

## Criteria for Excellence in Industrial Design Education

Lauren McDermott, Associate Professor  
Arizona State University

### Introduction

Schools of architecture, engineering, art, and other disciplines are ranked by various organizations and publications. There is no current ranking for industrial design educational programs. In the competitive marketplace that industrial design programs find themselves in today, measurements of success, including how a program ranks against the competition, are expected. Potential students, their parents, new faculty, and faculty looking to move on, as well as program heads, deans, and other university administrators all may look for how programs rank when making decisions.

Whether or not program rankings are valid depends on the criteria used to establish the ranking and the relative importance of the criteria to those who wish to know how one program compares to the others. Industrial design faculty members and administrators need such information to support the recruitment, retention and promotion of faculty members, increase or maintain program budgets and faculty salaries, and to achieve recognition for their programs on their own campuses. Programs wanting to expand or simply maintain quality programs need relevant information to make their case with their own university administration. External evaluators of faculty being considered for tenure and promotion need current information to write compelling arguments. Because the retention of qualified faculty depends on this information so does the future of industrial design education.

### Who is Playing the Rankings Game?

College and individual program rankings are available from a variety of sources ranging from what some regard as the arbitrary opinions of individuals, to teams of scholars working on behalf of public and private organizations. Knowledge of how such rankings are constructed is essential to ensure that they are used appropriately. The well-known *U.S. News & World Report* annual guide to America's best colleges primarily ranks a school's relative wealth, reputation, and the achievement of the high school students it admits. If good students plus good faculty, or if students with high test scores plus well paid faculty, equals a good school, the *U.S. News* rankings would be all we would need to determine the best schools. However, "critics of the *U.S. News* rankings claim that the measures and methodology change from year to year, making the rankings unreliable." (Gater, 3) While educators criticize the rankings of *U.S. News* and other rankings, most universities include favorable rankings in their promotional material.

While president of Stanford University, Gerhard Casper wrote to James Fallows, editor of *U.S. News & World Report*: "Were *U.S. News*, under your leadership, to walk away from these misleading rankings, it would be a powerful display of common sense. I fear, however, that these rankings and their by-products have become too attention-catching for that to happen." (Casper 1996) Stanford University continues to catch attention for itself by including *U.S. News* rankings of its programs and schools on the university's Web site. To be fair, the information on the Web site is presented with appropriate disclaimers such as "While educators point out that media rankings don't measure what's most important about business education—learning—the standings continue to proliferate." ([www.stanford.edu](http://www.stanford.edu)) In this context, the rankings provide an

opportunity to list the performance of their peer institutions, as well as their own impressive or improved rank, without admitting that they value the rankings, as demonstrated in this example: “In the 2002 Stanford MBA ranking rose to No. 4—the rank last held in 1994—following Kellogg, Chicago, and Harvard. The rank was an improvement over the school’s No. 11 place in 2000. (www.stanford.edu)

Rankings published in this context may also serve as an opportunity to highlight the criteria that may attract top faculty and students, such as with this example: “Stanford was ranked No. 1 in *U.S. News & World Report’s* 2002 annual survey—as it has been in the previous four business school rankings by that magazine, which polls academics and recruiters about the best programs, and looks at salary levels upon graduation, among other factors.” (www.stanford.edu)

According to a review of the *U.S. News* methodology conducted by the National Opinion Research Center and commissioned by *U.S. News & World Report* in 1997, the ranking system that year was based on 15 independent data items plus one derived data item. Seven of these are classified as input measures including average faculty salaries, percent of full-time faculty, faculty degrees, test scores, high school class standing, acceptance rate and yield, four are classified as proxies for process variables including class size, students/faculty ratio, educational expenditures and other expenditures, and four are classified as output measures including freshman retention, graduation rate, value added, and alumni giving.

While the criteria used by *U.S. News* may contribute to valid measures of a university or program, the weighting of the criteria used to determine rankings are not. The article titled “A Review of Measures Used in *U.S. News & World Report’s* America’s Best Colleges,” by Denise S. Gater, provides a clearer picture of the ranking process. This paper examines the 16 measures of academic excellence that *U.S. News* uses in its ranking system and suggests alternative measures for making meaningful comparisons among institutions. The weighting of the measures for the *U.S. News* National Universities-Doctoral group are shown here.

*U.S. News & World Report*  
Ranking Criteria (2002 Rankings)

Criteria Score	% of Final
Academic Reputation	25.00%
Graduation Rates (six-year)	16.00%
Financial Resources	10.00%
Faculty Compensation (adjusted for cost of living)	7.00%
Entrance Exam Scores	6.00%
Percent Classes Under 20	6.00%
High School Class Standing	5.25%
Graduation Rate Performance	5.00%
Alumni Giving	5.00%
Freshman Retention Rate	4.00%
Faculty with Terminal Degrees	3.00%
Freshman Acceptance Rate	2.25%
Percent Classes of 50 or More	2.00%
Freshman Yield Rate	1.50%
Student-to-Faculty Ratio	1.00%
Percent Full-time Faculty	1.00%
	100.00%

While the popularity or academic reputation of a university may be of interest, it is hard to imagine how it could be 25 times more important than the student-to-faculty ratio or percent of full-time faculty in determining the quality of a university or program. Indeed, one of the major criticisms of the *U.S. News* rankings is their heavy reliance on academic reputation ratings. (Gator, 5) This and other reports on this ranking system go on to criticize the validity of the quality assessments made, pointing to studies that clearly show that the measured data are insignificant. Included is evidence that faculty salaries are largely an indicator of how much emphasis a university places on research, not teaching effectiveness, with the highest salaries at research universities, and that the percentage of faculty with terminal degrees is not related to a faculty member's ability to be an effective teacher. (Gator, 8)

Unfortunately, the criteria used in the *U.S. News* ranking system do not always reflect favorably on industrial design programs. While a program might enjoy a very impressive reputation in industrial design circles, even the best programs in the country are not likely to significantly influence the academic reputation of their respective universities. The informed audience remains too small, and at the present time the evidence is too weak. An industrial design program in a highly regarded university benefits from its university's reputation, but a top industrial design program at a less respected university is going to have little opportunity to put that university in the top rankings. There are other ranking criteria not supported by industrial design programs as well. The extensive hours in the studio required of majors to complete typical studio courses may lead to a slower graduation time frame, particularly when the students need to work to pay for tuition. Lock-step course sequencing could delay a student for a full academic year if just one course is not taken at the proper time in the sequence. And, although more is known now than ever before about industrial design by the general public, including high school students, their parents, and their guidance counselors, majors still often don't "find" industrial design until they have spent a year or more in art, engineering, or architecture programs, again extending the time to graduation. Programs that employ midprogram selection, such as a portfolio review after two years of study, also negatively affect time-to-graduation statistics. Studio programs in design, art, and architecture require more space, and more faculty time to teach the selective and small studio courses they offer compared to the average college course. The cost of lab equipment is high in these majors as well as in other disciplines like engineering and science but the cost may be equalized with larger class sizes and much higher research dollars brought into the university by those programs.

On the other hand, some aspects of typical industrial design programs could enhance a university's rank if the size of the industrial design program is not so small relative to the size of the university so as to be statistically insignificant. Small class size is viewed favorably in the ranking system, and small class size may favorably affect student retention as well. Student-to-faculty ratio, however, may be equalized if those faculty members who are teaching small studio classes teach more classes than other university faculty members.

#### Program Specific Rankings—Same Game, Smaller Field

In addition to the university rankings, engineering, art and other programs are ranked by *U.S. News*, and, there is no shortage of publicity of these rankings on the Internet. For example, "Carnegie Mellon's overall undergraduate program ranked 21st—up two spots from last year's rating—in *U.S. News & World Report's* annual survey of national universities for its America's Best Colleges issue. The university's undergraduate business and engineering programs retained their number seven overall rating of a year ago."

([www.cmu.edu/cmnews/021009/021009\\_ranking.html](http://www.cmu.edu/cmnews/021009/021009_ranking.html)) “The master of fine arts program at the School of Art in ASU’s Katherine K. Herberger College of Fine Arts catapulted to 13th place in the recently released *U.S. News & World Report* America’s Best Graduate Schools 2004 list. The program, which ranked at 45th when last reviewed by the magazine in 1997, was among several ASU graduate programs listed among the top programs in the nation. ([www.asu.edu/asunews/academics/gradprogrank\\_041103.htm](http://www.asu.edu/asunews/academics/gradprogrank_041103.htm)) To this author’s knowledge, *U.S. News* has never ranked industrial design programs.

In addition to *U.S. News*, there are other ranking systems, some of which are little more than “editor’s choice” rankings from design magazines. An Internet search will reveal that “In 1996, and as the result of a national survey, *Interior Design* magazine selected the interior design program as the number one program of its kind in the United States.” ([www.asu.edu/caed/SOD/design/PROGRAMS/AboutSchool/History.html](http://www.asu.edu/caed/SOD/design/PROGRAMS/AboutSchool/History.html)). The Gourman report: “Undergraduate Programs and Professional Programs in American and International Universities” was probably the last to rank industrial design programs in 1997. Gourman’s rankings, however, are criticized for their unpublished methodology and for producing numeric results without detailed backup data.

Also on the Internet, you can read that “This year marks the fifth straight year that UC’s interior design program, part of the College of Design, Architecture, Art, and Planning at UC, has stood at the head of the class as the nation’s best in the annual survey by *Design Intelligence*, an industry publication of the Design Futures Council” (<http://www.uc.edu/news/NR.asp?id=1189>). You could also read that “Virginia Tech’s Department of Near Environments in the College of Human Resources and Education jumped up two places from last year’s ranking of interior design education programs. *Design Intelligence*, the industry newsletter, now recognizes Virginia Tech’s program as the 11th best in the nation.” ([www.technews.vt.edu/Archives/2002/Feb/01529.html](http://www.technews.vt.edu/Archives/2002/Feb/01529.html))

The Design Futures Council, a self-described Washington, DC, based think tank, publishes *Design Intelligence: America’s Best Architecture and Design Schools*. They claim in the 2004, 5<sup>th</sup> annual rankings publication that “no other college ranking program currently provides a ranking of design schools”. (*Design Futures*, 2) If this is true, then it is also true that no college ranking system currently provides a ranking of industrial design programs. While *Design Intelligence* lists industrial design programs in the publication, it does not rank them. In fact the only program discipline other than architecture that the publication ranks is interior design. The publication would be more appropriately titled *America’s Best Architecture and Interior Design Schools*.

### The Cost of Not Participating in the Rankings Game

Whether an industrial design program is affiliated with an art, engineering, or architecture program, it may be the only program in the unit that is not ranked. The Georgia Tech 1999 College of Architecture Strategic Plan Update states: “Although accurate benchmark data are difficult to obtain for the entire College and many of the College’s programs, some data are available and especially data related to the Architecture Program.” (Georgia) This publication lists the percentage of architecture majors in the college as 60 percent and goes on to discuss a 21.3percent increase in industrial design enrollment that lead to undesirable faculty-to-student ratios in that program. Data included in the benchmarking section of the strategic plan make no mention of the difference between the architecture program and the programs that make up 40 percent of the college. For the Georgia Tech College of Architecture’s benchmark data, 21 U.S. Architecture Schools were selected as comparators to the Georgia Tech architecture program. Eight of the 21 benchmark institutions, as well as Georgia Tech, have industrial design programs.

Since the data come from various sources including accrediting bodies and the schools themselves, and was incomplete even for the architecture programs, data could have easily been included specific to industrial design programs if it was available.

The intent of this discussion is not to single out one university's comparative study but to identify a key problem. Without either rankings or comparative data readily available, programs in industrial design may be lumped together, either favorably or unfavorably, with the disciplines that do.

## Rankings and Tenure

In a memo to Arizona State University faculty, University President Michael M. Crow stated: "As we look ahead to next year's P&T cases, my primary concerns are that we consistently provide better case documentation and evidence to back assertions, and that more substantive expertise be brought to bear at the decision point." (Crow) During the 2003–2004 academic year, the ASU Provost's Office revised promotion and tenure procedures and guidelines, supplied more detailed instructions for personnel actions, and conducted workshops for department chairs and faculty to assist in improving the quality of promotion & tenure packages. The overriding concern brought to the faculty and administration at these workshops involved providing clear program context by including program status and national position. Another key concern involved external evaluators.

External evaluations of tenure packages are solicited from persons of high reputation in the candidate's field, and the reputation of the external reviewers must be substantiated. Instructions in 2003-2004 added that if an external reviewer's qualifications were not apparent from their institutional affiliation, and their own rank and position, supporting documentation must be attached to provide such information. The following reminder is included in instructions to ASU chairs and directors for submitting tenure documents regarding external reviewers. "Reminder: Please provide detailed information about each reviewer's qualifications, stature in the field, and familiarity with the candidate's scholarship and/or creative activities. Be sure to anticipate the potential questions from evaluators within ASU who are not in the candidate's discipline/research area. Providing such detailed background information is particularly important if the general guidelines for selecting reviewers are not followed (e.g., selecting a distinguished scholar in the field as a reviewer, but that scholar is not affiliated with a research university)". (ASU)

Whether the bar has been raised for those seeking tenure and promotion at ASU is a debatable issue and is not the subject of this paper. Clearly, there are new challenges facing those who must substantiate not only the contributions of the faculty member applying for tenure, but also of each external reviewer's qualifications, their stature in the academic community, and the quality of the institution they are affiliated with. How does one do that without rankings, or comparative data about industrial design programs? Many individuals who could provide meaningful critical evaluations of a tenure candidate's work are not affiliated with research universities. And, unfortunately for the sake of the substantiation requirement, many prestigious universities such as Harvard, Yale, and Columbia do not have industrial design programs so are unlikely to employ individuals who could serve as valid external reviewers of an industrial design candidate for tenure.

One could argue that the tenure and promotion systems used by many U.S. universities are inadequate for the support of quality education in industrial design. Or, perhaps, the decision-making process used by uninformed individuals has flaws. These are the systems that we are working with, however, and there exists a responsibility to provide the information necessary to

make informed decisions and to bring the profession and the educational programs to the attention of university administrators. It is time to join the game.

### Existing Rankings Sometimes Apply

Existing institutional rankings can provide some evidence of status. While these institutional rankings in no way reflect on the quality of the industrial design programs at these institutions, they can help to identify the credentials of the faculty who work there. The center's annual report titled "The Top American Research Universities," offers analysis and data useful for understanding American research university performance. A key feature of this report is the center's classification of universities into groups based upon the following nine quality indicators:

1. total research and development expenditures
2. federally sponsored research and development expenditures
3. number of members of the national academies among an institution's faculty
4. number of significant faculty awards
5. number of doctorates
6. number of postdoctoral appointments supported
7. median SAT scores
8. amount of their endowments
9. annual giving

IDSA lists 47 industrial design programs with 35 accredited and 12 in the process of being evaluated for accreditation using the standards and guidelines adopted by National Association of Schools of Art & Design (NASAD) as formalized by the 1984 IDSA/NASAD agreement. The center's Top American Research Universities (1–25) list identifies the 54 institutions (28 private, 26 public) that rank in the top 25 nationally on at least one of the nine measures listed above. There are seven universities on this list that also have IDSA listed industrial design programs. There are an additional five IDSA-listed universities on the center's 26-50 list.

Institutions in Order of Top 50 Score (the Center) that are also on IDSA listing	Number of Measures in Top 25 Nationally	Number of Measures in Top 26–50 Nationally
University of Michigan, Ann Arbor	7	1
University of Washington, Seattle	7	1
University of Illinois, Urbana-Champaign	5	1
Ohio State University, Columbus	3	5
Georgia Institute of Technology	1	6
Purdue University, West Lafayette	1	4
University of Notre Dame	1	3
Carnegie Mellon University	1	1
North Carolina State University		4
University of Cincinnati, Cincinnati		3
Arizona State University, Tempe		2
Virginia Polytechnic Institute & State University	2	
University of Kansas, Lawrence		1

(Lombardi, 88–91)

The *U.S. News* online service includes an unranked specialty schools section that includes fine arts and performing arts data. When using the online version, one can get a reordering of the schools, or a criteria specific ranking based on their figures, for the following criteria: average freshman retention rate, average graduation rate, percent of classes under 20, percent of classes with 50 or more, percent of full-time faculty, acceptance rate, and average alumni giving rate. Nine of the 47 schools on the IDSA list are included on this list of unranked specialty fine arts schools.

The reason that *U.S. News* claims it does not rank the schools on its specialty school lists is because each category is so small. The number of industrial design programs in the U.S. may make ranking the programs inappropriate. Compare the following discipline numbers to the 47 schools on the IDSA list. There are currently 113 schools offering National Architecture Accrediting Board (NAAB) accredited professional programs in architecture, leading to the master of architecture or bachelor of architecture degree. The National Association of Schools of Art and Design (NASAD) has accredited approximately 240 institutional members, which includes most of the schools on the IDSA list. All engineering disciplines combined total nearly 1000 accredited programs. In addition to the small total number of industrial design programs in this country, they reside in a variety of administrative units that include architecture, engineering, fine art, city and regional planning, and so forth. Degrees offered include BS, BA, BFA, BID, BSD, MS, MA, MFA, MID, MSD, PhD, and others, indicating different programs of study at all levels. Ranking of the IDSA listed schools may simply be too messy to be a tasteful option, but clearly information is needed about the programs, the faculty, and the schools and universities in which they reside.

#### What Can Be Done?

1. The first step for assembling usable information could be the gathering of institutional data available from the various existing sources and simply assembling the facts in a searchable form with appropriate sources listed. University data such as retention rates, median SAT scores, student-to-faculty ratio, and research university status could be assembled from existing sources. Individuals could gather the information, but if it were to be assembled by one central source, duplication of efforts could be avoided. A centralized collection would more easily be updated as well as corrected if mistakes were found.
2. More useful information includes industrial design program specific data based on the same criteria used for institutional ranking. Existing discipline specific ranking criteria, such as those used by the Design Futures Council for architecture and interior design may not offer a methodology capable of producing valid results. The Design Futures architecture program rankings are based on 253 responses to a questionnaire. This represents 22.8 percent of the 1108 architectural firms who received the questionnaire. For discipline specific information to be collected, a methodology relevant to the specific needs of industrial design would need to be designed.
3. A third step involves direct program input. IDSA currently lists industrial design programs and contact information. Listed programs should be allowed to provide specific and detailed self reported information regarding both the industrial design programs they offer, and their faculty qualifications and accomplishments. Specific content limits, and a unified presentation could be used to provide a fair review of each program that chooses to participate. The information, if widely distributed and updated annually, would provide

the kind of information needed by prospective students, as well as faculty and administration in these and other schools who are called on to evaluate an industrial design program or a faculty member's credentials.

## Responsibility

Nothing is more crucial to the success of the profession of industrial design than the quality and the contributions of our educational programs. While dedicated faculty members throughout the country strive to maintain and build programs that better serve industrial design practitioners and scholars, they are repeatedly called on to substantiate their own existence in the competitive environment of the American university system. It is the responsibility of this educational community, and the professional society of practitioners and scholars to combine their efforts to make known the outstanding contributions being made by industrial design programs and faculty. Without tangible results of such an effort, the future of industrial design programs in American universities is threatened.

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