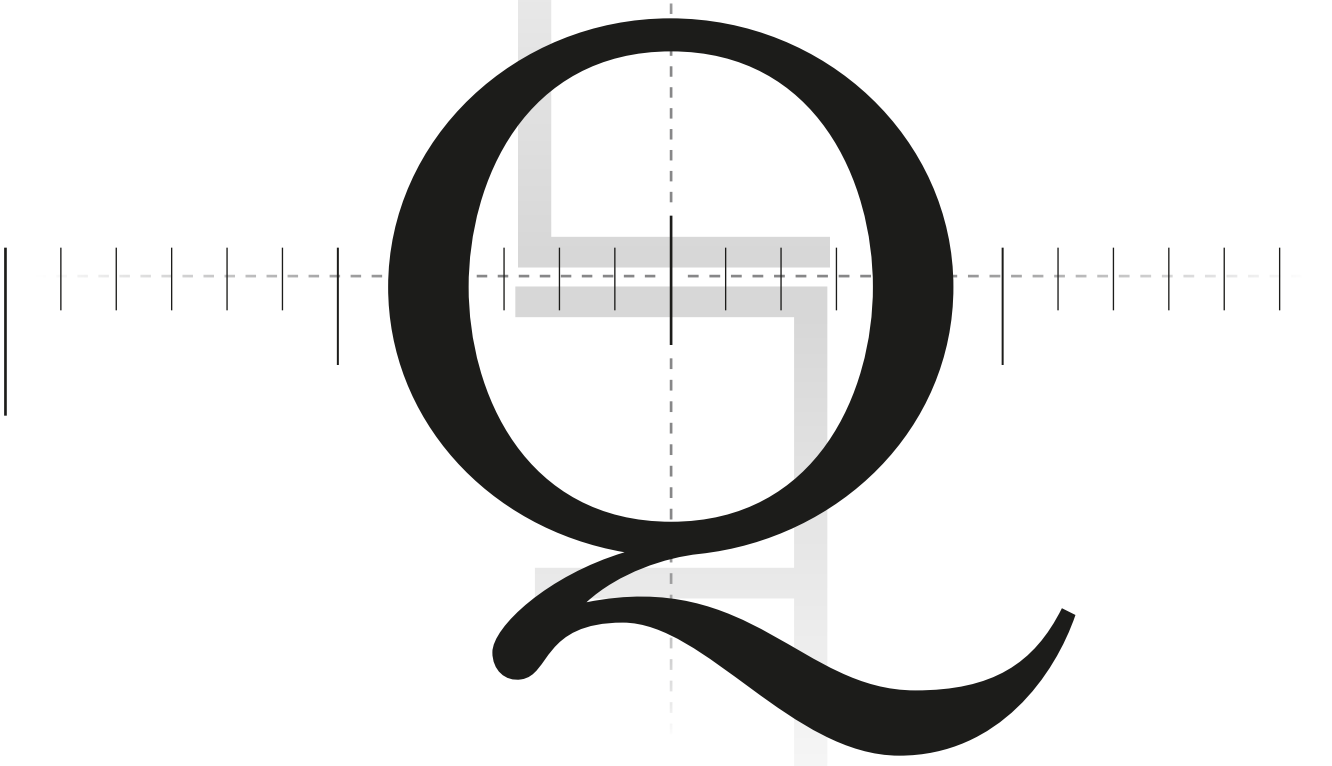
Toward Devising Measures of



Quality AND Effectiveness
ACROSS ALL INSTITUTIONS

The primary users of the current college ranking systems do not seem to be high-school students and families, but college presidents, board members, and development officers. As structured, the commercial ranking systems imply a precision that is not corroborated by research on what matters in college, nor can college quality be accurately summed to a single number. We propose a model that informs college choice for incoming students focusing on what the research tells us really matters and allows for nuances of effectiveness by using a multi-rank system.

By Sylvia Hurtado & John H. Pryor

Before proposing a new strategy for ranking colleges, we need to first think very carefully about the purpose of such rankings. Obviously they are meant to summarize relevant information and provide a way to gauge quality. The underlying premise behind these ranking systems is that they can be used to help prospective college students, and whoever helps with their college decisions, find the right college for them to attend. Yet according to our research we have conducted at the Higher Education Research Institute at UCLA, using data from the Cooperative Institutional Research Program, only about 18 percent (less than one out of five) of 2009 entering first-time full-time students attending four-year colleges reported that "rankings from national magazines" were very important in deciding which college to attend. Of the 22 reasons we asked students about choosing their particular college, the college rankings "ranked" eleventh. Most importantly, researchers have found that mostly high income, high ability students use the rankings while students who attend local colleges, delayed-entry, and nontraditional students were least likely to use the rankings (McDonough, Antonio, Walpole and Perez 1998). McDonough and her colleagues estimated in 1998 that 6.7 million copies of ranking magazines were sold. In 1998 there were 1.6 million full- time students entering the colleges that are ranked in these magazines. Either each student that went to college that year bought 4.2 magazines a piece, or the market is elsewhere.

If fewer than one in five students rated the rankings as very important in selecting their particular college, and they perhaps only purchased 24 percent of the magazines, who buys the rest? For whom are the rankings important? From the perspective of an institutional researcher, the people who seem to pay the most attention to these rankings are presidents, board members, development officers, and alumni, the latter two perhaps fueling the fire under the former. Enormous amounts of time are spent on college campuses nationwide dissecting, comparing, and trying to replicate the various rankings. In 2009 Clemson University made the ranking news in a different way, because it was suggested by a former member of the staff that after careful analysis of the rankings, Clemson made drastic changes strategically calculated to boost their place in the rankings, and not in the name of good university management. Although the focus of the story was on what Clemson had done, not many in the field would believe such tactics were only employed at that one university. And while certainly this is an extreme case, many more administrators would tell you that discussions actually occur regarding how their institution might look better in the coming year without changing their educational practices, but finding ways to influence the "reputational" ratings.

So let's recognize then that different audiences look to the rankings for different things. Presidents compare themselves with their peer and aspirant groups, using the

rankings in conversations with alumni and other prospective donors. Deans use the rankings as part of conversations to lure faculty. State legislatures use the rankings as an indication of money well, or not well, spent. And then there are the prospective students and their families. Not to mention the media, who seem most of all enthralled with the rankings they themselves produce.

The rankings are intending to be a "consumer report," but there are many dimensions to college quality that fit the needs of entering college students and parents attempting to make a decision that will incur a great deal of debt. Many more considerations are relevant. Are the majors you are considering offered? If you change your major, as half of graduating seniors have done, will there be enough breadth to satisfy you? Do students interact with faculty on campus? What kind of sense of belonging is there? Is there a culture of transfer there or are students planning to stay? Does the campus recognize diversity as important? Do students, faculty and staff believe that working toward social good is a core value? So many questions go into making such an important decision that in the end it is unique to the student wanting to go to college.

Some ranking systems have recently begun to recognize this, as the market expands with new rankings that attempt to cover new markets by being unique. *U.S. News* is the premier ranking system in terms of the presence it demands, with it's overall ranking system mysteriously changing year to year and calculated to keep us on the edge of our seats as to who will be top this year. Harvard? Yale? Princeton? Cal Tech? *Washington Monthly* has taken an interesting tactic by looking at schools from three points of view, which, as described on their Web site, as the following: "social mobility (recruiting and graduating low-income students), research (producing cutting-edge scholarship and PhDs), and service (encouraging students to give something back to their country)." And this is where we think the future lies in rankings systems that are useful to various constituencies: in detailed examinations of institutions focused on particular aspects that students, presidents, alumni, development offices and legislatures can use or not use depending on their particular needs.

Another point about the rankings: the calculations that are used in ranking cannot be held secret, as if they were the "secret recipe" for KFC crispy chicken. Only if the consumers of the rankings know exactly what goes into them can we know if they are useful or not. A related observation, as an aside, is how interesting it is that colleges and universities put so many resources, both in terms of personnel time and tracking systems, into completing all the very detailed questionnaires that go to the ranking systems, then put more resources into trying to figure out how they are calculated, and then spend even more time and money playing down the disappointing ranking that they essentially funded.

This leads directly into our next point: whomever owns the ranking controls the rankings. Are we content to continue to let the media, whose primary concern is selling magazines, wield so much influence in the institutional quality debate? Does what sells magazines necessarily make for the type of ranking system we would want when choosing a school for our sons or daughters? Not necessarily. We know that change in the rankings is what gets attention. We all know that change does not occur quickly in higher education. If anything, we are a deliberate bunch. Yet what seems to sell magazines is change, newsworthiness. "Harvard is number one, again" does not sell magazines. Remember the buzz when Cal Tech broke into the number one spot in 2000, jumping up from ninth place the previous year? That jump was significantly influenced by changes *U.S. News* made in the scoring system. After more changes, Cal Tech is down to number 7 this year. It makes sense, then, that a group without a profit motive be responsible for any new ranking system we might devise, so as not to confuse selling magazines with judging quality.

Finally, approximately half of students attending college attend a community college in the United States. They are not well represented overall in the rankings. Community College Week puts out a very basic list of community colleges ranked by how many and what type of certificates and degrees they award each year. *Washington Monthly* actually provides a fairly interesting ranking system based in part on student data from Community College Survey of Student Engagement (CCSSE) and graduation rates from the U.S. Department of Education. However, they then use a formula (which, to their credit they publicize) to mix all this together and come up with the usual list of ranked colleges.

In summary, we propose that there be a multidimensional ranking system to better serve the various needs and stakeholders interested in advancing improvement

in higher education. Such a system should be focused on various aspects of quality and produce separate sets of summary information that are not weighted into one final number that obscures the important details that make our many colleges and universities unique. This ranking system would be designed to inform college choice for incoming students, focused on what the research tells us really matters, not what is easier to count. Such a ranking system would include broad access, four-year institutions and community colleges. There would be clear transparency in any calculations that are used to judge quality, and such a system would be managed by a non-profit organization that also performs research. These are the broader concepts to consider, and in the following we will provide examples.

A MULTIDIMENSIONAL RANKING

Using multiple criteria from a variety of sources of data would ideally provide a broader picture of the quality of institutions in terms of research, teaching and service that can be disaggregated by size, selectivity, and location. Such a multi-dimensional ranking system could be manipulated by users—free of charge. The data-based initiatives of National Academies' Data-Based Assessment of Research-Doctorate Programs in the United States,[1] for example, provides public access to an "unparalled" data set to assess the quality and effectiveness of research doctorate programs in the United States. In another example, a consortium of European research and policy organizations are developing U-Multi-Rank[2] to assist with the transparency of international universities and academic programs.

Both examples are models that are objective and are touted as a "stakeholder driven approach," providing relevant information to academics, students, administrators, policy-makers on various levels, providers of funding, business leaders, researchers, or the general public. Each holds promise in that a variety of stakeholders are consulted to improve, use and update the current ranking systems to address quality concerns. Most importantly, independent research organizations have collected the data about institutional effectiveness and continue to consult widely with stakeholders on its development and use. Instead of increasing competition at the very top of the ranking systems, such a system recognizes that users have very specific needs in identifying and comparing programs of study and that many of them face regional or local, not national, choices.

One criticism of multidimensional ranking is that it is not "newsworthy" to report these rankings, since it is dependent on the comparable preferences of the user. Another criticism is that it is too much information. Multi- dimensional ranking systems have worked to make the data on quality more user-friendly by including demonstrations and examples for users to click and point for results, or retrieve underlying data if they choose to do so. More effective user interfaces can be developed. The important point, however, is that there are a greater variety of institutions that might meet specific student or administrator needs in comparing quality. Institutions are not uni-dimensional organizations, and quality can be ascertained in many areas. Similarly, as the next section details, students are best served by quality at the local level which, in turn, is related to meeting national priorities.

MAKING INFORMATION LOCAL AND RELEVANT TO STUDENTS, EDUCATORS AND NATIONAL PRIORITIES

A recent qualitative study of broad access institutions at HERI verified that the top reason students select institutions is based on "location, location, and location" (Project on Diverse Learning Environments: Creating Conditions for Student Success). The national norms for college freshmen indicate that slightly more than half of all entering freshmen choose four-year colleges that are less than 100 miles from home—this proportion is even higher if students rely on community colleges and respective agreements with local four-year institutions. Providing more information about local colleges is important to the population of students who attend these types of institutions. National CIRP Freshman Survey data show that students attending four-year colleges tell us that the top reason they choose a college is due to a "very good academic reputation." But a close second for students electing to attend low-selectivity public institutions has to do with costs (Pryor, Hurtado, DeAngelo, Palucki Blake and Tran 2010). Students electing to attend college close to home do so, in large part, in order to save on costs. Because most of the low-cost institutions are primarily teaching institutions, one important element is whether there is sufficient attention to teaching innovation and improvement of quality.

[1] *See* <www.nap.edu/rdp/>.

[2] *See* <www.u-multirank.eu>.

INDICATORS OF TEACHING AND SERVICE ACTIVITY

The existence of organized training for teaching among faculty and for graduate assistants would be an important indication of the commitment to undergraduate education and improvement of essential labor force skills within an institution. Because virtually all teaching faculty must present evidence of teaching achievements and quality, and promotions are based on student evaluations, it may also be possible to devise a common question on the quality of instruction across all teaching evaluation systems to obtain standard information about the quality of instruction across institutions. Most institutions currently have the capacity to report the quality of teaching by discipline because they use standard forms for evaluation and promotion within institutions. Currently, the national faculty survey administered triennially by HERI also provides data reported on pedagogical practices that are more student-centered in their focus. Nearly 500 institutions participate, or are part of random samples of faculty that are drawn to ensure representation of a variety of institutional types for the national norms (DeAngelo, *et. al.* 2007). Institutions can choose to survey their entire faculty and/or HERI often takes a random sample to supplement the information to produce aggregates of faculty behavior to use in analysis of contextual effects on student development. For example, faculty use of student-centered pedagogy (teaching) or civic-minded practice (items that capture research, teaching and service behaviors in relation to the community) can be used in predicting undergraduate student outcomes. Both of these measures advance the teaching and public service mission of the institution. Institutions currently collect this information in various forms and could also report it to improve measures of teaching quality and service.

DEGREE COMPLETION AND INSTITUTIONAL PRODUCTIVITY

Several national priorities receiving a great deal of attention are institutional productivity in terms of degree completion and degree completion in science, technology, engineering and mathematics (STEM) fields necessary for maintaining American competitiveness in science and innovation. President Obama has emphasized the importance of attaining a college degree, stating that by 2020, this nation will once again have the highest proportion of college graduates in the world (White House Office of the Press Secretary 2009). Obama also identified three overarching priorities for STEM education: increasing STEM literacy so all students can think critically in these subject areas; improving the quality of math and science teaching so American students no longer are outperformed by those in other nations; and expanding STEM education and career opportunities for underrepresented groups, including women and minorities. This suggests that greater attention will be devoted to factors that increase degree productivity among postsecondary institutions, an issue that is not only important to students seeking to achieve their educational goals but also to national interests.

Most of the research on degree productivity has advanced beyond using the raw numbers of degree attainments, and increasingly sophisticated models are providing better information about institutional productivity. Institutions should not be judged (or compared with each other) on the basis of their degree completion rates (as *Washington Monthly* does with their ranking of "dropout factories") unless "input" information on their entering students is also taken into account (Astin and Oseguera 2005). Most recently, *U.S. News* began to report institutions performing better at degree attainment than expected based on the number of Pell grant recipients. While we applaud this step, it doesn't go far enough as only national universities and liberal arts colleges were compared along this dimension, when degree completion is now a national priority. Degree attainment can be evaluated taking into account the key factors that predict degree completion, including: high school GPA, race/ethnicity, gender, income of students (not simply Pell grant recipients), and key entering characteristics that are available on admissions applications shown to be relevant to retention. SAT and ACT are related to retention in the first year but tests are a weaker predictor of six-year degree completion once high school GPA is taken into account (Bowen, Chingos, and McPherson 2009). Some institutions do not require test scores but require high school transcript information to obtain HSGPA. The addition of a set of variables on the CIRP Freshman Survey improve prediction (some information may also be readily available to campuses) such as initial major indicated, the likelihood of transfer, living at home vs. on campus, or becoming involved in activities on campus. That is, these "inputs" need to be taken into account to obtain an indi-

cator of whether a campus is doing better than expected in degree attainment relative to the student population it attracts. Students need to know if they go to a particular institution, they will be successful. In short, this quality indicator provides recognition to broad access institutions for doing better with some of the most difficult populations to educate, which is aligned with national priorities.

Another factor that is not taken into account in rankings is the degree of student enrollment mobility a campus experiences, some of which is facilitated by their own policies and has much to do with the preparation and characteristics of the student body. Particular mobility patterns indicate a slower time to degree, but eventual completion, because several campuses are now working with local institutions to provide a more streamlined path that is both economical (allowing students to take remedial courses at other institutions at a lower cost) and ensures they eventually obtain a degree from the original four-year institution. Some campuses have proactively worked with student mobility through counseling and also agreements with neighboring institutions, while others have not attended to student mobility issues even though they are greatly affected by the phenomenon. One measure to include in a quality dimension to distinguish between institutional practices on degree completion may be the proportion of "returning learners" that complete degrees.

We could even take this section of the ratings further and provide detailed information on certain areas. With regard to STEM, recent studies indicate that postsecondary institutions are relatively inefficient in producing STEM degree recipients (Eagan 2010). This contrasts with national priorities to increase the science and technological skills of the workforce, with particular attention to the growing number of minorities in higher education (National Academies 2010). Given the difficulties in the first year, many aspirants leave STEM fields due to previous preparation or introductory classes present a significant barrier to students from continuing in STEM. This is another area where an indicator of institutions that do better than expected in STEM productivity relative to the types of students they attract would indicate the institution is investing in the talent development of its students. One measure might include proportion of majors relative to initial degree aspirants, as increasing numbers of students who major in STEM ensures a much higher rate of degree productivity in STEM (Eagan 2010). Students indicate initial majors at college entry on admissions applications and also on the CIRP Freshmen Survey administered at orientation. The number of faculty that involve undergraduates in their research projects also is a key indicator of opportunities for success in STEM, as is the availability of a structured program for student support in STEM careers (often funded by NIH, NSF, or Howard Hughes Medical Institutes). Research has shown that opportunities for research with faculty is a key predictor of retention in STEM and graduate/professional school access (Eagan 2010; Chang, Cerna, Han and Sàenz 2008).

Expansion and diversification of the workforce at every level is important, in STEM and in many other fields. Currently, the diversity indicator used in the *U.S. News* Ranking includes Asian students. It would be ideal to include a diversity dimension of the ranking that would include equity indicators to identify institutions that have successfully attracted and graduated underrepresented groups (Hispanics, African Americans, and Native Americans). This would involve developing an equity measure for degree attainments. Thus, it would indicate institutions that do not simply attract a diverse student body but also do much better at graduating them at nearly equal rates. It would also provide a necessarily broader treatment of diversity issues. When asked how Cal Tech could be considered the top university in 2000 when only 1 percent of its students were black, *U.S. News* Director of Research Robert Morse, was quoted as saying "Would it be better if Cal Tech had more blacks? Yes, but it did not count as an academic issue" (Klein 1999).

CONCLUSION: MOVING FROM A MARKET-DRIVEN TO HIGHER EDUCATION SYSTEM-DRIVEN RANKING

In summary, we need to adopt a system of assessing comparable institutional quality along many dimensions that better serve the needs of the higher education system in the United States. This means developing a multi-dimensional ranking system, using a variety of indicators that stakeholders can help develop, provide feedback, and assist in the collection of data. Attention should be given to the kinds of indicators that do not disadvantage institutions with less selective admissions or diverse student bodies, but is focused on improving all institutions for all students.

In 1985, during another era of assessment and accountability in education, Alexander Astin wrote about using a talent development model as an approach to both improving educational excellence and educational equity. It was an attempt to move away from rankings that emphasized reputation and resource-based perspectives on excellence. Astin wrote, "true excellence lies in the institution's ability to affect its students and faculty favorably, to enhance intellectual and scholarly development, and to make a positive difference in their lives." (1985, pp. 60–61).

Given the increasingly diverse student bodies at many colleges, this model is more important today for both students in college and national interests. We need to develop and "own" the ranking system so that it is not tied to the market, but tied to the needs of society, improvement needs of the higher education system, and national priorities. This would involve transferring ownership or developing a new system so that educational communities can focus on improvement of both the criteria and also improve the information that goes into the rankings—so that all colleges and universities work to improve student success.

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