Institutional Assessment

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SPECIAL TOPIC – INSTITUTIONAL ASSESSMENT

America's approach to higher education mirrors its general approach to governance. As the U.S. Department of Education's Office of Postsecondary Education notes, "The United States has no Federal Ministry of Education or other centralized authority exercising single national control over postsecondary educational institutions in this country. The States assume varying degrees of control over education, but, in general, institutions of higher education are permitted to operate with considerable independence and autonomy. As a consequence, American educational institutions can vary widely in the character and quality of their programs."

This latitude can be a blessing and a bane. Institutions are free to chart their own courses, focusing on strengths and developing niches. As a result, America's 3,000-plus institutions of higher education present would-be students with a plethora of choices. Yet there is no governmental seal of approval that distinguishes "grade A" from "grade B," a situation that seemingly leaves it to would-be students to divine the quality of prospective institutions. In fact, colleges and universities, government agencies, and other organizations engage in a variety of higher education evaluations—all aimed at ensuring that institutions are what they claim to be and gauging the relative quality of educational and other services. These studies, often classified under the rubric of *institutional assessment*, fall into five categories:

   a) accreditation,
   b) program review,
   c) functional review,
   d) strategic planning, and
   e) comparative rankings.

All are important, though, as explained below, for varying reasons.

ACCREDITATION

As detailed fully in the book *Understanding Accreditation*, accreditation began as a voluntary, nongovernmental process centered on undergraduate education. It consists of guided self-evaluation and self-improvement. Because its focus encourages institutional introspection, its primary value is in the process, not the formal results.

The emergence of accreditation as a national phe-

nomenon began in 1906, at a meeting of the National Association of State Universities. There, George E. MacLean, president of the State University of Iowa, presented a plan for "establishing, preserving, and interpreting in common terms the standards of admission to college." In attendance were representatives of the four regional college associations and the College Entrance Examination Board. Working together these leaders helped establish the National Conference Committee of the Associations of Colleges and Preparatory Schools in 1907, which gave rise to common definitions, the admission testing program of the College Entrance Examination Board, and the nationalizing of accreditation through the expansion of regional accrediting associations. The first regional association to accredit colleges was the North Central Association of Colleges and Secondary Schools, which began the practice in 1913. Concurrently, the American Medical Association (AMA) began classifying medical institutions in 1907, a process that led to professional accreditation.

As noted in *Understanding Accreditation*, "…within a period of less than ten years, a radically new concept suddenly appeared on the scene, was adopted and put into operation by colleges and universities in a large area of the country, gained the attention of a major professional organization, and received the blessing and support of leaders in the higher education community, an important foundation, and a key federal agency." This activity occurred during the last quarter of the nineteenth century and the first decade of the twentieth when the U. S. was transformed from a largely agrarian to an urban society. According to Kenneth E. Young, "this period can be encapsulated by such terms as *industrialism*, *capitalism*, *individualism*, *populism*, and particularly *progressivism* ('a rather widespread and remarkably good-natured effort of the greater part of society to achieve some not very clearly specified self-reformation')." As Young noted, "Accreditation was therefore born during a time of ferment and hope. Accreditation not only was a product of this period but also shared the characteristics of the society that spawned it: idealistic, self-motivated, reform-minded, desiring improvement, believing in both individual initiative and voluntary collective action, and distrustful of government (though seeing government as embodying the ultimate power to right wrongs)."

Two Types of Accreditation

There have been two types of accreditation from the beginning. *Specialized* or *professional* accreditation focuses on the standards needed to certify professional practitioners. Such criteria might include the number of years in a course of study, the subjects to be covered, and the need for practical experience. *Institutional* accreditation looks at the college or university broadly, evaluating the institution in terms of its own purposes and goals. As Robert Glidden has observed, "…one review is likely to be oriented more toward the interests of the institution and the other toward the interests of the profession."

The United States has six regional organizations that perform institutional accreditation, using the same general review format across the nation:
- *the completion of a guided, institutional self-study, which is a comprehensive examination of the institution's effectiveness in delivering academic programs in light of stated goals and objectives.*
- *an expert judgment by a committee of peers from outside the institution as to whether the institution is meeting these goals and objectives.*
- *the committee's report as to whether accreditation should continue, possibly delineating issues that the institution should address in a subsequent review.*

Specialized accrediting is now undertaken by more than a hundred professional organizations, which vary in the approach and intensity of their reviews.

While both institutional and specialized accreditation remain theoretically voluntary, there are several factors that weigh heavily in the institutional decision to pursue accreditation:
- Federal and state governments rely increasingly on accreditation as a litmus test for determining eligibility to receive certain public funds, especially student financial aid.
- State governments often require that certain types of programs be accredited to function in the state, awarding degrees or certificates.
- States often require that a degree be granted from an accredited institution as a prerequisite to practice some professions within the state.

Thus, the lack of accreditation is not only an embarrassment but can also have a significant financial impact on the institution and its students.

Accreditation at Cornell

Cornell's institutional accrediting organization is the Middle States Association's Commission of Higher Education (MSA/CHE). Cornell, which has been accredited since 1921, currently goes through a decennial reaccreditation review with a midpoint update. Cornell's most recent reaccreditation in 2001 involved hundreds of individuals, including faculty, staff, students, trustees, and members of an ad hoc evaluation team deployed by MSA/CHE. Even so, not all programs could be examined in depth. Thus, Cornell chose to conduct a "comprehensive with special emphasis" self-study, as was done in 1991. In its final report the MSA/CHE evaluation team found that Cornell was "…making truly distinctive contributions in all areas of its mission." The report further noted that Cornell "…is an unusually complex institution," with different elements including "those common to major private research universities and those essential to land-grant institutions focused primarily on outreach and service. It is very much a 'full service' university, with virtually all the major areas of study and research represented on its rosters." While its report has some specific recommendations, including some areas of improvement, the evaluation team lauded the institution as a potential model of the successful integration of "effective teaching, research and scholarly activity and public service."

In addition to this institutional accreditation, a number of Cornell's academic and nonacademic departments and programs receive specialized accreditation or certification from various organizations. Overall, Cornell and its programs are reviewed by more than twenty different accrediting organizations. Selected examples of specialized accrediting include:
- *eight of the ten programs in the College of Engineering, which are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). ABET does not offer accreditation for the other two programs: Computer Science and Earth and Atmospheric Sciences.*
- *the School of Hotel Administration's Master of Management in Hospitality program, which is accredited by the American Assembly of Collegiate Schools of Business–The International Association for Management Education. This association also accredits the business programs offered by the Johnson School.*

- *the educational programs leading to the M.D. degree in the Weill Medical College, which are accredited by the Liaison Committee on Medical Education (LCME) of the Association of American Medical Colleges and the American Medical Association.*
- *the five-year professional program leading to a Bachelor of Architecture degree in the Department of Architecture, which is accredited by the National Architectural Accrediting Board.*
- *programs in veterinary medicine offered by the College of Veterinary Medicine, which are accredited by the Council on Education of the American Veterinary Medical Association.*
- *Cornell's athletics program, which is certified as a member of the NCAA Division I by the National Collegiate Athletic Association.*
- *the Johnson Museum, which is accredited by the American Association of Museums.*
- *Cornell University Health Services (Gannett), which has been awarded the certificate of accreditation by the Accreditation Association for Ambulatory Health Care, Inc. for achieving nationally recognized standards for quality health care.*

PROGRAM REVIEW

While the institutional accreditation process provides Cornell with a very useful strategic look at the entire university, it does not delve into the details of individual disciplines or departments. And the specialized accreditation described above is generally applied to professional programs, where some level of certification is demanded for practitioners (e.g., architects, engineers, lawyers, physicians, veterinarians). With the exception of research-related activities described below, many of Cornell's academic departments and programs had no tradition or experience with program review. Recognizing this gap, the University Faculty Senate adopted an academic program review process in September 1996 (also described below).

Research-Related Program Review

Two research-related program review processes have existed for decades at Cornell, both related to the receipt of funding from federal agencies.

The Cooperative State Research, Education, and Extension Service (CSREES) of the U.S. Department of Agriculture (USDA) administers program reviews for institutions that receive certain federal appropriations. These reviews, which began as land-grant program evaluations, have evolved into comprehensive reviews, focused on all of a department's activities: research, education, and extension. While the reviews are technically voluntary—being neither mandated by federal statues nor required by CSREES—the agency is accountable to the USDA and Congress for the continued use of the federal appropriations to fund research and extension programs. Both CSREES and the individual institutions use these reviews as part of their quality assurance programs.

- Every year CSREES solicits program review plans from institutions receiving such funds. Each institution determines when individual departments and programs are reviewed, with the normal cycle being every seven to ten years. At Cornell these departments are located primarily in the Colleges of Agriculture and Life Sciences and Human Ecology. However, not all departments in these colleges receive CSREES reviews, as not all receive federal appropriations.
- The review process is similar to that of accreditation, employing a review team (normally staffed with individuals external to the institution) and the preparation of a comprehensive self-study.

When Cornell adopted a university-wide approach to program review in 1996, a decision was made to merge the CSREES program reviews into Cornell's overall process. Specialized CSREES program reviews are still conducted occasionally for interdisciplinary programs (such as integrated pest management) not subject to the new university-wide process.

Since the 1950's, Cornell has hosted a number of research centers, institutes, laboratories, and training programs. These highly specialized entities (which now number more than a hundred) are often interdisciplinary in nature, bringing together researchers from across the university to focus on topics that are often aligned with state, national, and global needs. By design, almost all of these programs have incorporated periodic program review as part of their charters. Representatives from sponsoring organizations, including government agencies and corporations, often participate in or coordinate the reviews. Examples include:
- *Cornell's new Nanobiotechnology Center (NBTC), which*

is partially funded by the National Science Foundation (NSF). NBTC has an advisory board selected from outside of the NBTC charged with reviewing the plans of the center and helping to chart its direction.

• *the Cornell Center for Materials Research (CCMR), which is almost entirely funded by NSF.* CCMR undergoes a major programmatic review by NSF every five years, on a cycle that is dictated by CCMR's funding renewal request to NSF.

Academic Program Review

The Faculty Senate constituted the Faculty Committee on Program Review (FCPR) in 1996 to support program review across all of Cornell's colleges and academic departments. The FCPR oversees a faculty-led process in which every academic department, degree-granting graduate field, and academic center is reviewed once every seven to ten years. These reviews have the same format as accreditation: a guided self-study followed by an external peer review. Because each review is done within the framework of the department's college or administrative unit, the information and guidance gleaned from the review can be inserted directly into the normal planning processes for that academic unit.

Reviews under this newly designed process began in the 1998-99 academic year and are currently scheduled through 2005-06. While there has been some variability in the number of concurrent reviews per year, it is expected that the program will accommodate about a dozen reviews annually in the future.

The FCPR believes that the success of these reviews hinges greatly on the thoroughness of the self-study and the perceptual acuity of the external review team. The FCPR has developed a standardized self-study format to assist the departments under review and to ensure consistency in data collection. The FCPR has also created a framework for selecting the external review team, recognizing that the college dean is the primary audience of the team's analysis and advice. External reviewers are sought "whose expertise matches the work of the department being reviewed, whose accomplishments and perspectives are widely respected nationally and internationally, and who have sufficient distance from the department to enable them to give a frank and unbiased assess-

ment." While external reviewers are ordinarily expected to be full professors from peer institutions, allowance is made for specialists from nonacademic organizations in some cases, such as the reviews of departments in the Colleges of Agriculture and Life Sciences and Human Ecology, which formerly underwent the USDA-sponsored review described above, and in the College of Engineering, where industry experts may join review teams.

FUNCTIONAL REVIEW

Although in some cases a fairly recent phenomenon, most of Cornell's academic programs are now subject to periodic program review, often involving outside experts. With few such exceptions, no such reviews occur with nonacademic programs. In November 2001, President Rawlings launched a process to review the nonacademic workforce on the Ithaca campus.

Workforce Planning

The workforce-planning goal is to examine nonacademic support functions, organizational structures, and staffing levels in order to:

a) clearly define roles, responsibilities, standards of performance, and accountabilities for each major administrative area and function;

b) realize substantial, ongoing financial savings as well as increased efficiency in support services across the campus; and

c) improve staff compensation vis-à-vis the competitive market.

Three issues created the impetus for this review:

• *a recognition that an organization as large, complex, and decentralized as Cornell needs to examine its support operations periodically to ensure that they are effective and operating efficiently.* Such review is similar to the periodic review of academic programs described above.

• *the general slowdown of the U.S. economy, coupled with significant impact of the September 11 events on New York State's budget, which is having a noticeable impact on Cornell's financial condition.* In particular, the endowment payout rate will remain unchanged for 2002-03 and Cornell may receive a reduction in state support for the contract colleges. The combination of these and other

economic problems could result in a $30 million budget deficit by 2003-04 and beyond. At the same time the university needs to make substantial investments in selected endeavors, including the West Campus and life sciences initiatives and faculty and staff compensation.

• *preliminary analyses of Cornell's nonacademic staffing trends, which revealed growth patterns that do not support achieving the above-mentioned workforce planning goals.* Staffing decisions are often made to optimize unit-level operations within the broader context of university operations. This decision-making framework, although often successful in meeting short-term unit needs, may ultimately result in ineffective, inconsistent, and inefficient campus-wide support systems.

Staffing Trends

Over the past thirty years Cornell's nonacademic workforce (excluding temporary and student employees) has grown 38.5 percent, from 5,103 to 7,063. (See graph at right.) Some staff growth over this period was necessary as the university:

a) expanded its enrollments (requiring additional student service workers),

b) increased its research support (which allowed the institution to expand the number of technical staff paid directly from grants and contracts),

c) added facilities (which required additional maintenance and custodial staff),

d) absorbed unprecedented levels of new technology (which necessitated the hiring of additional information technology specialists), and

e) reacted to an increasing level of external regulation (which mandated the employment of environmental and health professionals).
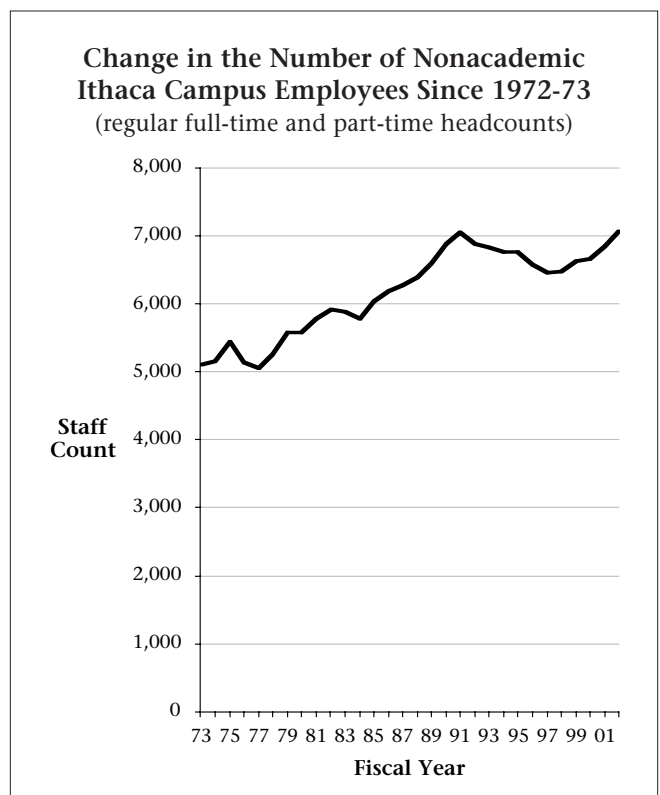
Staffing trends have varied over this period:

• Staff growth first peaked in 1990-91, reaching 7,043. The size of the nonacademic workforce then dropped, due to state budget reductions, the loss of some federal support for selected research centers, and the successful conclusion of the Cornell Campaign (which was accompanied by a reduction in fund-raising staff).

• By 1996-97, staff counts had dropped by 592, reaching a recent low of 6,451. Then the growth began again. As can be seen in the table on page 14, Cornell has added 612 full and part-time staff

members over the past five years. This recent increase has not been uniform. Certain jobs—those involved with computers, academic support, student services, and facilities—accounted for 83 percent of recent growth.
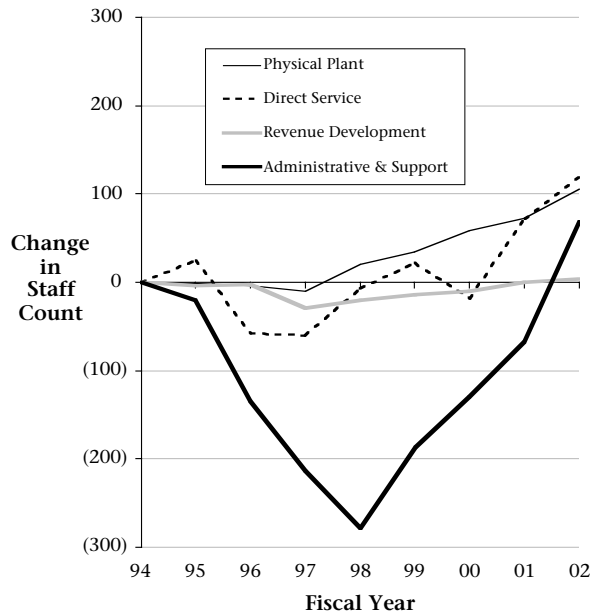
• In an economic sense, support staff can be divided into four categories: staff who provide program-related frontline services to customers, staff who engage in revenue development (akin to sales), staff who maintain and service the physical plant, and staff who provide general administration and support to the faculty and the other three categories. As can be seen in the graph on page 14, it is the fourth group that experienced the most noticeable decline through 1997-98 and has seen a dramatic recovery over the past four years.

Workforce Review Process

With certain exceptions, such as bursar and police activities, most nonacademic functions are staffed and administered across the institution, involving a number of departments. For example, while Cornell has a central human resource office for the Ithaca campus, there are human resource officers in most of

Change in the Number of Nonacademic Ithaca Campus Employees Since 1972-73
(regular full-time and part-time headcounts)

Staff Count / Fiscal Year

5

**Change in the Number of Nonacademic
Ithaca Campus Employees Since 1993-94**
(regular full-time and part-time headcounts)

are two separate types of reviews being undertaken:

- Reviews with a broad distribution of responsibilities are being led by an executive team chaired by the responsible vice president. The six areas identified for this type of review are: human resources, finance, alumni affairs and development, student services, information technologies, and facilities.
- Where the support function is concentrated largely in a single organization, the review will be much more like an academic program review, involving a team of external functional experts.

The university plans to complete the initial reviews by December 2003. Full implementation of recommendations will likely go beyond that date, with periodic reevaluation thereafter.

STRATEGIC PLANNING

In a university setting, strategic planning differs from routine and annual planning activities in three ways:
- *the broad involvement of a large stakeholder group, some of whom may not participate in routine institutional planning.*
- *the use of a self study to assess the university's environment along a number of dimensions.*
- *the focus on the development of major, long-range goals and the identification of the gap between those goals and the current status.*

the colleges and major nonacademic divisions. Some large departments have their own human resource administrators. The programmatic review of such a widely dispersed function is, by definition, much more difficult than the review of a function that is contained within one department. Accordingly, there

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**Change in the Number of Nonacademic Ithaca Campus Employees by Job Family
Since 1993-94 and 1996-97**
(regular full-time and part-time headcounts)

	93-94	96-97	01-02	Change from 96-97 Number	Percent
Computing & Other Technology Support	551	511	**689**	178	34.8%
Human Resources	114	119	**149**	30	25.2%
Academic Support	483	489	**594**	105	21.5%
Fund Raising and Alumni Relations	168	140	**167**	27	19.3%
Communication	236	211	**248**	37	17.5%
Student Services and Related Support	614	641	**748**	107	16.7%
Facilities and Related Support	1,244	1,245	**1,361**	116	9.3%
Finance	477	443	**477**	34	7.7%
Library and Museum	272	265	**280**	15	5.7%
Technical	618	562	**564**	2	0.4%
General Administrative Support	1,768	1,652	**1,650**	(2)	(0.1%)
Auxiliary & Miscellaneous Services	219	173	**136**	(37)	(21.4%)
Total	**6,764**	**6,451**	**7,063**	**612**	**9.5%**

Ithaca Campus Planning

Cornell engaged in a strategic planning effort for the Ithaca campus from 1992 to 1995.

- The Ithaca campus effort began with a number of perceptual studies that were designed to identify and quantify the degree of stakeholder satisfaction with Cornell's programs and services.
- Based on these studies and input from an advisory board that included outside experts, a set of study groups was created to analyze various aspects of the university. These study groups focused on areas such as university organization and support services and student recruitment and retention.
- The advisory board combined the study group information with the key issues that emerged from the perceptual studies and reduced these to a limited set of high priority issues. The issues were grouped under four themes: educating the leaders of tomorrow, generating and applying knowledge, exercising effective stewardship, and creating the faculty of the future.
- A task force was organized around each theme, and asked to develop recommendations that might be adopted to address the specific issues raised.

As then-President Rhodes noted in his introduction to the task force reports, "The various groups have not avoided controversial topics. They recommended… that students study in two or more colleges during their time at Cornell, that they gain a common core of intellectual skills regardless of which college or school they attend, and that they have more opportunities to be involved in original research or scholarship. Also included are recommendations for continuing review of faculty performance after tenure as the basis for salary determination and promotion, and for regular program assessment as a basis for the reallocation of resources" to high priority programs.

Incoming President Rawlings described the theme for implementing a strategic plan for Cornell in his 1995 inaugural address, in which he called upon the Cornell community to join him in "composing a new Cornell" that was focused on cultivating the human mind as the university's primary reason for being. That strategic plan has nine thrusts, most of which are directly related to task force recommendations:

- *to improve undergraduate education (taking advantage of the strengths of a research university), transform the residential experience, and create a living/learning environment that will benefit all freshmen and provide new opportunities to upperclassmen.* This objective led to the residential community initiatives. The $65 million North Campus initiative included the construction of new residence halls and dining facilities, the relocation of athletic fields, the creation of new faculty-in-residence apartments, and the renovation of some existing residence facilities. The $200 million West Campus, which is in the planning stage, will replace Class Halls and Noyes Center with five new residential houses and a recreation/community center. The university has also launched efforts to reinvigorate the undergraduate program in ethics, increase opportunities for undergraduates to engage in research and experiential learning, improve the Greek life experience, enhance Cornell's alcohol education program, and expand civic engagement through student and faculty involvement in the local community and throughout New York State.

- *to support strategic enabling research areas in the natural sciences and assess progress in the areas already identified: computing and information sciences, genomics, and advanced materials science, while increasing cross-college collaboration in these and other emerging areas.* A 1997 task force of faculty, deans, and administrators identified the three enabling research areas. Since 1997, developments in nanoscience (originally envisioned as part of advanced materials science) have expanded so rapidly as to constitute a fourth area. These disciplines are being advanced through a phalanx of initiatives that include new facilities, enhanced external funding, and the reallocation of internal resources. Duffield Hall and the proposed Life Sciences Technology facility are two visible manifestations of the several hundred million dollars of this investment. Other programmatic changes include the reorganization of the biological sciences, enhancements in the interactions between the life and physical sciences, and improved coordination between the colleges and the Graduate School.

- *to foreground and enhance developments in the humanities and social sciences.* This objective has led to several initiatives, including programs in poverty and development and life course studies, the establishment of the Social Sciences Advisory

Council, and enhancements in multi-departmental collaboration in American studies.

- *to continue to improve faculty and staff compensation.* The university has committed resources over a multi-year period to enhance faculty and staff compensation. In the case of faculty, the Faculty Senate, the academic deans, and the administration agreed in 1999 to define two sets of peer reference groups (one for endowed Ithaca faculty and one for contract college faculty) against which salary improvement would be measured. The goal is to raise Cornell's faculty salaries to the average of peer groups within a five to six-year period. A separate goal, stated in terms of external market averages, has been set for staff salaries. Progress is being made on both fronts.

- *to increase the information technology capabilities for faculty, students, and staff.* A number of initiatives have been launched or are being planned to reach this objective, including the upgrade of the Ithaca campus network infrastructure and a $10 million increase in the annual support for administrative systems development and maintenance. The university is also exploring technology that would link Cornell with Cooperative Extension sites around the state to support distance learning and is considering curricular changes to ensure that every Cornell student's education includes instruction in the applicable use of technology.

- *to fortify Cornell's long-term relationship with New York State and the State University of New York (SUNY).* The university continues to work actively with members of the executive and legislative branches of state government and the SUNY leadership to ensure that Cornell is viewed as a full partner in the state's higher education enterprise and is treated fairly in the apportionment of educational resources. The university has also launched a comprehensive review of Cornell's land-grant mission. Five panels have been established to assess cooperative extension programs, the role of engineering technology transfer, and Cornell's contributions to K-12 education.

- *to maintain broad student access to a Cornell education.* Cornell strives to be sure that eligible students have access to the university's programs by committing over $160 million of its own resources annually for student financial aid and assistance. At the undergraduate level, Cornell's admissions and financial-aid policies seek to ensure access without regard to ability to pay, and Cornell continues to package financial aid to improve diversity and student quality.

- *to enhance diversity among Cornell's faculty, staff, and students and work actively against bias-related incidents.* The university has developed several innovative programs to raise diversity topics within the Cornell community and foster a better understanding of cross-cultural issues. Cornell has also conducted a gender equity salary study and continues to improve university-wide coordination to facilitate spousal appointments.

- *to maintain Cornell's quality by encouraging sound resource management and carefully planned improvements.* Work on this objective is underway, with efforts to control administrative costs in general and initiatives to modernize administrative systems. The university is also engaged in a broad assessment of the nonacademic workforce to define roles and responsibilities more clearly and to achieve cost savings.

Medical College Planning

In 1994, the Weill Medical College initiated a strategic planning process that employed three faculty committees to review the major functions of the college: research, education, and clinical practice. Their broad recommendations included curricular reform, research program expansion in selected areas, and expansion of ambulatory clinical care programs. The plan proposed greater integration of the clinical and basic sciences in the curriculum in order to stay at the forefront of medical and graduate biomedical sciences education, clinical medicine, and research. It identified the need for additional basic science faculty, expanded campus facilities to accommodate the plan's initiatives, and renovation of existing space. Essential to the plan's implementation was the identification of sufficient capital to support faculty recruitment, new program initiatives, and high technology equipment as well as the construction of new facilities and renovation of existing space. These broad initiatives required a staged and progressive planning process that continues today.

- Phase I of the college's strategic plan began in 1994 with planning for a new medical curriculum, which required a substantial investment in

teaching facilities as well as educational staff infrastructure. The result was the creation of the Weill Education Center, with its auditorium and multiple teaching labs, which has become the essential facility for the new curriculum. The addition of an office of Education and Faculty Development, staffed by professional educators, provided critical support to the teaching of the case-based method as well as one-on-one student preceptor experiences from the first week of arrival. The new curriculum, which was implemented in 1996 and continues to undergo evaluation and improvement, is known nationally for its excellence and attractiveness to applicants.

• In 1996, the college developed the research component of its Phase I plan, which hinged on the completion of a $200 million fund-raising campaign. The campaign (which reached its goal in 1999) underwrote the recruitment of thirty new research faculty, the addition of fourteen new research cores and services, the provision of new research space in the Whitney building (a converted wing of the former New York Hospital), the renovation of thousands of square feet of existing laboratory space, and the addition of more than 150 housing units with the construction of the Southtown residential building (scheduled to open in 2003). The implementation of Phase I continues with the completion of the Citigroup Imaging Center, which will open this spring, and progress in faculty recruitment (nineteen of thirty have been hired). Seven new departmental chairs have been recruited in this time period as well.

• Also in 1996, work began on a strategic plan for the Graduate School of Medical Sciences, which was an essential complement to the research strategy. The plan included the appointment of a new dean, specific efforts to enhance the quality of life for graduate students, an increased rigor in the selection of students (with higher admissions requirements), and an expansion in the size of the entering classes—all as an ambitious effort to "develop a comprehensive, long-term plan to lead the [Graduate School] into the 21st century."

• Phase II of the Medical College's strategic planning effort began in 1999 and was formally entitled "Advancing the Clinical Mission." The plan includes expansion or addition of thirty-seven clinical programs (including recruitment of sixty-two new clinical faculty), purchase of major clinical equipment, construction of a new 250,000-gross-square-foot building on the southwest corner of York Avenue and East 70th Street, and renovation of over 30,000 square feet of existing clinical practice space. The plan includes a significant increase in endowment to support the academic efforts of clinical faculty in their early and mid-career years, funds to update the infrastructure of the college's circa 1930's buildings, renovation of more than 140,000 square feet of existing laboratories in these buildings, recruitment of ten new departmental chairs over the next ten years, and funds for program enhancements and recruitment of approximately thirty more research faculty in clinical departments. This $750 million initiative is to be funded entirely by philanthropy, and, when the campaign was announced in January 2002, $342 million of this goal had already been met.

COMPARATIVE RANKINGS

In a world awash with advertising and self-promotion, Americans have often sought refuge in listings that reduce complex issues to simple ordinals. While the FBI was an early champion of such rankings, with its "ten most wanted fugitives" list (first issued in 1950), one might argue that the trend began in the second century B.C. with the compilation of the seven wonders of the ancient world. No matter what its genesis, the U.S. has experienced a recent explosion in the number and variety of "top-ten" rankings. Thus it is not surprising that attempts have been made to rank institutions of higher education.

National Research Council Rankings

The most prestigious ranking of academic programs was a 1995 analysis sponsored by The Conference Board of Associated Research Councils and conducted by the National Research Council that examined more than 3,600 programs at 270 institutions in 41 fields of doctoral study. The study "collected information of two types: descriptive statistics of selected characteristics of research-doctorate programs (such as the number of faculty and students), and the views

of faculty 'peers' relative to program quality." This type of analysis has several limitations:

- The study was designed "to assess the quality of individual doctoral programs in terms of their effectiveness in preparing graduates for careers in research and scholarship," recognizing that a "comprehensive study would ideally include assessments from…other settings, such as industry, business, government services, and the public sector generally."

- The authors noted "that it is not possible to provide a valid description of the quality of a program by any method that relies exclusively on a single number. Rather than merely reporting where a given program ranks in its own field, it is critically important to indicate its relative standing on a number of measures."

- The study, by design, depended heavily on subjective measures of reputation, solicited from more than 8,000 graduate faculty at peer institutions. The authors noted that when "the judgments of numerous individual raters are pooled, there tends to be strong agreement about which programs are the strongest and which are the weakest; there is considerably less agreement about the programs in the middle range."

As might be expected at an institution as heterogeneous as Cornell, the study's ranking of individual programs (shown in the table at left) varied greatly. (Not all of Cornell's disciplines were evaluated.)

University of Florida Rankings

The University of Florida publishes a report that aims to chart "the comparative performance of institutions," believing that "success comes from the effective investment in and management of individual institutions." This analysis is supported by the grouping of institutions "based on their performance on nine measures… Institutions in the top group rank among the top 25 on all nine of the measures; in the second group they rank in the top 25 on eight measures; and so on. This method does not produce a single ranked list, but instead it reflects…that the difference separating these top universities is not sufficiently great to justify making a single, rank-ordered list." The nine measures are: research expenditures, federal research expenditures, endowment assets, annual giving, faculty members in the National Academies, faculty awards, doctoral degrees, postdoctoral appointees, and freshman SAT scores.

The Florida study suffers from design problems endemic to all rankings attempts: annual revisions in methodology and minor changes in variables that create major swings in outcomes. For example, ten institutions ranked in the top group in the 2000 study. Cornell along with NYU, Princeton, Chicago,

Faculty Ratings of Cornell University Programs National Research Council (1995)

	Rank Order	Number Ranked	Overlap Group *
Aerospace Engineering	6	33	1/5
Anthropology	31	69	16/7
Art History	23	38	3/4
Astrophysics & Astronomy	9	33	2/0
Biochem. & Molecular Bio.	22	194	8/11
Cell & Developmental Bio.	35	179	15/22
Chemical Engineering	13	93	3/4
Chemistry	6	168	0/6
Civil Engineering	6	86	3/1
Classics	12	29	5/2
Comparative Literature	6	44	4/4
Computer Sciences	5	108	1/0
Ecology, Evol. & Behavior	4	129	3/5
Economics	18	107	2/5
Electrical Engineering	7	126	2/0
English Language & Lit.	7	127	3/4
French Language & Lit.	8	45	2/2
Geosciences	10	100	6/8
German Language & Lit.	3	32	2/2
History	13	111	4/0
Linguistics	9	41	3/4
Materials Science	3	65	1/5
Mathematics	15	139	6/10
Mechanical Engineering	7	110	3/5
Molec. & General Genetics	23	103	6/7
Music	12	65	7/6
Neurosciences	24	102	8/19
Pharmacology	49	127	31/49
Philosophy	9	72	2/3
Physics	6	147	5/2
Physiology	31	140	18/29
Political Science	15	98	5/2
Psychology	14	185	6/11
Sociology	35	95	13/7
Spanish Language & Lit.	8	54	6/7
Statistics & Biostatistics	4	65	1/3

* The number of institutions above and below Cornell whose rankings were not statistically different from the rank assigned to Cornell.

USC, and Washington University made up the second tier (i.e., ranking among the top 25 in eight of the nine metrics). Cornell's freshman SAT scores for the 2000 study caused it to be 26th in that category—one notch below the cutoff. In the 2001 edition of the study, Cornell rose to the top tier, joining Harvard, MIT, Stanford, and Penn. This time Cornell's SAT scores placed the university at 24th in that category—one notch above the cutoff. Curiously, Cornell's tier-mates in 2000 were noticeably dispersed in the 2001 study: NYU plummeted seven tiers, Princeton and Chicago fell three, USC stepped down one, and Washington University dropped two. The dramatic shifts were due in part to the broadening of the number of institutions analyzed to include those that ranked in the top 50 of each of the nine metrics.

The Gourman Reports

One of the more eccentric but perennially popular students of the college pecking order is Jack Gourman, who has published his *Gourman Reports* since 1967. His books are cited widely and used extensively by high school guidance counselors. Typical is the description by St. Agnes Academy in Texas, which notes that the *Report* contains "Information on the 'best' programs. Objective data is the basis for ratings." The Amazon.com description of Gourman's rating of graduate and professional programs lauds it as "the most authoritative, accurate, and up-to-date book of its kind." In fact, many researchers and critics view Gourman's books as probable shams.
- The scoring system used by the Gourman Reports appears to be very precise and is touted as *objective*. Yet, the source information is very subjective, derived from assessments supposedly sent from faculty and university administrators. Even these are suspect as many institutions that appear in Gourman's publications have stated publicly that they have neither participated in nor been asked to provide factual information his surveys.
- As Jeffrey Selingo noted, the scoring looks precise because, on a scale of zero to five, it is carried to two decimal places. However, "most of the scores for the 140 disciplines and 1,273 undergraduate institutions ranked in the 394-page guide differ by only 1/100th of a point, with no wider gaps and no ties—an outcome that researchers call a near-impossibility, statistically." David Webster

observed, "The most remarkable of these ratings occurred in Gourman's combined rating of foreign and American medical schools, where ninety-nine schools in a row are listed, from 4.98 to 4.00, with no ties and no skipped integers."
- Gourman refuses to make public his methodology, even to his current publishers, the Princeton Review and Random House. Thus there can be no independent verification that the methodology is correct or rigorous.

Despite these well-known issues the *Gourman Reports* flourish, abetted by higher education itself, as colleges and universities nationwide showcase favorable *Gourman Report* reviews. For example, New York's Polytechnic University boasts that the *Report* ranked its undergraduate electrical engineering program as "12th best in the nation and its graduate EE program the 24th best." Polytechnic further notes that the *Report* is "respected as one of the nation's most complete and rigorous academic rankings."

U.S. News and World Report et al.

A number of popular print and electronic publications regularly issue "best of" and "top-100" lists of colleges and universities. Examples include:
- *U.S. News and World Report* 2001 College Rankings
- *Princeton Review's* The Best 331 Colleges Ranked by Students for 2000
- Kaplan and *Newsweek's* College Catalog 2001
- *Yahoo! Internet Life* America's Most Wired Colleges
- New Mobility Disability-Friendly Colleges
- A New Ranking of American Colleges on Laissez-Faire Principles, 1999-2000
- Top 50 Colleges for African Americans

Of these, the annual rankings issued by *U.S. News and World Report* and the reactions to those analyses demonstrate the inherent difficulty in reducing very complex environments to simple and comparable numerical scores. The magazine's first report, released in 1983, began simply as an opinion survey of 662 college presidents (out of 1,308 who were solicited). In that survey Stanford was rated number one and Cornell tied the University of Illinois for the eighth spot. Since then the analytical approach has grown more complex, based on seven factors and seventeen sub-factors. While academic reputation still matters (accounting for one quarter of the score), other more

quantifiable measures have been introduced to lend credibility to the methodology. An institution's overall score now depends on measures of student selectivity, faculty resources, graduation and retention rates, financial resources, and alumni giving.

Researchers and critics have repeatedly pointed out the inherent flaws in the *U.S. News* methodology:

• The statistics used may or may not be valid measures of the factors being assessed. For example, the use of average alumni giving as an indicator of student satisfaction assumes that there are no other major influences on alumni giving patterns and levels. In fact, an institution's fund-raising strategy has a huge impact on both.

• There is no evidence that the factors employed in the analysis will identify which institutions are the best for a given student. Nineteen of the top twenty national doctoral institutions in the 2001 *U.S. News* rankings were large private research universities. Such institutions may not meet the needs of a student who would feel more comfortable in a smaller institution or might flourish under an alternative curricular approach.

• The survey methodology is changed every year, sometimes noticeably. As can be seen in the

Rank of Cornell University Among National Universities Made by *U.S. News & World Report**

Calendar Year

* *U.S. News and World Report* did not rank colleges in 1984 and 1986. In some years more than one institution tied for a position.

graph below, Cornell's relative ranking among national universities has fluctuated noticeably, varying from 6th to 18th since 1983. In 2001, *U.S. News* redefined the small-class measure, eliminating independent-study classes that represent one-on-one interactions between faculty and students. This redefinition plus other changes dropped Cornell from 10th to 14th.

Gerhard Casper, then president of Stanford, complained in 1996 to *U.S. News* about this constant reshuffling. "Such movement itself—while perhaps good for generating attention and sales—corrodes the creditability of these rankings and your magazine itself. Universities change very slowly—in many ways more slowly than even I would like. Yet, the people behind the *U.S. News* rankings lead readers to believe either that university quality pops up and down like politicians in polls, or that last year's rankings were wrong but this year's are right (until, of course, next year's prove them wrong). What else is one to make of Harvard's being #1 one year and #3 the next, or Northwestern's leaping in a single bound from #13 to #9? And it is not just this year. Could Johns Hopkins be the 22nd best national university two years ago, the 10th best last year, and the 15th best this year?"

America's appetite for rankings appears related to its transformation into what Robert Frank and Philip Cook have characterized as a "winner-take-all society," where the greatest rewards are reserved for the few at the top—hence the need to identify those few. Lost in the hype is the observation made by *U.S. News* itself in the introduction to its 1983 survey: "Our education writer…talked with a number of education experts for analysis of what the results meant. Her overall observation: 'You can't come away from this kind of experience without a keen awareness of the tremendous diversity in American higher education. There really does seem to be a college to fit every student's intellectual and personal needs.'"
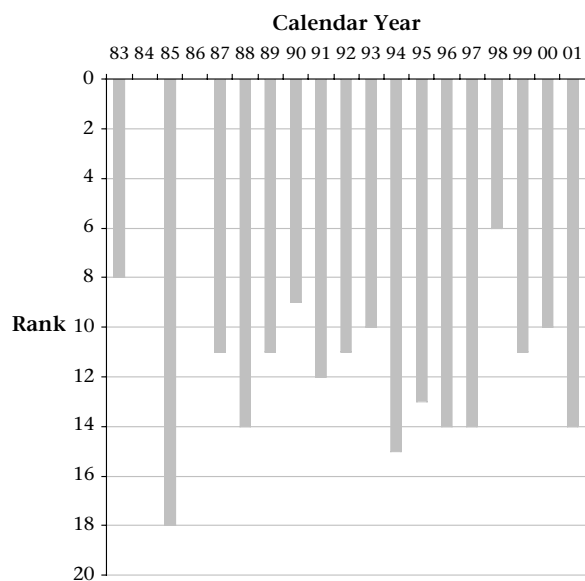
THE ASSESSMENT GAME

All of these forms of assessment can be divided into three groups from a systematic point of view: efforts designed to *prove*, *approve*, or *improve*. Interestingly, the etymological root of *prove* is found in the Latin *probare*, to test, which itself is related to *probus*,

meaning upright, good, or virtuous. While all three assessment forms seek to test for goodness, they are not comparable in value or efficacy.

- Analyses where the objective is to *prove* which institution is the most highly rated remain curious at best. If carefully constructed, these analyses—academic and popular rankings—may reinforce the conventional wisdom of which institutions are held in the highest esteem. Such studies seldom discriminate among institutions sufficiently to support a statistically valid differentiation of closely ranked institutions. Despite the crafted intricacy of some studies, they remain superficial in their attempt to reduce large and complicated matters to simple ordinals.

- Reviews that serve to *approve* strive to assure the public that the product is as advertised. Studies that lead to an official *approval* or certification, such as specialized accreditation by professional societies, remain necessary, and can be used advantageously to pinpoint needed program changes. Also, the external glare that accompanies most accreditation activities can be useful in uncovering fundamental institutional problems.

- It is the studies that seek to *improve* the institution, however, that have the most merit from Cornell's point of view. These assessments—institutional accreditation, strategic planning, program and functional review—carry the greatest potential to catalyze broad innovations, such as the residential initiatives at Cornell, this institution's selective investment in areas of research and scholarship, or the potential revamping of the university's administrative and support functions.

Institutional assessment is viewed by some as a diversion, not unlike the solitaire game of Idiot's Delight, which Robert Sherwood described as "The game that never means anything, and never ends." The inability of the institution to control some of these analyses coupled with the increasing reliance on their results by governments, foundations, and the general public can lead to frustration and angst among academic leaders. Yet the number and variety of assessment programs can be expected to continue and expand in the future. Despite their varying reliability and usefulness, it is important that institutions of higher education make the best use possible of all of these studies, reviews, and analyses, working to clarify their utility and improve their accuracy.

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