CHAPTER 6

ASSESSMENT OF TEACHING AND LEARNING

Outcome assessment plays a dual role in helping Case promote the transformation of students, faculty, and its educational programs. In one sense, it allows the university to determine its success in delivering on educational objectives through analysis of the results of a wide variety of formative and summative assessment tools. Secondly, it facilitates the process of continuous improvement toward program excellence and guides planning and curricular reform. In this chapter, we present information on both roles. We also describe the evolution of outcome assessment at Case over the past ten years and discuss university structures to promote effective teaching.

IMPLEMENTATION OF THE 1996 ASSESSMENT PLAN

Since the 1995 NCA accreditation visit, Case has taken steps to expand and improve its assessment activities. In June 1996, the university submitted a Plan for Assessment of Student Learning and Academic Achievement to the NCA in direct response to criticism about the lack of a formal, university-wide plan for outcome assessment. Later that year, the Faculty Senate established an ad hoc Committee on Outcome Assessment. The charge to this committee was to stimulate interest in and facilitate the practice of outcome assessment. In addition to addressing this charge, the committee catalogued the types of studies then being conducted and the assessment variables recorded, and recommended a structure for ongoing assessment activities.

With significant faculty and staff involvement from all schools within the university, the committee produced a Philosophy Statement on Outcome Assessment, which was endorsed by the Faculty Senate in February 1998. Since outcome assessment was not uniformly practiced at that time as a regular academic activity throughout the university, this philosophy statement contained a definition and description of outcome assessment processes. The philosophy statement also contained an inventory of existing assessment activities and a discussion of the data and variables being cataloged. The committee also recommended an Ongoing Structure and Process of Outcome Assessment at Case, which was adopted by the Faculty Senate in April of that year. This plan required that each school form a standing committee on outcome assessment, and that the associate provost coordinate, promote, and report assessment activities on an annual basis. An important component in the strategic discussion was encouragement of faculty and staff to view outcome assessment as a research agenda in and of itself. The university believed that it was desirable to seek publication of findings in academic outlets for higher education. The institution embraced the view that this course of action helps make outcome assessment an intrinsically exciting part of the university's life, and not merely an administrative requirement for institutional maintenance.

The first formal report on outcome assessment was delivered to the Faculty Senate in fall 1999[1]. Other reports pertaining to assessment activities are also available online[2]. Since that time, outcome assessment reports have been presented to the Faculty Senate on a periodic basis. Since the last accreditation, faculty from

1. For the full text of the Outcome Assessment report, see www.case.edu/pubs/cnews/1999/11-18/outcome.htm.
2. Additional assessment activity reports are available at www.case.edu/pubaff/univcomm/rel-archive/assess.htm.

the schools of management, dental medicine, applied social sciences, and others have published outcome assessment studies in professional outlets.

CURRENT STRUCTURE FOR UNIVERSITY-WIDE ASSESSMENT

In 2002, the provost established the Outcome Assessment Executive Committee (OAEC) as a permanent committee of the university. This group is charged with providing central coordination and promotion of educational outcome assessment activities within the various schools. In addition, the committee has assumed the role of examining and making recommendations regarding assessment philosophy and policy for Case. Membership of the OAEC includes faculty representatives from each school. These representatives are typically in leadership positions within the standing committees on outcome assessment at their respective schools.

In spring 2003, the university created the Center for Institutional Research (CIR), which serves as a repository for reports as well as a clearinghouse for information on outcome assessment. The CIR provides information and research about the university's students, faculty, staff, programs, and environment to support decision-making, policy analysis, institutional assessment, and strategic planning. The CIR is based in the Office of University Planning and Budget which reports both to the provost and the chief financial and administrative officer. Drawing on the expertise of staff in a number of units, the center's resources are available to school-based faculty and staff as well as to central administration and campus committees. A component of the center's research activity includes coordination and support for academic outcome assessment, including the activities of the OAEC. Other outcome assessment activities include the administration and/or analysis of national outcomes survey instruments: the Cooperative Institutional Research Program (CIRP) longitudinal survey project, the National Survey of Student Engagement (NSSE) longitudinal survey project, and the Case/Higher Education Data Sharing Consortium's senior survey.

As the practice of outcome assessment had matured and expanded at Case, and a number of curricular reforms based on outcome assessment were implemented, the OAEC recently reviewed the 1996 Philosophy Statement on Outcome Assessment for the purpose of positioning it for relevance to the new Case vision and to serve as guidance for future assessment efforts. The following updated Philosophy Statement of Educational Outcome Assessment was developed by the OAEC in February 2004, and was approved for adoption by the Faculty Senate in May 2004:

> "Case Western Reserve University strives to be the most powerful learning environment in the world. Because Case seeks to have transformational impact on all students, we commit to a comprehensive educational outcome assessment program, wherein we measure how our students have changed, what knowledge has been learned, and what competencies have been developed. Our educational outcome assessment programs will not only provide information on how well we are achieving our objectives, but also identify what types of programs and experiences have the most powerful impacts. The ultimate goal is to incorporate continuous evaluation into the educational culture for the improvement of programs and for enhancing the distinctiveness of our university.
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> "Educational outcome assessments will be based on the core vision and mission of each school and the university as a whole. The faculty, empowered by adequate resources and support to carry out assessment activities, accepts that educational outcome assessment is part of academic duties. Outcome assessment is embraced as a means that can lead to improvements in teaching and learning, plus provide evidence of teaching effectiveness for institutional purposes."

The most recent annual report on educational outcome assessment[3], which was presented to the Faculty Senate on March 23, 2004, summarizes the extensive and comprehensive assessment activities currently underway at Case. In spring 2004, the Outcome Assessment

3. Review the full text of the Educational Outcome Assessment 2004 report at www.case.edu/president/cir/execassessrpt.htm.

Executive Committee members were asked to evaluate their home units vis-à-vis the Assessment Culture Matrix promoted by the Higher Learning Commission.

Because Case is a complex institution with a broad range of academic programs, each of which has its own specialized assessment needs, the university requires each school to develop its own plan and processes for educational outcome assessment. Promotion of assessment and communication about best practices is coordinated through the OAEC. This committee tracks the progress of each school's efforts to practice outcome assessment using the Assessment Culture Matrix method. The collective results obtained are used as a metric of the culture for outcome assessment at Case.

The table below presents the Assessment Culture Matrix, by school, reported in the spring 2004 semester. In arriving at these results, each school reviewed the clusters of characteristics defined for each attribute and measured its performance against these guidelines. Overall, there were very few items reported at the Beginning Implementation stage (scores of 1, 2, or 3). An exception is the results from the Athletics and Physical Education area. This may stem both from an administrative structure that places this department under the auspices of the Student Affairs division rather than an academic unit, and a lack of appreciation (on the part of faculty, staff, and students) of the contributions of the department to student learning.

Assessment Culture Matrix and the Patterns of Characteristics Analysis

	Institutional Culture		Shared Responsibility			Institutional Support		Efficacy of Assessment
	Collective and Shared Values	Mission	Faculty	Administration and Board	Students	Resources	Structures	
College of Arts & Sciences	6	8	5	6	4	4	5	6
School of Dental Medicine	8	8	6	7	7	5	5	7
Case School of Engineering	5	4	7	3	6	5	5	4
School of Law	5	6	5	6	5	4	5	5
Mandel School of Applied Social Sciences	7	8	5	7	8	7	7	4
F.P. Bolton School of Nursing	7	6	5	5	7	4	5	6
School of Medicine	6	7	6	7	6	4	5	6
Weatherhead School of Management	6	8	7	5	5	2	5	4
Athletics and Physical Education	4	7	3	5	2	1	3	3

Note: Categories for numerical scores are as follows: 1-3 is "Beginning Implementation"; 4-6 is "Making Progress in Implementation"; and 7-9 is "Maturing Stages of Implementation"

A number of programs report characteristics that fall into the Maturing Stages of Implementation range (scores of 7, 8, or 9). The professional schools (e.g., the School of Dental Medicine, the School of Medicine, and the Weatherhead School of Management) lead in this category. One explanation may be that these schools have, because of the influence of their individual professional accrediting bodies, been practicing and promoting outcome assessment for longer than some of the other schools. Another is that specific faculty in these schools have been doing research on learning and outcomes as part of their intellectual agenda for many years. These individuals have been a great resource, and have been encouraged to expand their work at Case.

The two schools that offer the majority of the undergraduate programs (the College of Arts and Sciences and the Case School of Engineering) show ratings that fall into the Making Progress in Implementation category. Due to the relatively large number of individual programs offered, the degree of complexity of operating a broad outcome assessment program may take longer to mature.

The schools' evaluations of the institutional support for outcome assessment are markedly lower, in general, than the other categories. It is clear that garnering adequate resources and implementing appropriate structures for assessment must remain a high priority in order for Case to achieve its full expectation for outcome assessment. An expanded role for the CIR in coordinating assessment activities would contribute toward this goal. Recently, the CIR has taken a more active part in analyzing the results of surveys administered to reveal student satisfaction and the quality of teaching and learning.

CURRENT ASSESSMENT ACTIVITIES IN THE SCHOOLS

In addition to university-wide outcome assessment efforts, the individual schools and colleges are actively engaged in evaluating programs and, as necessary, making curricular enhancements and/or adjustments to meet prescribed goals and objectives.

The **College of Arts and Sciences** (CAS) has embraced the importance of outcome assessment, and has recently assumed responsibility for coordinating and administering the general education requirements for all Case undergraduates. Therefore, the primary outcome assessment activity is the ongoing assessment of the SAGES (Seminar Approach to General Education and Scholarship) program, which will become the structure for the general educational requirements for all Case undergraduates beginning with the class entering in fall 2005.

SAGES has been offered on a pilot basis (to 150-200 students per year) since fall 2002. The pilot stage has provided an opportunity for thorough outcome assessment and adjustment of the program structure and content as necessary to achieve goals. A SAGES learning team was constituted to lead the assessment effort, which incorporates methods including standardized and SAGES-developed course evaluations, direct observations of the learning environment, interviews with faculty and students, and use of the National Survey of Student Engagement data.

The assessment utilizes both quantitative and qualitative aspects of the experiences of students and faculty. Full tabulations of the various data and a series of analytical reports compiled by the SAGES learning team are posted online, and are available to the entire campus community for review[4]. The primary assessment methodology utilized a model derived from an inductive process in which the data are coded, thematic concepts are identified, and the relationships between the themes are elucidated. Particular attention has been given to the development of writing competency as well as critical thinking and ethical reasoning.

On the basis of the fall 2002 assessment results, the fall 2003 offerings of the SAGES first-year seminars were modified in scope and content. Some of these changes also addressed structural challenges associated with the program (e.g., course planning and designing functions were primarily done by the First Seminar Committee, while the implementation of the program was left to the instructors and co-instructors who had only marginal influence on the design of the course

4. SAGES assessment information may be obtained at https://www.case.edu/sages/newgereval/.

structure). In addition, a fourth class meeting time was identified for each First Seminar section to allow faculty and student groups to actively engage in a participating University Circle institution. Based on studies of class size, beginning in spring 2004, university seminars were limited to fifteen or fewer students. Finally, online modules on ethics have been developed and made available to SAGES faculty for use in their courses. Beginning with the class entering in fall 2004, all first-year students will be required to pass a test on their understanding of plagiarism as part of their Writing Portfolio requirement. As Case fully implements the SAGES program, continuous and vigilant assessment efforts will be necessary for the success of this initiative.

In addition to the overall assessment activity undertaken as a result of the SAGES program, the Executive Committee of the CAS determined that outcome assessment required accommodation of the variability among its twenty-one academic departments. All departments submitted a plan that was reviewed and approved by the Executive Committee and the dean. Outcome assessment methods across departments include: course evaluations; exit interviews with and essays written by graduating seniors evaluating their experiences at Case; admission to competitive graduate and professional programs, and to special summer programs abroad; discipline-specific written questionnaires; evaluations of capstone experiences; ongoing evaluations of student progress; and alumni interviews.

For example, the Department of Physics has made curricular changes to address recommendations made via outcome assessment instruments. In response to a “town hall meeting” of physics majors and discussions with the undergraduate representative to the curriculum committee, the department created a new one-credit course, “Physics Today and Tomorrow,” to provide first-year students and interested majors with more information about what physicists actually do in their profession. The department also revised the upper-level requirements for major degrees, replacing certain courses with a menu of options. In response to surveys regarding the utility of recitation sections, the department dropped the recitations for certain introductory courses, replacing them with a single weekly meeting that is recorded and archived on the web for access by students at their convenience. For other courses, in which students preferred the direct faculty interaction, the recitations were retained. Finally, in response to student comments on an annual departmental evaluation of the introductory physics labs, the department modified the lab syllabus and manual, including changes in the basic experiments.

The Department of English has also made curricular changes in response to outcome assessment activities. At graduation, the department requires each major to submit a portfolio containing writing samples from different years and course levels, and a reflective essay about their experiences as an English major, both positive and negative. In 2003, after reviewing and discussing several years’ worth of essays and portfolios, the department significantly modified the requirements for the major and the honors track by requiring more in-depth preparation in traditional literature and literary history regardless of concentration (i.e. creative writing, film, etc.). The department believes the new requirements better serve all majors, but especially those who intend to pursue graduate work in English. Also, in order to expand and enrich the activities and support available to undergraduate majors, the department created the position of Director of Undergraduate Studies. This position parallels the position of Director of Graduate Studies and comes with course relief and the expectation that the director will devote significant time and attention to the needs of undergraduate majors.

In the **Case School of Engineering** (CSE), the primary method for assessing academic outcomes on a school-wide basis is an annual survey of alumni and employers of alumni, which informs educational policy throughout the academic year. Tabulated data gathered from this survey are sent to CSE department chairs and presented at a school-wide faculty meeting. In addition, each academic department conducts its own assessment activities including exit surveys, town-hall meetings, and senior surveys. Following the dissemination of survey results and other input, actions are taken to address concerns and formulate new educational policies as appropriate.

For example, using a variety of processes beginning in 1995, the CSE performed a thorough analysis and restructuring of the "engineering core," the set of requirements for all students pursuing a Bachelor of Science degree in engineering or computer science. The engineering core, which augments the university's general education requirements for CSE students, had not been reviewed and had been essentially unchanged for approximately two decades. Under the leadership of the dean, first an ad hoc committee and then a standing Undergraduate Studies Committee met for over a year to articulate the purpose of and propose a new structure for the core. With representation from each engineering program, the committee discussed the primary question: "What knowledge and skills should be common to each engineering student's experience at Case?" Feedback from students, faculty, employers, and other constituents generated vigorous faculty debate. Ultimately, the new engineering core was adopted for implementation in the fall 1998 semester.

The previous engineering core consisted of a set of eight menus of courses, approximately twenty-five courses total. To satisfy the core requirements, students completed six of these courses chosen from at least five different menus. Since this structure did not allow for common experiences for the students, the faculty committees designing the new core sought to emphasize common experiences through a multidisciplinary approach, and to provide meaningful professional experiences for the students. The result was a set of five multidisciplinary core courses (administered by the engineering dean's office), each representing a distillation of basic subject matter spanning the school's offerings. Since each engineering student takes all five of these courses, this structure better fits the concept of an engineering core. In addition, there are oversight committees assigned to each course to ensure that stated objectives are being met, and to suggest modifications to the course curriculum when appropriate.

In addition, each engineering department is responsible for assessing the level of preparation provided by the core courses for its own majors. For example, the Department of Chemical Engineering does a minimum of three types of evaluation for each undergraduate course: (1) the standard university course evaluation form; (2) a specialized form created for each course which questions whether the specific course goals are being met; and (3) an annual retreat at which the professor responsible for each major field course discusses the syllabus and presents perceptions of what students are learning. Based on these results, the department may make curricular changes.

The **School of Graduate Studies** conducts an exit survey for all master's and doctoral degree recipients. The instrument provides information on the effectiveness of Case graduate training, professional development, and the quality of faculty mentoring. Results are being made machine-readable with a report planned during the 2004-05 academic year. (See Chapter 5 for details of this survey.) The university is also considering participation in the new graduate and professional student survey available to all AAU institutions and other research universities. This survey would provide more comprehensive data about Case students, permitting comparisons across programs both internally and with other institutions.

The **School of Law** conducts a comprehensive self-study every seven years as part of the process for reaccreditation by the American Bar Association. Beginning in summer 2003, the law school undertook a formal study of its position in the *U.S. News & World Report* rankings. This study generated a report assessing that position and made numerous recommendations to the faculty, most of which were approved and are being implemented.

As a direct result of the outcome assessment performed for its school-level accreditation, the School of Law recently implemented a new integrated skills training program known as Case*Arc*. The program is innovative in nature and is constructed around a collaborative teaching model. Case*Arc* represents a shift away from a traditional law school curriculum toward one that has an expanded focus on the sets of skills that are now viewed as being critical to success in the contemporary legal profession. These modifications include a shift from writing to oral processes, and less emphasis on litigation but more on transactional skills, business planning, and focused problem solving. The development of the Case*Arc* program was the result of the work of a skills task force that received input from an external advisory board.

Another consequence of the Case*Arc* program is the manner in which the law school faculty assesses student performance. Traditionally, law schools have relied on summative evaluative measures that focus on a final examination. Case's law school relies heavily on these quantitative, comparative assessments, based on a mandatory grade curve that applies to classes larger than fifteen students. However, the law school has started to depart from that model in several key respects. First, through the Case*Arc* program and advanced writing seminars, faculty provide more formative and qualitative feedback. Second, a few large classes are moving to smaller graded assignments during the semester. Third, the emphasis on oral, social processes requires new assessment tools for the skills curriculum.

The **Mandel School of Applied Social Sciences** employs an evaluative strategy that informs faculty on issues of curriculum content, curriculum outcomes, and student and alumni opinions. This strategy includes both quantitative and qualitative information gathered through a variety of tools and techniques, and depends on measures the school has used routinely over a number of years as well as measures that are being developed and refined. Information obtained from these assessment tools is shared with the faculty through committee structures, individual communication between the associate dean and a specific faculty member, and periodic reports that inform the faculty on issues of curriculum content, curriculum outcomes, and student and alumni opinions.

Outcome assessment at the Mandel School occurs in the context of its Ability-Based Learning Environment (ABLE). The faculty of the school has identified eight abilities students should develop by the time they graduate from the program. Articulation of these abilities has been based in part on input received from fourteen stakeholder groups. These abilities (valuing a diverse world, integrating social work values and ethics, advocating for social justice, succeeding in the world of work, critical thinking, communication, professional use of self, and social work practice) serve as the learning objectives for each student, and are the standard against which learning outcomes are assessed.

As a consequence of the establishment and definition of the eight key abilities, students in the master's program are required to develop a portfolio of their work. In this portfolio, students collect evidence of their competence on each of the eight abilities; their reflective self-assessment of their abilities; and learning goals based upon that assessment and their ultimate career goals. Portfolios also contain the assessments of their ABLE faculty mentors, assessments by practicum supervisors and classroom instructors, and student peer assessments. During the students' final semester in the program an advanced portfolio is prepared. Summative assessment is performed to determine whether the student meets the expected level of competence in each of the eight abilities.

The **School of Dental Medicine** approaches outcome assessment from a systematic and comprehensive perspective. Organizationally, the process is part of the vision and mission statements, strategic planning outcomes, goals and objectives definition, and the articulation of expectations. Outcome assessment is defined in the context of the primary mission statement regarding the educational program, scholarship and research, service, and patient care. The program objectives are outlined for each of the mission categories.

The school's Committee on Outcome Assessment tracks results quarterly using a template of program objectives and expected outcomes for each of the mission categories. The results of the outcome evaluation are shared quarterly with the dean and then the faculty to monitor program progress. Adjustments to the outcome assessment plan are made to program objectives and to the level of expected outcomes on a regular basis. Outcomes may be tracked for several years. When expected outcomes have been consistently achieved, new objectives and outcomes are established and monitored to evaluate program development and new outcomes. Outcomes are tracked through both qualitative and quantitative measures, including student course evaluations, alumni surveys, stakeholder focus groups, national board scores, publications, and student presentations at research meetings.

Specific objectives related to the pre-doctoral educational program are defined in the school's Competencies for Graduates document. This document defines fifteen domains for content deemed necessary for the student to have mastered by graduation, and the educational objectives that define each domain. The document represents the knowledge, skills, and values a graduate is expected to have acquired by graduation. Correlating documents tie the school's courses to the specific competency statements. An educational outcome plan lists the ways that each competency statement is assessed (and by what methods) throughout the curriculum, across the four years. The school's post-doctoral educational programs have the same level of educational competency expectations and outcomes documentation. These are professional requirements for accreditation in both the pre-doctoral and post-doctoral programs.

This outcome assessment plan has been in place at the School of Dental Medicine for the past six years. It has been extremely successful in tracking the school's progress, contributing toward its strategic planning processes, and guiding resource allocation.

The school's monitoring of national board results is an example of how the outcome assessment process has guided curricular change. Several years ago, the school recognized the need to improve its success rate on national boards parts I and II. The faculty recommended that a review program be instituted, and that at-risk students be identified early so that resources could be provided and strategies for success implemented. The school introduced national board review courses, a national mock board test, and an individual counseling program for appropriate students. These strategies have resulted in a national board success rate that is significantly higher than the national average.

The **Weatherhead School of Management** utilizes a competency-based M.B.A. curriculum, introduced in 1990, which has been recognized by educators and practitioners alike for its innovative use of self-assessment to shape the character of the learning experience. The Leadership Assessment and Development (LEAD) course is the cornerstone of the program. During the first semester of the program, students assess their own abilities in critical leadership areas, and develop individual learning plans that are reviewed and adjusted as they progress through the program.

The school completed an updated outcome assessment of the M.B.A. program in 2002 that included the baseline data from 1987 through 1989 (for comparison groups), the full-time graduating cadres of 1992, 1993, 1994, 1995, 2000, and 2001, and part-time graduating cadres of 1994, 1995, and 1996. Data on all entering M.B.A. students is collected each year, and the school collects exit data for graduates who have attended full time. Those data are analyzed every two years.

The main assessment method used for these comparisons (and the LEAD course) is the ECI-U (the Emotional Competence Inventory – University Edition), WSOM Version. It assesses emotional and cognitive intelligence competencies that have been shown in hundreds of studies to predict effectiveness of managers, executives, and leaders in most countries of the world. It is available online to the school's registered students. In addition to these studies, there have been a number of doctoral dissertations conducted on these data, as well as follow-up of graduates. This work has been cited by other authors in the field as exemplary of outcome assessment, and maintains the intellectual integrity of the school's interaction with students. Parallel studies began in 2003 at ESADE (Escuela Superior de Administracion y Direccion de Empreasas), a major management school in Barcelona, Spain, to study the impact of their program. These studies will expand in 2005 at ALBA (Athens Laboratory of Business Administration), the major private management school in Athens, Greece.

With respect to outcome studies of the Weatherhead School's Executive M.B.A. program, two doctoral dissertations were completed on follow-up studies. One followed the graduating class of 1997 four years later. The other study, conducted in 2002, followed the classes of 1999, 2000, and 2001. To assess the school's Professional Fellows program, four cadres of fellows were followed and studied. These studies involved two classes one year after graduation, one cadre two years later, and one cadre three years later. Findings support continued use of several of the learning pedagogies used.

For example, the Executive M.B.A. program uses study groups as the basic unit of group work for almost every course it presents. Students remain in the same group during their two years, and training sessions on how to work in teams are provided. One thesis indicated that the frequency of contact with study group members in the four years following graduation was significantly predictive of a person's sense of progress with career plans and general satisfaction in life. Another thesis indicated that the average amount of emotional intelligence competencies shown by members in their study group directly predicted both student and faculty judgments of the study group's performance (i.e., grades) and cohesiveness.

Educational outcome assessment is an active research area of some Weatherhead faculty. A recent journal article[5] summarizes the role that outcome assessment has played in shaping the M.B.A. program at Case. One of the desired outcomes for the Case M.B.A. program is enhancement of the students' cognitive and emotional intelligence. Having the development of these competencies integrated directly within the curriculum is a goal.

Weatherhead faculty and students conducted an extensive survey and data collection process followed by a rigorous analysis of these data. Linkages between changes to the M.B.A. curriculum and the ability of the program to develop students' cognitive and emotional intelligence became obvious. As a result of this assessment and analysis, the curriculum for the Weatherhead M.B.A. program is now fine-tuned to optimize outcomes with regard to these specific characteristics, which are critical to the career success of M.B.A. graduates.

At the **School of Medicine**, standardized assessments provide quantitative measures of the students' acquired knowledge base and of program impact on career selection and success. These assessments also allow for comparisons to national benchmark data. The major accreditation body for schools of medicine, the Liaison Committee on Medical Education (LCME), requires extensive amounts of outcome assessment data on student achievement both pre- and post-graduation. The School of Medicine's recent "perfect" evaluation from the LCME is testimony to the high quality of the outcome assessment practiced within that school. Post-graduation assessments in which both national organizations and the school take part provide qualitative and quantitative outcome measures, although the response rates are often low due to the voluntary nature of the solicitation.

In a number of ways, outcome assessment has driven curricular reform within the School of Medicine. For example, all medical students take the United States Medical Licensing Exam (USMLE) at the end of their second year; passing is required before students can begin their third year. Starting with students graduating in 2005, the clinical skills portion of the USMLE will contain a new section, namely performance evaluation of clinical skills using standardized patients. Recently, the medical school's Committee on Medical Education approved the requirement that students must sit for this portion of the USMLE exam, and results will be monitored to determine the optimal way for the school to utilize this outcome in its planning for future changes to the curriculum.

Many other outcome activities take place on a school-wide basis during the four-year program. A passing score on the Year 1 Comprehensive Examination, which assesses the Core Academic Programs that form the curriculum, is necessary to advance to Year 2. All students take the USMLE Step 1 national examination at the end of Year 2. Scores for the school's students are compiled by National Board of Medical Examiners (NBME) and reported to Case, which allows comparison to previous years' performance and the national group of examinees. Other assessment activities include: USMLE Step 2 Clinical Knowledge, USMLE Step 2 Clinical Skills, Objective Structured Clinical Examination (OSCE), structured student feedback, and the American Association of Medical Colleges (AAMC) Medical School Graduation Questionnaire.

After graduation, the specific specialty for each graduate is reported. The match program provides feedback to the school to determine overall success on the initial match process. Students rank their residency choices as part of the program, and the school receives data on the percentage of students that achieve placement in

5. "Learning Cognitive and Emotional Intelligence Competencies Through Graduate Management Education," R.E. Boyatzis, E.C. Stubbs, and S.N. Taylor, *Academy of Management Learning and Education*, 2002, 1(2), 150-162.

their highest ranked program. Also, individual clinical departments have access to the national match results for students choosing to pursue careers in the respective specialty. The quality of the programs, as measured by various reports, is also reviewed. Other post-graduation assessment activities include the USMLE Step 3 exam and evaluation of performance in the first residency year following graduation from the medical school. In 2001, a questionnaire was developed and sent to all graduates of the class of 2000.

At the department/programmatic level, individual departments have for many years used the Objective Structured Clinical Examination format for learning and assessment activities. Other activities include extensive curriculum evaluation efforts and NBME subject examinations. Post graduation, the USMLE Step 3 exam is employed, and the NBME reports overall scores to Case with comparison scores at a national level.

Based on a 2003 recommendation from the Ohio Board of Nursing, the **Frances Payne Bolton School of Nursing** (FPB) revised its Systematic Evaluation Plan, a document that summarizes and directs evaluation activities for the entire school. This document outlines the schedule of evaluation (typically one- to five-year cycles) of the school's components including mission and governance, faculty, students, curriculum, resources, and overall program integrity. Surveys are sent to alumni of each program on the one- and three-year anniversary of their graduation. The data have been entered into an SPSS data file for the purposes of conducting descriptive statistics and analyzing trends.

At the programmatic level, student evaluations are conducted at the conclusion of each course. The results are compiled by support staff, reviewed by the appropriate program director, and sent to the faculty of record for the course. These documents are stored as electronic files in the offices of the program directors. Exit interviews are conducted at the time of graduation or within one year. The interviews for B.S.N. and N.D. post-licensure students use a standardized commercially available tool, the EBI (Educational Benchmarking Institute) nursing assessment. As of 2003, ninety-four national schools of nursing used this standardized tool to evaluate their educational programs. Results compare the Bolton School to five peer institutions, to other similar Carnegie level institutions (thirty-one similar institutions in 2003 that used EBI), and to all ninety-four participating schools of nursing. M.S.N. graduates use a school-developed exit interview tool to evaluate satisfaction with the master's program. Ph.D. exit interviews are conducted by the program director. The program directors, the associate dean for academic programs, and the Evaluation Committee review the results of the exit surveys. Results are summarized and presented to the general faculty with information about areas in which educational goals are met to a satisfactory degree and areas that present opportunities for improvement. Each academic program faculty group meets separately to develop and implement strategies to address survey areas that indicate an opportunity for improvement.

The Mosby Assess Test is given twice in the final semester of the B.S.N. and N.D. programs. This pre-licensure exam is highly correlated with success on the RN-licensing examination (NCLEX), and students are expected to demonstrate competence with an approximately ninety-five percent chance of passing the NCLEX exam. In preparation for the Mosby Assess Test, students are also provided with a four-day NCLEX study course at the end of their program.

The performance of FPB students is compared to national norms. The Bolton School also tracks the first-time pass rate for the NCLEX for pre-licensure students, as does the Ohio Board of Nursing. The first-time pass rate is compared to schools of nursing in Ohio and nationally. In 2004, the N.D. students who receive the Certificate of Professional Nursing have achieved a 100 percent first-time pass rate on the NCLEX. The B.S.N. first-time NCLEX pass rate for 2004 was ninety-two percent, well above the national average for B.S.N. programs.

The School of Nursing has articulated a set of expected characteristics of graduates from each of its degree programs, and organizes educational outcome assessment around these points. Assessment activities have led to changes in the curriculum and adjustments in the delivery of the academic programs. For instance, feedback from nursing undergraduates and pre-licensure nursing doctoral students led to formation of task forces on student advising, new faculty development and orientation, and teaching. To improve first-time pass rates for the RN licensing examination by B.S.N. graduates, students identified as being at risk (using the commercially available Mosby Assess Test) are required to attend a formal exam review course prior to sitting for the licensing examination. This review course is made available to the students at a greatly reduced cost. In addition, a number of changes to specific curricular programs and courses have been documented.

POST-GRADUATION PLANS

Important indicators of the success of Case's academic programs are the post-graduation placement results and the success of students in attaining their career goals. Baccalaureate graduates are surveyed six months after graduation about their immediate post-graduation plans. This survey was administered annually by the Career Center. However, the response rate had dropped to thirty percent in 2000 and 2001, and the survey was abandoned. The importance of obtaining career outcome information persuaded the university to redesign the instrument and in 2003 the annual survey project was reintroduced as the First Destination Survey. Improved response rates resulted.

In recent years, the number of students pursuing a graduate degree immediately upon receiving the baccalaureate has increased. This is typical with a downturn in the job market. A recommendation has been made to survey alumni at three, five, and ten years post graduation in order to gain information with regard to learning outcomes, career management, and advancement. In addition, there have been recommendations to develop a survey for master's degree recipients.

The table on the following page presents a ten-year summary of the status of Case students six months after receiving the baccalaureate degree. The increasing number of students pursuing graduate degrees in recent years reflects both the current economic conditions in the U.S. and the perception of graduate programs that Case students are high quality and well prepared. Except for the last two years, the fraction of students still searching for employment at the six-month mark is quite low. This is a signal of the high desirability of Case students by employers, and also reflects the degree to which Case undergraduates have aggressively pursued employment and the launch of their careers.

Each professional school also maintains and publishes placement data for students earning advanced degrees. For example, placement of graduates of the **School of Law** nine months after graduation rose from 87.5 percent in 1995 to 94.8 percent in 2003. However, between 1995 and 2003, the number of students accepting employment in private practice declined slightly due to a shift in student preferences and a general tightening of the legal market. A second trend reflected in statistics is a decrease in the number of students choosing to stay in Ohio after graduation, which is a direct reflection of Case's efforts to become a more national law school.

Each year, more than ninety percent of the graduates of the **School of Medicine** obtain a position in the specialty of their choice. However, compared to ten years ago and consistent with national trends, fewer than fifty percent of Case's medical school graduates pursue careers in primary care.

For master's graduates of the **Mandel School of Applied Social Sciences**, typically ninety to ninety-five percent of students find immediate employment, with only ten percent of the graduates entering the for-profit sector. It is noteworthy that roughly two-thirds of those positions are located within fifty miles of Cleveland. The work of these graduates directly benefits and transforms the northern Ohio area. Also noteworthy is that approximately half of the Ph.D. graduates from the Mandel School have obtained positions in academia.

Placement statistics for M.B.A. graduates of the **Weatherhead School of Management** are strong but have shown more sensitivity to economic conditions (such as the dot-com boom and bust cycle) over the past ten years. Three months following graduation, the fraction of graduates of the full-time M.B.A. program that were employed ranged from sixty-five to eighty-six percent.Still, these numbers are reflective of the high quality of the graduates.

Post-graduation Plans - BA, BS, BSN Students										
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Advanced Study										
All Students	**32%**	**36%**	**34%**	**34%**	**36%**	**30%**	**27%**		**44%**	**47%**
Arts and Sciences	52%	52%	55%	53%	57%	66%	66%		64%	62%
Engineering	26%	32%	25%	25%	22%	18%	18%		35%	42%
Nursing	0%	8%	10%	11%	10%	9%	8%		10%	6%
Management	10%	15%	19%	11%	20%	17%	9%		4%	20%
Employment										
All Students	**56%**	**55%**	**60%**	**61%**	**59%**	**57%**	**59%**		**37%**	**35%**
Arts and Sciences	35%	38%	41%	41%	38%	22%	24%		19%	19%
Engineering	63%	63%	71%	71%	75%	67%	70%		43%	41%
Nursing	83%	81%	86%	84%	82%	82%	82%		70%	94%
Management	79%	67%	66%	83%	79%	83%	68%		51%	57%
Available for Employment										
All Students	**10%**	**6%**	**3%**	**3%**	**3%**	**2%**	**11%**		**16%**	**14%**
Arts and Sciences	10%	6%	2%	3%	3%	3%	12%		12%	14%
Engineering	9%	4%	3%	3%	2%	2%	2%		21%	14%
Nursing	17%	5%	2%	4%	4%	0%	8%		20%	0%
Management	6%	7%	2%	4%	2%	0%	22%		14%	19%
Other										
All Students	**3%**	**3%**	**3%**	**2%**	**2%**	**11%**	**2%**		**3%**	**4%**
Arts and Sciences	4%	4%	2%	3%	3%	12%	3%		5%	5%
Engineering	2%	2%	1%	1%	1%	12%	2%		1%	3%
Nursing	0%	1%	2%	2%	4%	9%	0%		0%	0%
Management	4%	11%	13%	2%	0%	0%	0%		5%	4%
Total Response Rate	**96%**	**89%**	**86%**	**84%**	**89%**	**29%**	**30%**		**62%**	**75%**

EFFECTIVE TEACHING

Importance of Effective Teaching in Promotion and Tenure

As described in Chapter 11, teaching is one of the three major criteria used in evaluating faculty for promotion and tenure. A Faculty Handbook requirement for promotion and tenure is that the faculty member demonstrate a commitment to the continuing development of teaching competence. As part of the application package, candidates for promotion or tenure are required to submit evidence of a commitment to effective teaching through the results of student course evaluations, supporting letters from students (current and former), and through faculty/chair peer assessments.

Teaching at Case is assessed primarily through course evaluations completed by students. While such evaluations are necessarily limited, the results are used to identify excellent teachers, as well as those whose teaching needs improvement. The provost brings the names of these faculty members to the attention of the deans, and expects them to write an appropriate letter to and follow up with each faculty member who may need to develop more effective teaching practices.

In certain schools (e.g., medicine and law) there are non-tenure track faculty whose primary responsibility may be teaching. For these faculty members, the criteria for promotion are based on their contributions to the overall educational mission.

Teaching and Course Evaluation

At Case, processes for student evaluation of courses and teaching can be traced back to the 1960s. Currently, course evaluations are administered centrally by the Office of Undergraduate Studies for all undergraduate courses within the College of Arts and Sciences, the Case School of Engineering, and the Weatherhead School of Management. The evaluation of graduate courses taught within these schools is also administered by Undergraduate Studies.

In fall 1999, the Dean of Undergraduate Studies requested that the University Undergraduate Faculty (UUF) develop recommendations for creating and implementing effective course evaluations. The UUF Executive Committee appointed an ad hoc Committee to Establish a Policy on Course Evaluations, which met in Spring 2000. The committee recommended: (1) an institutional commitment be made to provide necessary resources for improved course and instructor evaluation; (2) end-of-term paper evaluation forms be retained and improved, with a number of suggested ways in which to do this; and (3) other feedback methods be available for faculty use only, be that a web-based format or a selection of available questions more specific to the course materials chosen as part of the paper evaluations. Unfortunately, no steps to pursue the recommendations were undertaken.

In fall 2002, the ad hoc Course Evaluation Committee was reformed by the UUF Executive Committee. This committee consisted of students, representatives from each constituent faculty, and administrators from the Office of Undergraduate Studies and the Provost's Office. This committee has met on a regular basis, gathered information, and reported to the UUF at Executive Committee meetings. At a meeting of the UUF General Faculty in November 2004, three recommendations of the ad hoc Course Evaluation Committee were adopted:

- Case should develop, produce, implement, and maintain its own psychometrically sound instrument to assess student perceptions of their learning environment and educational experience. Use of the current mark-sense questionnaire should be phased out as the new instrument is prepared and introduced.
- The university should establish and promulgate uniform faculty-recommended guidelines for peer review of teaching and mentoring, including faculty-recommended guidelines for the creation, maintenance, and interpretation of instructor-maintained teaching portfolios.
- Course objectives, descriptions, and syllabi of undergraduate courses should be accompanied by general overall course objectives.

A Course Evaluation Task Force is currently exploring how to actualize these recommendations. The resources necessary to fund the development of a new course-evaluation tool for Case have been identified, and candidates who will take a leadership role in this process have been interviewed.

Course evaluations within the other professional schools are performed using school-specific instruments.

Recognition of Effective Teaching

In addition to the Nord and Glennan Fellowships described later in this chapter, Case offers a number of university-wide awards for outstanding teaching:

- The Wittke Award, established in 1971, is presented each year to two faculty members who have demonstrated excellence in undergraduate teaching. All Case undergraduate students and recent alumni (within two years) are encouraged to submit nominations. A committee of undergraduates recommended by department chairs and deans selects the winners.
- The J. Bruce Jackson, M.D. Award for Excellence in Undergraduate Mentoring recognizes outstanding advising and mentoring of undergraduates, and is awarded annually. Nominees for the Jackson Award must demonstrate excellence in one or more of the following areas: Guiding the student toward discovery of academic and career paths; fostering the long-term personal development of the student; challenging the student to reflect, explore, and grow; supporting and facilitating the student's goals and life choices. All Case undergraduate students and alumni may submit nominations. Each nominator must have been directly mentored by the nominee.
- The John S. Diekoff Award for graduate teaching is presented annually to two full-time faculty members who have made exemplary contributions to graduate education both inside and outside the classroom. The Graduate Student Senate oversees the selection process.

The awards listed above are presented during commencement ceremonies and carry monetary prizes.

The professional schools also recognize excellence in teaching. For example, the School of Medicine offers four Kaiser awards annually, two for outstanding teaching in the basic sciences and two in clinical training. The School of Nursing offers the Mary Kay Lehman Award. The School of Management offers teaching awards in executive education, in undergraduate education, and in both the master's and doctoral programs. The School of Dental Medicine annually recognizes the outstanding clinical and didactic instructors. The Mandel School of Applied Social Sciences annually offers the Outstanding Teacher Award and the Adjunct Instructor of the Year Award. In addition to the Teacher of the Year awards presented by first-year and graduating students, the School of Law offers the Distinguished Teacher Award, established in 1984 "to recognize a commitment to education and the pursuit of knowledge, which has enriched the personal and professional lives of students." The Undergraduate Student Government also gives awards for outstanding undergraduate teaching.

UNIVERSITY CENTER FOR INNOVATION IN TEACHING AND EDUCATION (UCITE)

One of Case's greatest success stories of the past decade is the University Center for Innovation in Teaching and Education. Created in fall 1994, UCITE was initially an administrative effort to explore ways to improve the quality of teaching at Case. The center's vision evolved with four major components:

- It would primarily serve the teaching needs of the *faculty*, leaving the concerns of other teaching personnel (graduate and undergraduate students, post-doctoral fellows, etc.) to be addressed by existing campus organizations.
- It would be a *support system* for the faculty, responding to their needs and interests, and not an evaluation arm of the administration.
- It would have an academic focus on *learning* (what it is, and how it can be enhanced and assessed).
- It would *emphasize excellence* as opposed to remediation so that a faculty member's involvement with the center would not be perceived as a sign of deficient teaching.

The UCITE staff initially consisted of a half-time director (a senior faculty member) and a full-time secretary. The director reported to the provost, and had an advisory board consisting of faculty members from Case's various schools. Over time, it became clear that staffing was insufficient to meet the demands on the office; in July 1998 a half-time associate director was added. In July 2002, the founding director reverted to full-time status in his academic department (while remaining as UCITE director and continuing his involvement with its programs) and the associate director became full-time, taking over the administrative responsibilities of the center. In June 2004, the founding director stepped down (while still continuing his involvement with UCITE programs) and, after an appropriate search, the associate director assumed the director's title and responsibilities.

Due to the increased growth in demand for UCITE services, a plan is underway to expand staffing so that the present full-time director and secretary are joined by a quarter-time associate director and a half-time assistant director. These added staff will support the director on a daily basis and carry out special assignments.

UCITE interacts with many Case constituencies. It works with the Kelvin Smith Library staff on issues of information literacy. The director serves on the advisory boards of the Instructional Technology and Academic Computing (ITAC) group and the Center for Mathematics and Science Education. The center works closely with the Undergraduate and Graduate Studies offices and the Office of Educational Services for Students, and also provides support for the Preparing Future Faculty program coordinated by the Graduate Student Senate.

Among its major activities, UCITE:

- Sponsors general seminars, which introduce topics in teaching and learning, and encourage open discussion among faculty participants. These single sessions are held once or twice weekly during the academic year.
- Promotes Learning Fellowships, semester-long courses in which twenty faculty members from across the university participate in in-depth discussions of learning and teaching. To date, fifty-nine faculty have been designated Learning Fellows. Another forty will take part in the 2004-05 academic year.
- Organizes and runs the annual new faculty orientation program.
- Provides custom-tailored workshops and other programs to specific schools and departments. For example, during the current year, the School of Nursing asked UCITE to provide a workshop at its annual retreat on ways to improve student-faculty interactions. Also, UCITE ran a workshop at a faculty retreat for the School of Dental Medicine. In addition, the School of Medicine asked UCITE to lead two workshops on how to run large lecture classes and small discussion classes more effectively. UCITE now offers regular monthly sessions on a range of topics within the school.
- Supports curricular reforms and innovations (such as SAGES and the current review of the School of Medicine's curriculum).
- Supports other offices on campus that deal with teaching roles for post-docs, graduate students, and undergraduate tutors.
- Provides mid-term course evaluations and feedback.
- Supports technology applications in the classroom (with ITAC).
- Supports information literacy programs (with the Kelvin Smith Library).
- Organizes special talks and programs. For example, UCITE recently hosted Derek Bok (former President of Harvard University), who talked about the impact of affirmative action on colleges, and Barbara Byrd-Bennett (CEO of the Cleveland Municipal School District), who discussed how universities can partner with urban schools for mutual benefit.

- Provides individual consultation and support for faculty members.
- Maintains a library of reference and resource materials.

UCITE also promotes effectiveness and innovations through a number of grant programs:

- *Glennan Awards:* Five awards of $6,500 each are given annually to tenure-track faculty based on their promise of a balanced and excellent career in research and teaching, and the quality of their proposals. The grants are funded by an endowment given by the family of a former Case president. Fifty awards have been made to date.
- *Nord Grants:* Nord Grants are open to all faculty and awarded on the degree to which submitted proposals meet the criteria outlined by the Nord Family Foundation, which has given $50,000 each year to fund the awards. Forty-six Nord Grants have been made to date.
- *Teaching Grants:* Smaller awards of varying amounts are given on the basis of proposals submitted by faculty. Funding for teaching grants comes from contributions to UCITE by faculty, alumni, and other supporters of education. Over forty teaching grants have been made so far.
- *UCITE Learning Fellowships:* These fellowships are open to Case faculty members who want to explore ideas on how people learn and how those ideas can be applied in the classroom to improve teaching. Faculty members selected to participate in the program meet weekly in a seminar-style course to engage in discussions about teaching experiences and methodologies. Typically twenty faculty members are involved each term, and each receives a nominal stipend of $3,500 for participation.

A complete listing of the wide-ranging projects supported under these programs can be found on the UCITE website[6]. An important component of all of these programs is the requirement that the faculty members report back to the Case community the results of their UCITE-supported activities through seminars, and presentations.

The number of faculty that attend UCITE seminars and the number applying for the center's grants have increased steadily. The diversity of participants and departments represented at UCITE-sponsored events has grown significantly. These data are a direct indication of the interest in effective teaching at Case.

A comparison of the number of participants and events from its year of inception (1994-95) to the most recent reported year (2003-04) shows not only steady growth but also a shift in emphasis. The first year featured small seminars targeted at new faculty (a total of thirty-seven people) and a few large programs designed for the full faculty and featuring outside presenters. Currently, most UCITE programs are designed for all faculty. In the last few years, UCITE has sponsored approximately forty seminars each year, and two or three larger programs with outside speakers. Approximately 1,200 faculty now attend UCITE programs annually. While impressive, these figures do not necessarily reflect UCITE's primary objectives, which are to increase both faculty and student awareness of what constitutes real learning, and to see an increase in the faculty's use of practices that lead to better learning and more student engagement in the intellectual life of the university.

UCITE's success may be measured informally by the fact that the center is more and more frequently called upon as a resource by the various schools and departments in the university. As noted earlier, UCITE has been asked to make presentations and give workshops to faculty at the medical, dental, and nursing schools. UCITE is also an important resource for training SAGES faculty. It has been asked to assist in the development of programs to improve the recruitment and retention of women and minorities, and to assist Case's Mathematics and Science Partnership with the Cleveland Municipal School District.

Some of UCITE's goals for the future can be met by expanding the scope of current programs, while others require the creation of new programs. Some are best pursued in conjunction with other Case departments.

6. The UCITE website is located at www.case.edu/provost/UCITE/grants.htm.

The extent to which these ideas can be carried to fruition will depend on available resources.

There are a number of existing UCITE programs that could be expanded:

- Programs for new faculty that continue contact with UCITE beyond the annual orientation; these could involve monthly programs during the first academic year featuring a seminar, followed by dinner and a cultural activity at one of the University Circle institutions
- A wider variety of workshops and other programs for specific schools and departments
- Enhanced support of curricular reviews and reforms
- Enhanced support of other offices on campus that address teaching roles for post-docs, graduate students, and undergraduates
- Facilitation of more extensive mid-term course evaluations and other feedback

In addition, UCITE has proposed to develop a number of new programs:

- Intermediate-level seminars to complement the Learning Fellows and regular seminars. These might consist of a cohesive set of three or four in-depth sessions dealing with a single important topic, with papers/book chapters used as bases for discussions. Suggested topics: issues of gender and ethnicity in the classroom; the role of brain studies in teaching; enhancing motivation; and learning assessment.
- Increased involvement in monitoring and supporting gender and ethnic-related initiatives
- UCITE-supported satellite groups based in schools, to provide more targeted programs for those schools (using Learning Fellows as core organizers in each group)
- Individual and group assistance with classroom presentation skills, accent modification, voice, body language, and communication issues
- Enhanced support for other Case educational programs as they involve external partners, such as the Cleveland Municipal School District's Math and Science Program and Service Learning Initiatives
- Development of an informal acting troupe to do sketches and role-plays presenting current teaching challenges, and illustrating how improvisational techniques can help teachers effectively address classroom issues
- Research support for faculty who are pursuing teaching issues
- Individual visits to new faculty members during the first academic year to provide them with a sounding board for concerns
- A one-stop website for all faculty teaching needs, with specific key links to additional resources including, undergraduate studies, ITAC, KSL, ESS, and Service Learning
- A regular column in *Case Magazine* and other media vehicles for increased UCITE visibility

SUMMARY: STRENGTHS AND CHALLENGES

Over the last ten years, the faculty and staff at Case have responded enthusiastically to the opportunity to use outcome assessment to improve the quality of education. The university has made a strong effort to create a culture of assessment and evaluation of outcomes in its educational programs. In most programs, outcome assessment is now considered to be part of the intellectual fabric and source of insight into continuous improvement. This is a dramatic, positive change from the atmosphere, activity level, and utility of such studies prior to 1995.

All academic units have outcome assessment plans that are benchmarked and revised on a regular basis. Integral to this effort has been the creation and development of standing committees on outcome assessment; the definition of metrics monitored by the university; the creation of the Center for Institutional Research to provide data and resources for evaluation; the continued development and expansion of resources available through UCITE; and the recognition of the use of outcome data in many of Case's research endeavors.

Outcome assessment is also integrated into educational innovations, such as SAGES. Faculty resources and guidance in teaching has resulted in higher levels of performance in the classroom, and higher standards expected for faculty promotion. With the additional support to promote better teaching, Case believes that faculty see their mission as the inspiration of those who come to study at the university. It is essential that the faculty spark their students' curiosity and generate new knowledge.

Some academic units are still developing ongoing processes for outcome assessment, and others continue to refine and expand the scope of their evaluative tools. A university-wide framework for continuing efforts in this area is in place, and interdisciplinary discussions on this topic take place across the campus. The university has committed its support for these high level efforts, as evidenced by the continual review of dashboard metrics, collaborative efforts in strategic planning, and allocation of resources.

Each outcome study raises new questions and issues, and these pose challenges. For example, it is clear that one-on-one faculty-to-student mentoring, coaching and counseling are crucial components of learning. These enhance retention and integrate the students' experiences with their views of the world and their capabilities. This concept goes beyond the role of a faculty advisor. The university needs to explore the quality of these relationships and processes of interaction, and find ways to integrate the roles and methods of faculty-student interaction into all schools. Experiments and research are underway at several schools on coaching and counseling. These efforts should feed directly into these discussions.