outcomes.⁴ Similarly, student portfolios can be scored using rubrics to determine whether student critical thinking and writing is normatively above, below or at the level it should be. Don't fixate on the measurement instrument used in this example; focus instead on findings about student cognitive development that can be and are being generated robustly from many measures.)

Fortunately, Kalamazoo students routinely received "above expected" gains in critical thinking on the CLA. But careful analysis of the results demonstrated that not all students experienced that gain. To understand why this was and what could be done about it, four Kalamazoo faculty members assembled a data base that grew to include each student's CLA scores, transcript, SAT and ACT scores and responses to the National Survey of Student Engagement. Finally, they interviewed each student.

What they found was that most of those students not demonstrating above expected gains in critical thinking were majoring in the natural sciences. NSSE data told them that these underperforming students had fewer long writing assignments, fewer assigned textbooks and were required

³ Paul Southerland, Anne Deweke, Kirwan Cunningham and Bob Grossman, *Multiple Drafts of a College's Narrative*, Peer Review, Spring 2007, pp. 20-23.

⁴ See Klein, Stephen (CAE), Liu, Ou Lydia (ETS) Scoring, James (ACT), et. al., *Test Validity Study*, September 29, 2009, Klein, Stephen (CAE) http://www.voluntarysystem.org/docs/reports/TVSReport_Final.pdf

to make fewer judgments about the value of information than were other students. Interviews plus NSSE showed that these students also felt less confident in their foreign language proficiency. Ultimately it appeared that a significant portion of natural science majors became very narrowly focused on their labs and coursework to the point that they gave short shrift to broadening experiences that would have given them opportunities to apply their considerable analytical skills to non-science fields or to the wide array of situations they will certainly encounter after graduation.

With this knowledge in hand, the faculty of Kalamazoo has begun to imagine ways to revise the educational experience to ensure that all future Kalamazoo students, including those in the natural sciences, grow in their critical thinking abilities. Absent the ability to assemble multiple data sets on individual students to get a snapshot of the range of their experiences at Kalamazoo and their feeling about them, the story I just told you would not have happened.

A book authored by Richard Arum, Josipa Roksa and Esther Cho entitled Academically Adrift, which will be published by the University of Chicago Press next January, is based on longitudinal CLA testing in many universities of thousands of college students when they were freshmen, rising juniors and seniors. That book will report that roughly 45% of college students fail to demonstrate any gain in their critical thinking skills while in college.

I predict that this book is going to cause a scramble by those who really care about learning as they seek to discover why such a large proportion of students don't progress. Perhaps this book will cause in depth assessment like Kalamazoo's to occur on many campuses and improved learning by a higher percentage of our students will result.

Now, back to the Kalamazoo story. The one thing even those of us who are not Sherlock Holmes fans know from his work is that the truly important dog is the one that does not bark. What dog did not bark in the Kalamazoo story? It was your dog, the library dog. Suppose that to the collections of data sets assembled on each student at Kalamazoo was added the student records of library usage. Perhaps clues about the development of critical thinking would have led to variations in the use of library collections or library services. Perhaps the Kalamazoo faculty would have reached the conclusion that the best way to ensure that all students learn was

by investing more in the library. Of course, they did not reach this conclusion; unfortunately, they did not have access to the data that would have permitted them to do so.

The Kalamazoo story focuses on learning outcomes, but the technique used could have helped understand retention, graduation, time to degree—any of the important undergraduate outcomes. The same technique could help understand graduate outcomes or faculty research or grant success outcomes.

I know you do not have the resources to perform your current functions as well as you might like and here I appear to be suggesting that you divert resources to do statistical studies, but for the most part that is not my suggestion. You already collect the data but most of you use then only for activity counts, not for in-depth assessment purposes.

Your institutions generally have sophisticated institutional research offices with access to essentially all the data bases extant within your university that have data bearing on the key university outcomes I listed earlier. Their data bases have all the data on undergraduate, graduate and faculty experiences and outcomes except the library transactions data. Offer the institutional research office your data. They likely will fit them into analyses they already have under way.

Condition access to your data by their firm and solemn guarantee that after matching your data with other university data bases on each user, individual identifiers will be stripped from the data base so that no privacy concerns occur. Such a request will be granted as the registrar and other university guardians of data sets demanded the same privacy/confidentiality commitment before IR was permitted to use their material.

You will still need to be involved with the IR folks in interpreting the results. Such an effort will require some library time and resources, but the resource commitment may pay off by permitting the library to replace your activity counts and Aunt Emma stories with real evidence about impact that is difficult to refute. Even if the effort does not result in additional resources for the library, it should help you target library internal budget allocations to those expenditure items that appear to make the greatest difference for students and faculty.

Another key assessment story appeared this spring in the May/June issue of Change Magazine. The article, “Student Service Expenditures Matter,” is by Ron Ehrenberg and Doug Webber.⁵ They find that increases in student affairs expenditure appear to produce higher retention and graduation rates, especially for universities that admit larger populations of low income students.

Unfortunately, student affairs generally does not collect data on which students use various student affairs services, so the Ehrenberg-Douglas findings, while very interesting, don’t reveal which services produce these very much desired results. Thus their findings are unlikely to lead to the allocation of much additional funding to student affairs, at least until effective assessment is done that will identify the key services that produce results. Libraries have an advantage over student affairs because you have so much individual-specific transaction data. It is, of course, of little advantage to the library unless it is used in assessment.

We academics are idealists. We live in a world in which value is intrinsic to our activities. Transforming intrinsic value into measurable extrinsic value turns what is nearly sacred into currency of a more ordinary kind. I understand the reluctance to use this reverse alchemy, but I regret the poor choices that we often make in a world short of resources because we do not take into account the extrinsic value of our offerings and do not demonstrate the relationship between the objects of intrinsic value and the ultimate ends of the university, i.e., creating conditions under which students learn and research advances are made.

The authors of the Kalamazoo study described this tension. They said:

Data and stories from assessment of student learning provide “ground truth” that allows our heads to believe what our hearts tell us. We in the academic realm live, at some level, in the cerebral sphere of influence that makes us skeptical of hunches born outside of our heads. And yet, we “know” in our hearts—from noticing changes in demeanor, new twinkles in eyes, and more conviction in voices—that we effect significant growth in our students. Assessment of

⁵ Ronald Ehrenberg and Douglas Webber, “Student Service Expenditures Matter,” May/ June 2010 Change Magazine, http://www.ilr.cornell.edu/cheri/upload/cheri_wp121-2.pdf

student learning helps cause the spheres of the head and heart to fuse into a powerfully convincing whole.

When scarce budgets are allocated it is better that we place those resources where they contribute most to ends that promote student learning and research. I have confidence in my heart that libraries contribute fundamentally to these ultimate university ends. Proper assessment should convince provosts and presidents that our hearts are right.