

# Learning Assessment at IUPUI 2010-11 Annual Report

## Overview

IUPUI reached a major milestone in 2010-11 with full implementation of a synchronized approach to campus-wide assessment of the Principles of Undergraduate Learning (PULs). This approach represents one outcome of steadily increasing attention to assessment of student learning since the 1980s. These extensive efforts have helped us to understand, not only what students are learning, but what instructional methods and interventions support student success. When we identify an opportunity for improvement, we make adjustments, such as revising the curriculum and restructuring courses. Some assessment findings have led to new or expanded student services, resulting in improved effectiveness in the ways services are provided. Promising work begun in 2010-11 is beginning to help us document student learning from co-curricular experiences as well.

As is the case at other institutions, the purposes of assessment at IUPUI are (1) to assure ourselves and our students that their learning experience at IUPUI meets or exceeds appropriate standards and (2) to secure information to guide improvements to our programs and services. In addition, we regularly report to the Board of Trustees and other constituents through the annual IUPUI Performance Report and, since 2003, through this report and its predecessor, which was developed for the Indiana Commission for Higher Education. These reports are publicly available on the IUPUI web site at <http://iport.iupui.edu> for the Performance Report and at <http://www.planning.iupui.edu/accountability> for this assessment report.

At an institution with over 30,000 students pursuing more than 250 degree and certificate programs offered by 21 schools, assessment is multi-faceted and complex. While summary risks over-simplification, this report highlights the nature and range of assessment work at IUPUI, from articulating learning outcomes through strengthening practice based on findings. This year's report provides evidence that such work "closes the loop," as faculty engage in periodic review and revision of learning outcomes, curricula, and teaching strategies to keep the learning improvement cycle moving forward.

## Structure and Practice of Assessment at IUPUI

The words *assessment*, *evaluation*, and *measurement* are often used as synonyms in general conversation, though advanced practitioners make distinctions among them. In higher education, it is perhaps more common to use the term "assessment" in relationship to learning, while "evaluation" frequently applies to projects or administrative procedures, and "measurement" connotes for many people a quantitative dimension. This report will generally use the definition of "assessment" adopted by the IUPUI Program Review and Assessment Committee: "Assessment is a process of describing and documenting progress toward identified educational goals or outcomes for the purposes of improving student learning experiences and academic

performance and determining program effectiveness” (<http://www.planning.iupui.edu/45.html>, retrieved December 10, 2010).

**Assessment**, then, ascertains whether, what, how well, and how students learn. It addresses factors known to affect or correlate with students’ academic success. It is linked with, but not the same as, evaluation of operating efficiencies and effectiveness that influence the learning environment. Its overarching purposes at the unit and campus levels are to improve student learning and program effectiveness in supporting that learning. Responsibility for assessment of student learning rests with the faculty of the schools, whether assigning course grades, determining satisfactory accomplishment of the Principles of Undergraduate Learning and of Graduate and Professional Learning, or confirming that students have achieved a program’s expected learning outcomes and are ready to graduate. At the same time, faculty determine program curricula and are thus in the best position to identify opportunities for improvement and carry out curricular improvement. Numerous internal and external structures support this aspect of faculty work and ensure leadership and planning for assessment across the campus.

**Accreditation** represents a primary external driver of assessment, though there are also external elements associated with program review. IUPUI is accredited every ten years by a regional body, the Higher Learning Commission (HLC) of the North Central Association. In 2009, the campus community began active preparation for the next HLC reaffirmation of accreditation in November 2012.

Over fifty programs at IUPUI hold what is commonly referred to as “specialized accreditation”—validation by a professional community of peers that a program meets quality standards in a discipline or field of practice. Some departments and programs must be certified by multiple bodies, and at varying intervals, so the level of effort involved in specialized accreditation is extensive. For example, the School of Nursing is reaccredited by the National League for Nursing Accrediting Commission for the BSN and MSN programs every eight years, the Commission on Collegiate Nursing Education for the BSN and MSN every ten years, the Indiana State Board of Nursing for the BSN every year, and the American Nurses Credentialing Center for its continuing nursing education programs every five years. The complete list of IUPUI accredited programs is available at <http://www.planning.iupui.edu/accountability/>.

In 2010-11, the following programs or departments received specialized accreditation visits (for which most had spent the previous year or more undertaking extensive self-examination):

- School of Education, National Council for Accreditation of Teacher Education
- Biomedical Engineering BS, first accreditation, Engineering Accreditation Commission of ABET, Inc. (formerly Accreditation Board for Engineering and Technology)
- Computer Engineering BS, Engineering Accreditation Commission of ABET
- Electrical Engineering BS, Engineering Accreditation Commission of ABET
- Mechanical Engineering BS, Engineering Accreditation Commission of ABET
- Health Information Administration BS, Commission on Accreditation for Health Informatics and Information Management Education
- School of Library and Information Science, Indianapolis, Master of Library Science, American Library Association
- Paramedic Science, EMS Commission, Advanced and Basic Training Institution

- Master of Public Health, Council on Education for Public Health
- Epidemiology, Biostatistics, Health Policy & Management, Ph.D., Commission on Accreditation on Health Care Management Education
- School of Nursing, BSN, Indiana State Board of Nursing
- School of Nursing, Continuing Nursing Education, American Nurses Credentialing Center Commission on Accreditation

**Program Review.** Although similar to specialized accreditation in requiring self-study and peer review, IUPUI's internal process of program review is closely aligned with the campus mission and includes all programs, regardless of the existence of an external accreditor. The IUPUI program review process emphasizes engaging community members, students, and school and campus administrators as well as faculty from other IUPUI units and disciplinary specialists from peer institutions. The process is integrated with campus planning, decision making, and resource allocation so that any recommendations for improvement can be carried out as part of coordinated planning for the future. The Program Review and Assessment Committee (PRAC) provides oversight of the process, with administrative support from the Office of Planning and Institutional Improvement. The dean of each school is responsible for leading the reviews in that school.

Reviews occur on approximately an eight-year cycle, coordinating with any relevant external reviews to minimize duplication of faculty time and effort. Faculty develop a comprehensive self-study during the year prior to review. A team of internal and external representatives conducts the on-site review (including interviews of various constituent groups) and presents a written report with recommendations. During the following year, program faculty prepare a written response that identifies actions to be taken to address each recommendation, and the dean convenes a follow-up meeting to discuss next steps. Within a few years, PRAC meets with the department chair to discuss long-term outcomes.

In 2010-11, the Museum Studies programs (master's and certificate) in the School of Liberal Arts, the Individualized Major B.S. Program in Liberal Arts, Intramural and Recreational Sports in the Division of Student Life, and the Technology Services Department of the School of Dentistry were all engaged in their program reviews. At the same time, Earth Sciences, Economics, and Political Science were preparing their self-studies for review in 2011-12. University College and the Departments of Religious Studies, Geography, and Criminal Justice were completing the immediate follow-up activities from their reviews in 2009-10.

For information about the organizational structure supporting assessment at IUPUI, and for examples of types of assessment commonly used, see the appendices to this report.

### **Assessment in Practice: Consolidating Gains, Broadening Understanding in 2010-11**

This year saw the convergence of two important multi-year projects related to assessment of student learning at IUPUI. Foremost was the culmination of more than seven years' work that began with refining the IUPUI Principles of Undergraduate Learning (PULs) and moved to

integrating them with the learning goals of each academic program. Subsequent work identified methods of assessing student learning outcomes in ways systematic enough to assure regular attention to all outcomes across all programs and consistent enough to allow reporting at the campus level and action at the departmental level. The first full academic year of this campus-wide PUL assessment was completed in Spring 2011.

A second major activity, linked with the first, was the careful re-examination and restatement of learning outcomes for each degree program. Each academic unit was asked to place a statement of learning outcomes for each of its undergraduate and graduate programs in the IUPUI online *Bulletin*. In the 2010-11 annual assessment reports prepared by academic and support units, nearly every department reported conclusion of this significant undertaking.

These reports on assessment of student learning outcomes necessarily emphasize work of the faculty, but IUPUI does engage students themselves in undertaking several projects to assess students' own perception of their learning as well as their satisfaction with environmental factors that support their learning. When possible, we aim to make such initiatives learning experiences for the students involved.

Progress on these campus goals is supported by members of the Program Review and Assessment Committee (PRAC), which provides oversight and coordinates communication on matters related to assessment. PRAC members worked among themselves and with colleagues in their units to nurture progress with PUL assessment and program learning outcomes. They also continued jointly to approve and monitor accomplishments of small grants to support interesting assessment projects, to follow up on program reviews, and to examine the new PUL assessment data for opportunities for cross-departmental improvement.

### **Assessing the Principles of Undergraduate Learning**

As reported over the past several years, following adoption of the revised PULs in 2007 (see <http://academicaffairs.iupui.edu/plans/pul/>), schools and departments worked to integrate the PULs with their respective curricula. Some programs with national specialized accrediting bodies were accustomed to a "competence" approach to designing programs and had already formulated learning objectives for their students. In these cases, the challenge was to align the PULs with disciplinary outcomes already established, a complicated process that most programs were able to accomplish within two or three years. Other disciplines, largely in the liberal arts and sciences, faced the more complex challenge of translating the commonly understood goals of their disciplines into language more susceptible to evaluation before they could clarify the ways in which the PULs were aligned with these goals.

In 2009-10, departments with undergraduate programs identified the PULs emphasized in every course taught by the department; for most courses, three PULs were identified, one each for major, moderate, and minor emphasis. The Office of the Registrar and the Office of Information Management and Institutional Research (IMIR) created a database to store this information and generate a display of the results (available at <http://www.planning.iupui.edu/pul/matrix>). This campus-wide grid serves two important purposes. (1) It facilitates the work of faculty in assuring that all students majoring or minoring in their field have multiple opportunities to learn the PUL

skills and characteristics, not only in courses offered by the department, but also in required or elective courses offered by other departments. (2) It provides a reference for advisors to use in helping students select courses appropriately to assure mastery of the PULs by the time they graduate.

Most departments established a five-year cycle for assessing student learning of PULs identified as major and moderate emphases in each course (some departments used a three-year period). The faculty member teaching a given course chooses an assignment or group of assignments whose successful completion can illustrate accomplishment of the PULs designated for that course. University Information Technology Services (UITS) worked with the Registrar and IMIR to adapt the grade reporting capability in our Learning Management and Student Information Systems so that faculty could use familiar tools and a common rating scale to report the results of the PUL assessments. The IUPUI Center for Teaching and Learning provides online resources for faculty on effective ways to assess each PUL.

The first campus-wide PUL assessment launched in Spring 2010. IMIR staff assembled the ratings of student learning submitted by faculty in all courses scheduled for PUL assessment that semester and in August provided aggregate reports to each school. Reports of outcomes in 400-level courses will be used to assess student mastery at or near graduation. Reports from 100-, 200-, and 300-level courses are intended to help faculty refine and strengthen student achievement of PULs as may be needed. It should be noted that these reports are not associated with individual students, but rather with the level of overall student accomplishment of PUL abilities. Nor are the reports associated with the specific courses involved, since a student's level of mastery of, for example, Values and Ethics, does not result solely from any single course.

Results of these assessments will become most valuable as more are collected, since a report from any single semester would represent only a fraction of courses offered and might well be somewhat unevenly distributed across departments. Nor are the results from any single semester likely to be statistically meaningful, since no representative sampling is involved. By the close of academic year 2010-11, the combination of three semesters' data began to provide meaningful information about undergraduate student learning of the PULs. The table below represents an encouraging look, with mean results from the 400-level courses ranging from a low of 3.16 to a high of 3.46 on a 4-point scale (where 1 = Not at All Effective and 4 = Very Effective). The larger IUPUI schools have requested future reports that are sorted by department, where applicable, in order to permit closer examination of opportunities for program-level improvement.

The five-year cycle begun in Spring 2010 will not complete its first iteration until Fall 2014, but serious review of accumulating data is already under way. For example, though data are not yet sufficiently complete to be conclusive, Social Work faculty were disappointed with their students' performance on PUL 1A communication skills and moved quickly to increase emphasis on scholarly writing during new student orientation and to add a 400-level elective course in Scholarly Writing for Social Work.

IUPUI Faculty Ratings of Student Performance on PULs with Major Emphasis (400 Level Courses) <sup>1</sup>

PUL – Major Emphasis	Mean <sup>3</sup>	Not Effective	Somewhat Effective	Effective	Very Effective	Total
1A. Written, Oral, & Visual Communication Skills	783 3.24	38 4.9%	89 11.4%	302 38.6%	354 45.2%	783 100%
1B. Quantitative Skills	454 3.38	13 2.9%	50 11.0%	141 31.1%	250 55.1%	454 100%
1C. Information Resource Skills	104 3.16	7 6.7%	16 15.4%	34 32.7%	47 45.2%	104 100%
2. Critical Thinking	942 3.23	49 5.2%	94 10.0%	389 41.3%	410 43.5%	942 100%
3. Integration and Application of Knowledge	2911 3.42	79 2.7%	161 5.5%	1134 39.0%	1537 52.8%	2911 100%
4. Intellectual Depth, Breadth, and Adaptiveness	1203 3.46	24 2.0%	100 8.3%	374 31.1%	705 58.6%	1203 100%
5. Understanding Society and Culture	784 3.43	34 4.3%	77 9.8%	187 23.9%	486 62.0%	784 100%
6. Values and Ethics	445 3.44	8 1.8%	25 5.6%	175 39.3%	237 53.3%	445 100%
Total <sup>2</sup>	7626 3.38	252 3.3%	612 8.0%	2736 35.9%	4026 52.8%	7626 100%

<sup>1</sup> Includes Columbus

<sup>2</sup> Combined number of student ratings in all 400-level courses sampled in Spring 2010, Fall 2010, and Spring 2011. A student may be evaluated more than once if he or she is taking more than one 400-level course.

<sup>3</sup> Scale: 1 = "Not Effective", 2 = "Somewhat Effective", 3 = "Effective", 4 = "Very Effective"

## Highlighting Program-Level Learning Outcomes

Academic units have worked over the past several years to articulate, in the form of outcomes, their expectations for what students will learn in their majors. While degree programs have always been based on certain goals commonly understood by faculty in the particular field, goal statements do not readily lend themselves to assessment. Moreover, students have too often not fully understood what they are expected to learn from majoring in a field or how their courses fit together in logical and related sequences. Framing program goals more explicitly as expectations of the knowledge and skills that students should be able to demonstrate on completion of a program of study—as learning outcomes, in other words—helps to resolve both challenges.

The expression of programmatic objectives and learning outcomes by a specialized accreditor provides a solid framework for many disciplines to adapt in defining the distinctive program of a particular institution. For example, in the Department of Kinesiology, program learning outcomes of majors in Exercise Science and in Fitness Management and Personal Training are aligned with the framework of the American College of Sport Medicine (ACSM) Health Fitness Specialist certification, while the Physical Education Teacher Preparation program aligns its outcomes with those of the National Association for Sport and Physical Education (NASPE). Disciplines evolve, however, and periodically update their expectations, causing ripple revisions to campus statements. In 2009, for example, the School of Social Work began an extended process of restructuring its programs to align with the new competence-based approach of the Council of Social Work Education (CSWE) in preparation for reaccreditation of its bachelor's and master's degree programs in Social Work in 2012.

Most fields in the School of Science, on the other hand, do not have such external drivers, although most of the science disciplines do have common standards established through disciplinary associations. In 2004-05, the school adopted a six-stage assessment strategy, which entailed articulating common Science Learning Outcomes (SLOs), then adapting those to particular disciplines (e.g., Psychology SLOs, Biology SLOs), and finally aligning them with the IUPUI PULs. The School of Liberal Arts encompasses more fields of study and has therefore had an even more substantial challenge, but all departments participated in the PUL assessment initiative described above. By late 2011, both large schools had joined the other academic units across campus in articulating program-level learning outcomes for inclusion in the 2012-14 IUPUI online *Bulletin* (<http://bulletin.iupui.edu/>).

Equally noteworthy is the changing use of these program outcomes not only for assessment but for enhanced guidance of students. In addition to their inclusion in the *Bulletin*, program learning outcomes are increasingly presented on school and/or departmental web sites for easier access by students and others. Further, many programs include these outcomes, along with information about the PULs, in individual course syllabi so that students can more readily identify the connection between the courses they take and larger program and campus expectations.

As a foundational practice consistent with IUPUI's mission emphasis on best practices, University College now asks students in all First-Year Seminars and Themed Learning Communities to prepare a Personal Development Plan (PDP). Students are asked to pay particular attention to the learning expectations of the majors they have chosen or are considering. In 2010-11, University College piloted use of the IU electronic portfolio for student preparation of PDPs so that students (and their advisors and others) could more readily connect career goals, educational plans, experiences, and planned coursework and could continue to develop their plans as they progressed through General Education and the major. The pilot was expanded to encompass half of all First-Year Seminar sections in 2011-2012, with full implementation envisioned within the next few years.

### **Involving Students in Assessment**

The *Principles of Good Practice for Assessing Student Learning*, promulgated in 1992 by the Assessment Forum of the American Association of Higher Education<sup>1</sup> and a continuing touchstone for practitioners thirty years later, defines one of the nine principles this way: "Assessment fosters wider improvement when representatives from across the educational community are involved." This campus assessment report (and the unit-level assessment reports on which it is based) provides multiple examples of the joint engagement of not only faculty, but also student life educators, librarians, administrators, alumni, field experience supervisors, and employers in evaluating the range of learning of students from first year through doctoral study. Less evident is the role of students themselves, since the student role varies according to the purpose of a particular assessment activity.

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<sup>1</sup> A copy of the Principles is embedded in "AAHE Principles of Good Practice: Aging Nicely: A Letter from Pat Hutchings, Peter Ewell, and Trudy Banta," available on the web site of the National Institute for Learning Outcomes Assessment (NILOA), retrieved April 20, 2012, from <http://www.learningoutcomeassessment.org/PrinciplesofAssessment.html>.

## IUPUI Undergraduate Student Self Ratings of Effectiveness on the Principles of Undergraduate Learning Scales

School	Written, Oral & Visual Skills	Quantitative Skills	Information Resources and Technology Skills	Critical Thinking	Integration and Application of Knowledge	Intellectual Depth, Breadth, and Adapativeness	Understanding Society and Culture	Values and Ethics
IUPUI	3.41	2.98	3.40	3.34	3.25	3.26	3.43	3.42
Kelley School of Business	3.37	3.20 *	3.41	3.36	3.24	3.20	3.46	3.35
School of Education	3.32	2.76 *	3.36	3.27	3.29	3.21	3.41	3.43
School of Engineering and Technology	3.36	3.18 *	3.33	3.31	3.15	3.16	3.28 *	3.29 *
Herron School of Art	3.45	2.55 *	3.44	3.49 *	3.26	3.33	3.47	3.61 *
School of Informatics	3.40	2.90	3.52 *	3.36	3.12 *	3.21	3.41	3.55 *
School of Liberal Arts	3.49	2.79 *	3.47	3.38	3.26	3.28	3.47	3.53
School of Medicine	3.46	3.24 *	3.40	3.24	3.40 *	3.35	3.50	3.48
School of Nursing	3.60 *	3.28 *	3.47	3.45	3.45 *	3.40 *	3.49	3.48
School of Physical Education and Tourism Management	3.31	2.81 *	3.28 *	3.31	3.26	3.23	3.41	3.26 *
School of Science	3.34	3.08	3.41	3.27	3.20	3.27	3.42	3.33
School of Continuing Studies	3.45	2.82 *	3.35	3.36	3.28	3.33	3.47	3.57 *
School of Public and Environmental Affairs	3.25 *	2.88	3.40	3.26	3.23	3.21	3.32 *	3.37
School of Social Work	3.53 *	2.79 *	3.43	3.40	3.33	3.29	3.54 *	3.59 *

<sup>1</sup> Mean combined student self ratings of effectiveness from Spring 2010 and Spring 2011 *IUPUI Continuing Student Satisfaction and Priorities Survey*.

<sup>2</sup> Students were asked, "indicate how effectively you can perform each of these skills" using the scale 1 = Not at all effective, 2=Somewhat effective, 3=Effective, 4=Very effective.

\* Effect Size between mean for this school and IUPUI mean is equal to or greater than 0.2.



Though students are subjects rather than planners of the Continuing Student Satisfaction and Priorities Survey (CSSPS), their evaluation of their own learning of the PULs provides an important indirect assessment that educators can compare with the direct assessment conducted by faculty in the campus-wide PUL assessment described above. CSSPS responses of juniors and seniors should ideally be comparable to the assessment results for students in 400-level courses. Discrepancies, especially if they persist over time, may point to opportunities for improvement.

In several cases, graduate and undergraduate students enrolled in courses in research methods have taken advantage of ongoing institutional research for class projects. For example, students in a sociology research methods course pre-tested an institutional survey to explore student preferences about on- and off-campus residency. Students in a later offering of that course pre-tested a survey on campus involvement of commuter students, a project that resulted from research conducted by three graduate students in the School of Education's Higher Education and Student Affairs program. Students in a graduate research course in Communications Studies analyzed data from the 2011 CSSPS for the Communications Studies Department self-study in preparation for its program review. The Office of Information Management and Institutional Research (IMIR) regularly employs several graduate students who participate in administering campus surveys, analyzing data, writing survey reports, and presenting results to various campus groups.

The IUPUI Student Pulse Surveys—short online surveys on focused topics to “take the pulse” of IUPUI students about issues of importance to them—are developed in consultation with student government leaders as well as student affairs professionals. Typically no more than two surveys are conducted per semester to reduce “survey fatigue,” and students themselves help determine the survey topics of greatest interest. The surveys are accompanied by a cover message from the president of the graduate and/or undergraduate student government. In Fall 2010, both students and the campus police were concerned about campus safety. The twelve-item survey revealed numerous complaints about campus lighting; based on those results, Campus Facilities Services checked and improved lighting in campus walkways and parking lots. In Spring 2011, a Pulse survey on campus recreation and housing revealed strong student endorsement of a proposal to create a campus health and wellness center, with results presented to the IU Board of Trustees. IUPUI administrators have increased the priority for such a facility in the campus master plan.

### **Broadening Understanding of Assessment: The Role of PRAC**

Campus-wide engagement in and oversight of assessment at IUPUI is fostered by the Program Review and Assessment Committee (PRAC) and its hard-working members. Each school and related academic units such as University Library, the Center for Teaching and Learning, and the Division of Student Life designates from one to four faculty and/or staff to serve on PRAC. In addition to the elected faculty leaders, the Office of Planning and Institutional Improvement (PAII) provides leadership and staff support for the committee's work.

*Committee role and responsibilities.* PRAC has several important purposes in helping IUPUI fulfill its cycle of planning and improvement. It establishes guidelines for comprehensive program review for academic and administrative units; provides guidance for student learning outcomes assessment throughout the institution; supervises or prepares campus assessment plans

and reports that may be required by the Higher Learning Commission of the North Central Association of Colleges and Schools, IUPUI's regional accrediting body; and funds small grants that promise innovative approaches or improved practice in assessment. PRAC also serves as a forum for exchange of assessment and program review strategies across the campus.

PRAC's members are responsible for assuring representation of their units in institutional planning for and oversight of assessment and program review policies and practice; communicating information and action items to and from personnel or groups in their home units; providing guidance and expertise on assessment issues within their units; and assuring completion of an annual report on their units' assessment activities and results. The work of the committee is accomplished through a judicious mix of subcommittee and whole-committee discovery, discussion, and action.

*Building effective assessment practice.* PRAC implemented a new process in 2010-11 to strengthen the effectiveness of assessment practices by engaging PRAC members in peer review and feedback on the units' annual assessment reports to PRAC. After committee discussion of a pilot project conducted in Spring 2010, members authorized a new standing subcommittee charged to "help ensure that these assessment reports meet campus needs by providing a clear picture of student learning outcomes assessment at IUPUI, as well as how the results of assessment are being used to guide improvements to courses, programs, services, and processes." The subcommittee quickly secured ten volunteers, who collectively developed a rubric for the reviews and divided the work so that each report received at least two different reviews. The evaluations and recommendations for each were completed and forwarded to report authors for reference in preparing the 2011-12 reports. At the May 2011 PRAC meeting, members decided to continue the process: subcommittee reviewers felt they learned by reviewing others' work, while recipients of reviews appreciated feedback on how others understood their reports. As 2011-12 reports were submitted, some improvements in detail, formatting, and clarity of explanation quickly emerged.

In addition, PRAC members turned attention from the question of how best to assess student learning of the PUL skills and knowledge to how to work with the assessment results for improvement. Beginning in August 2010 with results from the Spring 2010 pilot, several committee meetings involved discussion of what the results were, how to interpret those results, and how to manipulate the data to support decision-making. With the addition of Fall 2010 data, the committee began to look more closely for opportunities for improvement, flagging information literacy for further discussion in Fall 2011.

*Monitoring grants and program review.* PRAC members regularly make time on meeting agendas to monitor progress with the small assessment grants and the program review process. The Program Review Subcommittee worked to revise and update the guidelines for program review and provided a first look at those results at the May 2011 meeting. The PRAC chair reported in August 2010 on his review of assessment grants from 2002 to 2009, looking at short- and long-term impact of the projects and subsequent accomplishments of the grant project directors. Several projects resulted in some policy or curricular change within the individual unit, and five led to further grants from other funding sources. Members confirmed that the primary impact of the PRAC grants should continue to be improvement in the recipient's program or unit.

The Grant Review Subcommittee recommended two new grants for funding, one on measuring professional dispositions of pre-service elementary teachers and the other on examining preceptor-student interactions in clinical settings.

*Continuing professional development.* Bolstering members' awareness of successful practices and new opportunities is another important component of PRAC's work in order to equip members better for their roles in providing guidance and expertise on assessment issues within their units. In March 2011, members of the Advanced Practitioners Subcommittee offered a tutorial on direct and indirect assessment measures. (One product of that presentation is attached to this report as Appendix B.) Also in March, a guest from the IU Human Subjects Office provided help in navigating the intersection of human subjects research and learning assessment, and when approvals must be sought from the Institutional Research Board.

In addition, several PRAC members shared presentations in Spring 2011 meetings about new and promising assessment practices in their units, including new assessment plans for the Division of Student Life, accreditation and program improvement in the radiology program, successful use of an ePortfolio assessment for accreditation in the School of Library and Information Science at Indianapolis, promising assessment results from the pilot ePortfolio implementation in First-Year Seminars by University College, and successful use of program learning outcomes assessment data to guide course improvements in psychology.

## **Educational Unit Report Highlights, 2010-11**

Each year, educational units are asked to prepare summary reports of their assessment activities for the Program Review and Assessment Committee. Those submitted for 2010-11 are posted on the PRAC web site at <http://www.planning.iupui.edu/64.html#11>.

Each unit's approach to reporting is organized to meet its particular number, range, and types of programs. Most units identify student learning outcomes for their programs and describe how they help students achieve the outcomes, how they determine or assess achievement of the outcomes, the assessment findings, and what improvements they have made or plan to make based on assessment findings. Some large schools report on half or a third of their programs in alternating years; others provide comprehensive summaries every year but only periodically include such items as learning outcomes or assessment procedures that may change very little from one year to the next. Report highlights and accomplishments are summarized below, with full details available online.

### **Center for Service and Learning**

Over the past few years, the Center for Service and Learning (CSL) has constructed learning outcomes and tested assessment strategies around its innovative concepts of "civic-mindedness" and the "civic-minded graduate." Having first defined the conceptual framework and the knowledge, skills, and dispositions that characterize a civic-minded graduate, the CSL staff then identified ten student learning outcomes that can be fostered through an undergraduate education that includes service learning. These outcomes can be assessed using CSL-constructed

instruments: the Civic-Minded Graduate Scale is an indirect, quantitative instrument, while the Civic-Minded Graduate Narrative Prompt and Rubric is a direct, qualitative assessment tool. In addition to their use for CSL programs, these tools are available to faculty across the campus.

The CSL PRAC report provides two data tables documenting that students in CSL programs are meeting CSL benchmarks on both instruments. In addition, the report describes two actions being taken in response to the assessment results. Several additional, more specific items are being added to the CMG Narrative Prompt to support more detailed evaluation. To address the lowest score on the CMG Scale (“Knowledge of Contemporary Social Issues”), CSL program coordinators have identified additional strategies for improving this outcome in 2011-12. For example, the Community Service Scholars program will have a stronger emphasis on social justice issues, while the America Reads\*Counts program will focus student training on social issues commonly encountered in elementary and secondary educational settings.

### **Indiana University-Purdue University Columbus**

Indiana University-Purdue University Columbus (IUPUC) has restructured the campus approach to learning assessment with a new Institutional Research Office and Assurance of Learning tools and procedures. Each academic program at IUPUC has a formal plan for assessment of student learning; most of these were being finalized in 2010-11.

The report from the *Division of Business* on its BS in Business and MBA programs includes summary results of new assessment practices, many of them tailored to revised curricula in both programs. Revision of the BS curriculum, driven by results of direct and indirect assessments over its ten-year history, was completed in 2010-11. The program now includes a simplified structure, more time for electives, addition of an ethics and social responsibility course, and a required research, internship, or study abroad experience. The Business Advisory Council had initially spearheaded curriculum review via several surveys and interviews and formally handed over its recommendations to Division faculty in March 2010. By June 2011 the curriculum committee had established a modular, integrated curriculum for part-time study that reduced time to completion to 24 months; this new curriculum was implemented beginning in Fall 2010. Faculty have paid close attention to assessment results for both programs during this transitional period, though the cohort numbers were too small to serve as a basis for further changes.

The *Division of Education* reports that student performance on all major assessments in coursework and field experiences averages in the acceptable to exemplary range. The report describes numerous improvements the faculty have made over the past five years to strengthen student learning outcomes. In 2010-11, faculty continued to implement several programmatic changes intended to increase depth and breadth of content-area learning. For example, health has been addressed through science-content curricula but, beginning in 2011-12, will be more directly addressed in a new course combining physical education and health in a three- rather than two-credit course. To strengthen students’ ability to plan instruction in math, science, and language arts, faculty have changed the timing of some course offerings so that education majors can have a classroom or after-school program connection with children during each semester of their college coursework.

The IUPUC *Psychology Program* completed work in 2010-11 to redefine student learning outcomes and map them to the PULs, and began review of how the program faculty review and report student learning. Several 2010-11 assessment findings identified positive results of improvements made previously or highlighted new areas to improve. For example, student grades on oral presentation of research in a 300-level course had been lower than desired (average 78 percent), so capstone courses added a required poster-format (oral and graphic) presentation of research results, on which student average grades improved to 82 percent. To address low average scores on student literature reviews in several courses, faculty are increasing classroom guidance on information literacy.

### **School of Dentistry**

Like many other professional programs, the School of Dentistry uses pass rates on national and specialty board exams to monitor the quality of student learning in its programs. For students in general dentistry, dental hygiene, and dental assisting programs, the 2010-11 Dentistry report states a 100 percent pass rate on National Board Exam I and a 99 percent rate on NB II. Graduates in advanced practice programs have an average 82 percent pass rate on National Board and other specialty certification exams. The school has adopted a creative departure from traditional exams and surveys to determine how well students meet its second primary learning outcome, “Graduates understand and practice ethics and social responsibility”: observing student behaviors such as level of involvement in student organizations (very high), participation in service learning and volunteer projects (also quite high), and the number and severity of ethics cases brought before the Student Professional Conduct Committee (a total of only 16 cases in 2010-11 in a school with approximately 700 students).

### **School of Education: Elementary and Secondary Education**

For the past several years, faculty in the School of Education have been monitoring with some concern apparent challenges in mathematical content knowledge among elementary education majors, most evident at the program midpoint when students must complete Benchmark II before moving forward. A change of assessment format in Spring 2011 indicated some improvement in the number of students passing the benchmark, but 40 percent still received lower scores than desired on content knowledge. By arrangement with faculty in the School of Science, elementary education majors will now complete a sequence of nine credit hours of math and will also add three credit hours of integrated mathematics/pedagogy before entering the program. They will then complete two courses addressing mathematical pedagogy as part of Blocks I and II. Faculty believe this new sequence will produce graduates who are among the best-prepared elementary school teachers in the country in the area of mathematics.

For many years, elementary education majors completing Block III have been surveyed about their first student teaching experience and their perceptions of how well the program has prepared them to be effective teachers. Responses typically average 8 or 8.5 on a 10-point scale, with somewhat lower scores for students’ confidence in their ability to teach mathematics and science. Faculty expect the new mathematics curriculum to help address the mathematics concern and intend to focus attention next on science. The School of Education also conducts an employer survey every year, asking principals of schools to compare the skills, knowledge, and

dispositions of IUPUI graduates completing their first year of teaching to other beginning teachers with whom they have worked. The IUPUI graduates' mean ratings hovered around 4.0 on a 5-point scale, overall more than "adequate" and approaching "excellent" in all areas addressed.

### **School of Engineering and Technology**

Because of its size and number of degree programs, Engineering and Technology (E&T) typically reports on approximately one-third of its programs per year over a three-year cycle of assessment reporting, noting overall milestones as appropriate.

The undergraduate *Biomedical Engineering (BME)* program underwent its initial program accreditation visit by ABET, Inc., the accrediting body for engineering and technology programs, in September 2010. Based on a very positive evaluator's report, accreditation is anticipated. The evaluator noted especially the excellence of the senior design experience and its emphasis on real-world design concerns. Normal annual assessment findings for BME showed evidence that previous course and program improvements are having the desired positive impact. One such instance resulted from the math department's addition of a new freshman-level course in Multidimensional Mathematics, intended to provide students a stronger grounding in matrix arithmetic and linear algebra prior to their taking a 200-level course on Linear Algebra and Differential Equations. Previously, engineering students were not demonstrating sufficient mastery of linear algebra concepts in their upper-division engineering courses. The 2010-11 juniors were the first to complete the new sequence, and their scores on a pretest coming into the 300-level Biomedical Computing course showed them to be significantly more adept with matrix manipulations and linear algebra than were previous years' students.

*Construction Engineering Management Technology* continued to refine its assessment program in 2010-11. In addition to providing all full- and part-time faculty with information designed to support continuity and consistency in assessment approaches, the program convened a year-end faculty meeting to review the status of every course just taught. Based on results of major assignments, faculty identified specific improvements to be made in six courses for Fall 2011. The program also refined several program objectives and submitted them for review and comment by its Industrial Advisory Board, and continued its use of alumni surveys and student interviews to gather information on program effectiveness. Some examples of improvements identified included: increased use of project management software in construction planning and scheduling courses, addition of GIS/GPS technology in the surveying course, and new textbook adoption to include more material on contemporary technologies in field operations.

In March 2011, the *Interior Design Technology* program submitted a required interim report to the Council for Interior Design Accreditation (CIDA) intended to ensure that compliance and regular self-study continue between assessment visits. An exhibit of student work (sponsored by the Student Design Organization) was analyzed by faculty, students, and local design professionals. This close evaluation led to implementation of several curriculum changes, including introducing design processes earlier in the curriculum, advancing the use of software in the ART courses, and enhancing 3D model-making skills in relevant 200- and 400-level courses. The program's advisory board of local and national authorities provided valuable critique during

four half-day retreats held over the year. One outcome was the addition of a part-time community liaison staff member to assist with recruitment, retention, and identification of community partnerships. To enhance the program's assessment strategy, a sophomore advancement review is now required for all students in the program who intend to pursue a B.S. degree. Students will compile an academic portfolio and written statements and present the work to a group of faculty; the faculty team will then deliberate on the student's readiness to advance. The review has proven to be helpful, both in offering students valuable feedback and in providing faculty with cumulative assessment of program outcomes at the end of the first two years of study.

The *Electrical Engineering Technology (EET)* and *Computer Engineering Technology (CpET)* programs in the Department of Engineering Technology focused attention in 2010-11 on clarifying the distinctions between the terms "societal" and "global" learning, since the ABET criteria and IUPUI's PUL 5: Understanding Society and Culture terminology have caused some confusion. Graduation audits revealed that students were fulfilling their societal education requirement, but some students had not fulfilled the global education requirement. Since EET and CpET courses provide little direct opportunity to learn about global communities, students are now required to take three general education electives chosen from a list of approved courses labeled "S" and/or "G." Students will receive improved information about international and global study options via RISE to the Challenge, while plan-of-study coding now indicates which requirements have been completed, so that students can easily see whether they are missing global education credits when they view their advisement reports.

The *Music and Arts Technology* program includes numerous courses taken as electives by students in other programs, so its assessment of PULs varies somewhat based on whether students are majors or non-majors; non-majors may write papers about concert attendance, for example, while majors may be assigned projects or performances demonstrating mastery. In 2010-11, the new BS in Music Technology program completed articulation of its learning outcomes with those of its accrediting body, the National Association of Schools of Music, and assured alignment of program outcomes with IUPUI's PULs. To document achievement of program outcomes, MAT faculty instituted an ePortfolio project for each class, enabling instructors to offer feedback to individual students, and affording the program as a whole an overview of students' mastery of these outcomes. Since the program began as recently as Fall 2009, department faculty have monitored retention rates closely and with some concern for attrition. The faculty of the three-year-old program have noted concerns about falling retention rates (attrition of 25 to 50 percent over one or two years); closer examination suggested that many students were inadequately prepared for the musicianship sequence, an intensive, integrated, cohort-based group of three courses that meet five days a week for the first two years. Though pedagogically sound and intended to foster student community and network-building, this sequence requires students transferring into the program late to take four additional years to complete degree requirements. The chair and program coordinator are exploring options, and faculty also expect to tighten audition standards and institute a musicianship placement exam for incoming students.

In September 2010, the *Mechanical Engineering* program was successfully accredited by ABET, though the assessment team recommended more resources for the fast-growing program and

revision of the BS educational objectives. Both recommendations were accomplished in 2010-11. The department continues its participation in school and campus assessment programs, including its use of jury evaluations in key courses such as internships and co-operative study programs. In response to developing student interest, the program implemented a new three-course concentration in Mechatronics and received approval for a new BS program in Energy Engineering, which accepted its first class in Fall 2010.

### **School of Health and Rehabilitation Sciences**

Two programs in SHRS stand out for including not only specific assessment results but also statements of actions planned to improve results. Like many health professions, the MS in Occupational Therapy program specifies “being mindful, reflective, ethical, and critical thinking practitioners” as a key learning outcome for its students, and the program includes two reflective seminars to foster this learning. Feedback from both students and faculty led to revision of the questions used to prompt reflection to reduce redundancy, be more comprehensive, and allow students to demonstrate more readily their synthesis of their learning. The Doctor of Physical Therapy program reports that it has aligned its student learning outcomes with the Principles of Graduate and Professional Learning and employs an assessment approach that incorporates both indirect (survey and focus group plus post-graduate surveys) and direct (board examination) methods. The report includes findings of these assessments, with very high results on indirect measures and board exam scores above the national average. The report concludes with a clear statement of needed improvements, with an action plan for 2011-12 addressing each area (e.g., integrate more case study work to improve understanding of cardiopulmonary treatments; implement an integrative clinical approach to increase patient exposure by putting students in clinical settings earlier in the curriculum).

### **Herron School of Art and Design**

The Herron report focuses on several new initiatives and changes made in 2010-11. For example, the process for review of student progress in the MFA in Fine Arts program was expanded to incorporate assessment of student mastery of the Principles of Graduate and Professional Learning at the 30-, 45-, and 60-hour reviews. Preliminary results indicated predominantly excellent levels of mastery on three of the principles, with predominantly satisfactory levels in communicating effectively to others in the field and to the general public. Faculty will monitor these results for consistency over time with a view to future changes to improve results for communication skills.

Students in the Bachelor of Art Education program continued to demonstrate high levels of mastery, though changes in Indiana’s requirements for teachers will necessitate some curricular changes in 2011-12. The succinct description of how changes were made in the BFA in Visual Communication program following disappointing assessment findings in May 2010 provides useful insight into Herron’s approaches to improvement. Faculty changed the curricular structure to provide students who do not pass the initial sophomore portfolio review with more options to get back on track or switch to another degree program; options include creation of a category of probationary advancement to allow some students to address their weaknesses in a new summer course for that purpose. In addition, faculty took steps to integrate the VC curriculum more



closely with the school-wide first-year Foundations program by adding VC content and including VC faculty in Foundations teaching. For the BA in Art History, a new capstone seminar was added in Spring 2011, both to ensure consistent faculty mentoring and to foster peer discussion and critique among students with different specializations within the history of art. The capstone made use of an ePortfolio to foster student reflection and to archive student work for annual program assessment. Finally, based on graduating student survey results suggesting that students would benefit from greater access to advising, Herron has employed a second person with half-time advising duties.

### **School of Informatics**

Readers interested in learning more about project-based approaches to student learning assessment may find the School of Informatics report noteworthy and rich in detail. In 2010-11, SoI completed a two-year focused review of its undergraduate programs as well as comprehensive revision of the tools used to track students graduating from all of its programs. The report provides easily understood tables for all programs that include relevant data of interest to various stakeholders, from number of degrees and certificates awarded to percentage of underrepresented minorities, percentage of graduates employed, and average salaries of graduates, among other data points. The program review process also recommended that oversight of assessment activities be lodged with a proposed Academic Program Committee of the Informatics Faculty Council and that its membership include the school's representatives to PRAC.

As part of the two-year strategic curriculum review, each program undertook two or three major improvement projects. (See also the School of Informatics report for 2009-10.) For example, Assessment Project 1 of the Health Information Administration bachelor's program was to improve graduates' proficiency in the competencies outlined by the American Health Information Management Association. Careful review of student scores on the national Registered Health Information Administrator's (RHIA) examination showed an average IU passing rate of 82 percent, exceeding the national average of 78 percent; in two domains, however, IU graduates scored below the national average. Accordingly, HIA faculty developed three new pre-requisite courses that together will enhance students' skills in data organization, report writing, and other written communication. Also, two courses were added to the program's Plan of Study to focus the first semester on acute care requirements and the second semester on alternative care requirements. The BS program in Media Arts and Science incorporates three major projects along the program trajectory: Project A on first-year student portfolios, Project B on capstone web sites, and Project C on pre-capstone planning.

### **Kelley School of Business Indianapolis**

The Kelley School of Business is a "Core School" of Indiana University, meaning that the programs in Bloomington and Indianapolis are considered a single administrative unit, with one dean (in Bloomington), an executive associate dean (in Indianapolis), and combined AACSB accreditation for both campuses. Prior to Fall 2010, the assessment, or assurance of learning, activities for Kelley Indianapolis had been conducted separately, but last year the two assessment initiatives were joined. The largest school-wide initiative in 2010-11 centered on integrating the

assurance of learning process, and each of the four programs housed in Indianapolis worked with their program counterparts in Bloomington to align processes, though program goals may differ slightly based on unique target markets and curriculum needs at each campus. A major activity, then, was to re-evaluate and establish program goals, including alignment in Indianapolis with the IUPUI Principles of Undergraduate Learning, and then incorporation of all program goals and associated course learning outcomes in all syllabi for Kelley courses. Kelley faculty also engaged in extensive mapping of all curricula, identifying and beginning to address the extent to which each learning goal is represented in each curriculum. (Academic year 2011-12 will feature work to address gaps in coverage.) In Spring 2011, Kelley began standardizing the assessment process for greater consistency across programs and the IUPUI PULs; faculty were asked to adopt the four PUL levels of accomplishment (Very Effective, Effective, Somewhat Effective, and Not Effective) for program learning goals as well as the PULs.

Amid this intensive school-level review, Kelley Indianapolis continued several of its hallmark assessment activities such as the Capstone and CompXM capstone simulations with other business students across the globe. The Senior Exit Survey documented notable increases in satisfaction with advising and the Career Planning Office, both of which were improved over the past two years in response to earlier low levels of student satisfaction. Evidence of effectiveness in closing the improvement loop was offered by a decided upturn over the past two years since faculty strengthened student orientation to increase student attention to academic integrity and ethics. The Honor Code and Teaching and Demonstrating Ethics are now the two most highly rated non-course qualities that students associate with the school. Faculty also continue to triangulate results of the Kelley Senior Exit Survey with school data from the IUPUI Student Satisfaction and Priorities Survey and with IUPUI's results from the National Survey of Student Engagement to identify areas needing improvement.

### **School of Law**

The McKinney School of Law received notification in May 2011 of full accreditation by the American Bar Association for the next seven years. Student learning outcomes are now being developed as part of the ABA Standards, and the School of Law has already defined explicit learning outcomes for its J.D., LL.M., and S.J.D. programs. IU Indianapolis graduates' bar exam passage rates continue to exceed ABA accreditation standards. Also in 2010-11, the school added a new position of associate director for student affairs to enhance advising and academic success services for law students.

### **School of Liberal Arts**

The School of Liberal Arts completed work to articulate school-level competencies for all levels of degree programs, from associate through doctorate, in addition to student learning outcomes for individual degree and certificate programs. Faculty participated in the campus PUL assessment and used the graduating student survey for indirect PUL assessment in comparison. Direct assessment of outcomes achievement varies among the School of Liberal Arts' many programs; the 2010-11 PRAC report focuses on exemplary programs in Spanish, Writing, and Speech.

The large *Writing Program* in the Department of English uses multiple forms of assessment with a common rubric and common grading standards to assess learning levels of individual students. Instructors meet at the end of the semester to calibrate grading for consistency across the program and to reflect on that semester's experience as a basis for revising syllabi when needed. In addition, a group of instructors assesses random samples of student papers to identify needs for faculty development and to refine the curriculum.

In addition to writing, most IUPUI students are required to take the basic public speaking course. All sections of the *Speech Communications Program* in the Department of Communications share common learning outcomes, a common rubric, and a bank of potential assignments. Faculty reflection and review of samples of student performance serve as evidence to guide improvement of curriculum and teaching strategies.

The *Spanish Program* in the Department of World Languages and Cultures has adopted standards established by the American Council on the Teaching of Foreign Languages to assess student learning. These guidelines describe standards at novice, intermediate, advanced, and superior levels of proficiency in speaking, listening, reading, and writing in a second language. The guidelines also identify appropriate learning outcomes for beginning and intermediate course sequences. These standards translate into clear rubrics for assessment across the four areas of language learning. At IUPUI, the entry to the major (Spanish S313) and the senior capstone are key points for assessment. Capstone students create an electronic portfolio of projects, reports, papers, and compositions from each of their courses in the major, along with an essay in which students reflect on the relationships among language, linguistics, literature, and culture.

### **School of Library and Information Science**

The School of Library and Information Science, with faculty in Bloomington and Indianapolis, has mapped its learning outcomes for students in the Master of Library Science program to American Library Association (ALA) competencies for entering library professionals. In addition to pre/post assessments in selected core courses, the Indianapolis school has developed an ePortfolio for program-level review. Faculty also examine results of a student exit survey and consult with the school's alumni board to gather information about program quality and determine the continuing relevance and adequacy of students' preparation for current practice. The initial ePortfolio assessment results indicated that the program may not have focused enough attention on new technology applications, so several faculty have modified their courses to add new technology applications to their assignments. Faculty are monitoring assessment results over 2010-11 and 2011-12 to determine whether these changes have resulted in improved student learning outcomes.

### **School of Medicine**

The School of Medicine has traditionally organized its assessment by level of study, with separate reports for the Health Professions (primarily associate and baccalaureate level) and Medicine (doctor of medicine programs and specialties). In the past two years, the Department of

Public Health has presented an individual report as part of its preparation to become an independent School of Public Health in 2012.

Each *Health Professions* program is required to submit an annual report to its accrediting body, including analysis and action plans for each of several benchmarks such as Board exam results, employer surveys, graduate surveys, attrition and retention rates, and job placement. The programs' standards for clinical work and exam results are typically high, at 90 or 95 percent pass rates.

The nine *Medicine* program competencies, all mapped to the IUPUI PGPLs, require students to demonstrate mastery in each area at two levels: "intermediate" level during the first two years of study and "proficiency" during the third year. Students must also select three Level 3 experiences in which to achieve advanced knowledge and skill in the fourth year. The assessment structure also includes peer and self-assessment at the end of each year of study. Findings over the past few years have driven four initiatives: (1) creation of an Office of Undergraduate Medical Education to study assessment results and suggest improvements where needed; (2) curricular reform (by teams involving faculty, students, administrators, and other interested health professionals); (3) remediation for students who do not pass the statewide Observed Structured Clinical Experiences; and (4) exploration of student electronic portfolios for enhanced assessment.

In 2010-11, *Public Health* added two degrees, two minors, and two certificate programs transferred from the School of Public and Environmental Affairs. All have developed program-specific learning outcomes mapped to the PULs and include a capstone and internship or other experiential requirement. A new program, the BS in Public Health-Community Health, is completing PUL alignment, while the BS in Public Health-Environmental Health Science is accredited and has also mapped its outcomes to specialized accreditation competencies. Degree-specific outcomes are assessed primarily in capstones, supervisor evaluation of internships, and employer feedback. Several instances of evidence-based improvements are described in the Public Health report. For example, Environmental Health Science faculty identified some concerns about student mastery of critical thinking and intellectual depth at the 400-level, so they added more case study exercises to several courses and redesigned the industrial hygiene course to provide students with additional practice opportunities. Subsequently, scores on a final simulation analysis of workplace hazards improved by 17 percent overall, and the D/F rate was lower than in previous semesters.

### **School of Nursing**

With numerous programs at the bachelor's, master's, and doctoral levels, the School of Nursing (SON) uses a variety of direct and indirect methods to assess each program's learning outcomes, all of which have been mapped to IUPUI's PULs and PGPLs. One example of "closing the loop" provides clear evidence of the serious attention faculty pay to assessment results: Although Bachelor of Science in Nursing graduates' pass rates on the NCLEX licensure exam continue above national averages, there has been a downward trend over the past few years such that results no longer meet the program's own benchmarks. Accordingly, a task force of faculty is refining assessment throughout the program so that students not meeting particular benchmarks

can obtain immediate, specific remediation and re-testing. At the same time, capstone evaluations by preceptors and surveys of those who employ SON nursing graduates continue to indicate that students are well prepared for practice.

### **School of Physical Education and Tourism Management**

The Department of *Physical Education* (which changed its name in 2012 to the Department of Kinesiology) engaged in extensive curricular review in 2010-11 to improve alignment of its own competencies with the PULs and those of relevant disciplinary and accrediting bodies.

Assessment results related to its program learning outcomes are often exceptional: 98 percent pass rate among its Physical Education Teacher Education students on the PRAXIS II exam and 2.91 out of 3.0 mean ratings by student teaching supervisors, for example. Ninety-eight percent of Exercise Science intern supervisors rated students as “excellent,” as did 100 percent of Sports Management intern supervisors. On the other hand, faculty noted with concern that PE students’ average PUL scores fell below the campus average on Quantitative Reasoning and Communications Skills. To increase learning opportunities, faculty added a statistics course in one track, required a junior-level statistics course in other tracks, and will monitor future assessment results for evidence of improvement.

Faculty in *Tourism, Convention, and Event Management* received a grant to review the department’s extensive service learning program. One immediate outcome was preparation of a revised curriculum map with RISE (Research, International, Service, and Experiential) courses highlighted for faculty and student use.

### **School of Public and Environmental Affairs**

Programs in SPEA monitor student success with attention to probation and dismissal rates and policies. One method employed to enhance student engagement in the undergraduate major was development of a second SPEA Summer Bridge and Themed Learning Community for incoming first-year students. In addition, the online SPEA V252 coursework, an important entry-level course for SPEA programs, now includes the Electronic Personal Development Plan to help students make connections across their courses and co-curricular activities.

### **School of Science**

The annual assessment report from the School of Science describes varied assessment projects, largely within undergraduate programs, across departments. The *Biology* and *Earth Sciences* Departments focused primarily on continuing to improve student learning outcomes. The *Chemistry* Department provides (school-level) data for all ten courses in which PULs were assessed in 2010-11; outcomes indicate overall improvement from 100-level to 400-level courses. *Computer and Information Science* included information about its use of the ETS Major Field Test (MFT) in its senior capstone course. Based on areas of weakness in senior-level students in the two previous MFT cycles, faculty added a 400-level course in computational theory; however, IUPUI results have generally been stronger than national averages and those of selected peer universities. *Mathematical Sciences* faculty worked on an assessment instrument and rubric for use in all sections of the senior capstone. The *Physics* Department upgraded and

updated some outdated labs in the introductory lab courses. Faculty used pre- and post-tests to compare results from a control group and a new section in each of two semesters; the quantitative gain in learning was minimal, but qualitative student response expressed high value for the new labs, affirming the value added by the change. The *Psychology* Department focused attention in 2010-11 on developing student learning outcomes for its four graduate programs. Undergraduate Psychology faculty worked through several changes to the main introductory courses for majors, including faculty preparation of a common text for all sections and designation of a course coordinator for the introductory statistics course.

### **School of Social Work**

The School of Social Work assessment report focuses primarily on the Bachelor of Social Work program. Extensive redesign of the Master of Social Work curriculum was still in process during 2010-11. For the Ph.D. in Social Work program, the report notes three specific projects intended to improve faculty members' ability to monitor and support student progress from program entry through completion, particularly for those students who seem to stall between completing course work and taking qualifying exams. The BSW program implemented pilot work with the new competencies recently promulgated by the Council of Social Work Education. Social Work faculty have linked these competencies with the BSW program goals, the PULs, and the objectives for each course, in order to assure sufficient opportunities for students to master the CSWE skills. The CSWE's 41 practice behaviors are assessed using two measures: field practicum performance and coursework collected in an electronic portfolio. Students uploaded work products demonstrating the practice behaviors to their ePortfolios for evaluation by the graduating seniors' assigned faculty liaisons. Piloted in Fall 2010 and revised in Spring 2011, the ePortfolio process now allows students to begin uploading work in their junior practicum and to continue through their senior practicum. Faculty, students, and practicum field supervisors all use the same evaluation tool or rubric to assure consistency. Faculty also expect to add a presentation function to the ePortfolio to provide students with a tool for job search or graduate school applications.

### **Division of Student Life**

The 2010-11 report from the Division of Student Life describes selected results of the second phase of a multi-year project. As is detailed in the division's 2009-10 report, staff began to implement a plan for assessment of student learning by adopting campus-wide learning outcomes integrated with the Principles of Undergraduate Learning; mapping Student Life programs and services to those outcomes; developing appropriate assessment tools; and planning how best to communicate these outcomes to students. In 2010-11, the division began collecting data. The report includes an overview of results from the Office of Student Involvement (particularly its Lead IUPUI program), Counseling and Psychological Services (CAPS), and Student Rights, Responsibilities, and Conduct. Lead IUPUI staff, for example, studied results of student responses to its varied series of seminars, workshops, and resources along with student reflections about how they expected to apply lessons from the events. CAPS counselors and clinicians continued client satisfaction surveys and added new baseline data from additional survey questions as well as clinician observations of behavioral changes. In 2011-12, the division's Director of Assessment and Planning will regularly consult with, train, and support

division departments in developing sound assessment instruments and analyzing results with a view to making needed improvements.

### **University College**

University College regularly engages in extensive assessment and evaluation of its services and their impact on student success, making its annual report lengthy but well worth examination, especially for those interested in supporting first-year and transfer student success. The 2010-11 report opens with a Supplemental Report and Highlights section that makes navigation clear and easy to follow. Three highlights that stand out as strong examples of improvements based on assessment data include math-focused learning communities, Themed Learning Communities (TLCs), and the electronic Personal Development Plan (ePDP).

Based on research findings from a study conducted over the previous two years, University College implemented several changes in Fall 2010 for *math-focused learning communities*. A key decision was to lengthen class meeting time by 35 minutes. This move allowed faculty to incorporate more problem solving and collaborative learning each week; section instructors will monitor student learning closely for evidence of improved outcomes. For several years, University College faculty and staff have compared results of UC studies with campus results from the National Survey of Student Engagement (NSSE), both of which have documented that students who enroll in *Themed Learning Communities* (two or three linked courses taught collaboratively by faculty from different departments) report greater engagement with college, have higher GPAs, and are retained to the second year at higher rates than non-TLC students. These positive results have fueled expansion of the program from seven TLCs in Fall 2003 to 34 in Fall 2010, along with the addition of new participating disciplines.

Students in First-Year Seminars prepare a Personal Development Plan as an important first step in understanding and planning for their college experience. In Fall 2010, University College piloted a new approach to the PDP using the IU ePortfolio environment in order to combine the developmental strengths of electronic portfolios with the benefits of intrusive advising. Evaluation of the pilot results showed that the ePDP process seemed to engage students more deeply in their learning and contribute to their development; help students integrate their curricular, co-curricular, and personal experiences; and provide an effective “compass” to guide students’ goal-setting and academic planning. Based on this successful pilot, faculty clarified assignment instructions, worked to strengthen technology support, and moved rapidly toward the goal of adoption in approximately half of the Fall 2011 First-Year Seminar sections.

## Appendix A

### Assessment Types and Structures at IUPUI

#### Matter for assessment

**Learning outcomes for all IUPUI undergraduates.** The Principles of Undergraduate Learning, adopted by the IUPUI Faculty Council in 1998 and revised in 2007, describe the expectations for what IUPUI undergraduates will know and be able to do upon completing their degrees, regardless of major. As a result of the faculty's efforts, described above, to link these general principles with the disciplinary learning outcomes of individual majors, students are provided multiple opportunities to gain increasing mastery of the PULs across their entire undergraduate experience, including general education and courses in their major fields of study.

1. **Core Communication and Quantitative Skills**—the ability of students to express and interpret information, perform quantitative analysis, and use information resources and technology—the foundation skills necessary for all IUPUI students to succeed
2. **Critical Thinking**—the ability of students to engage in a process of disciplined thinking that informs beliefs and actions, remaining open-minded, reconsidering previous beliefs and actions, and adjusting their thinking, beliefs, and actions based on new information
3. **Integration and Application of Knowledge**—the ability of students to use information and concepts from studies in multiple disciplines in their intellectual, professional, and community lives
4. **Intellectual Depth, Breadth, and Adaptiveness**—the ability of students to examine and organize discipline-specific ways of knowing and apply them to specific issues and problems
5. **Understanding Society and Culture**—the ability of students to recognize their own cultural traditions and to understand and appreciate the diversity of the human experience
6. **Values and Ethics**—the ability of students to make sound decisions with respect to individual conduct, citizenship, and aesthetics

In the complete description of the PULs (<http://academicaffairs.iupui.edu/plans/pul/>), the definition of each of these principles further articulates specific outcomes or objectives that help, not only to explain the principle's importance, but also to assure commonality in measurement across the campus, even though each school or department assesses the PULs through the lens of its own disciplinary standards.

**Learning outcomes for all IUPUI graduate students.** The new Principles of Graduate and Professional Learning (<http://academicaffairs.iupui.edu/plans/graduatePrinciples.cfm>) were adopted by the Graduate Affairs Committee in 2010 and similarly represent common expectations for all students who earn graduate and professional degrees from IUPUI, regardless of the field of advanced study.

1. Demonstrating mastery of the knowledge and skills expected for the degree and for professionalism and success in the field
2. Thinking critically, applying good judgment in professional and personal situations
3. Communicating effectively to others in the field and to the general public
4. Behaving in an ethical way both professionally and personally



**RISE to the IUPUI Challenge.** IUPUI’s academic plan calls for all IUPUI undergraduates to participate during their college careers in two experiences captured in the acronym RISE—Undergraduate **R**esearch, **I**nternational Learning, **S**ervice Learning, or other **E**xperiential Learning (such as internships, practica, and clinical or field experiences). Most of these experiences occur within courses, but all will be highlighted on students’ transcripts. The faculty, administrators, and units responsible for the RISE to the IUPUI Challenge Initiative have agreed to include the PULs in these experiences. Many RISE experiences include a reflective component that is incorporated, along with other relevant materials, into students’ ePortfolios or other records to facilitate assessment of PUL learning outcomes across the campus.

**Best Practices and the First-Year Experience.** One of IUPUI’s mission commitments is that each of its core activities—teaching and learning; research, scholarship, and creative activity; and civic engagement—will be characterized by, among other values, the pursuit of best practices. These “best practices” are intended to support students’ success in achieving their educational goals, particularly by enhancing engagement and improving retention and graduation rates. The RISE learning experiences are themselves forms of engaged learning closely correlated with improved learning outcomes. IUPUI has also invested substantial resources in a variety of first-year experiences to assure that students get off to a good start. Students are introduced to the PULs in their First-Year Seminars and Themed Learning Community courses; they also develop their PUL-related knowledge and skills in Gateway courses (introductions to a field of study that account for over 30 percent of all undergraduate credit hours). Instructors and advisors work with new freshmen in First-Year Seminars to create a Personal Development Plan that includes academic and career goals integrated with the PULs. Assessment of these practices typically focuses on analyses of engagement levels, surveys eliciting student perceptions, and data on percentages of students who persist into their second semester and second year.

**Program and project evaluation.** Some assessment approaches resemble the kinds of customer satisfaction surveys or program evaluations common in the for-profit and non-profit sectors. Programs (as well as the institution as a whole) have good reasons to measure student and alumni satisfaction. They want to understand student perceptions of roadblocks to completing their education, to check for disparities between what students think they are learning and what faculty believe students are learning, and to find explanations that shed light on why students encounter difficulties with particular courses or concepts. Similarly, when an intervention to improve some aspect of student academic support is implemented, a program evaluation approach is often the best means to follow up to assure the desired improvement. Forms of indirect assessment that go beyond ascertaining academic competencies are thus necessary and useful in helping academic programs function more effectively and efficiently.

## Structures supporting assessment

Primary responsibility for assessment of learning is properly decentralized to the faculty. Coordination is achieved through the work of three standing institutional groups: the Council on Retention and Graduation, the Program Review and Assessment Committee (PRAC), and the Undergraduate Curriculum Advisory Committee. Administrative support and leadership for assessment are provided through the Division of Planning and Institutional Improvement, particularly its offices of Information Management and Institutional Research (IMIR),

Institutional Effectiveness, and Testing Center. The Office of the Executive Vice Chancellor for Academic Affairs provides academic oversight and also assures that the Centers for Teaching and Learning, Service and Learning, and Research and Learning are engaged and ready to assist faculty in acting on any identified needs for improvement.

Several procedures assure timely reporting of assessment processes and results. Comprehensive academic program review occurs at IUPUI on an eight-year cycle and helps ensure that general education and discipline-specific instruction and assessment are occurring according to plan. Review teams are directed to comment on the quality of curricula, methods of instruction, and the evidence of student learning in general education (based on the PULs), as well as in the major field of study. Annually, each educational unit prepares an Assessment Report to the Program Review and Assessment Committee (PRAC). These “PRAC reports” provide the main foundation for this report on learning assessment at IUPUI and are available at <http://planning.iupui.edu/43.html>.

IUPUI also includes as part of its annual Performance Report a variety of performance indicators designed to chart progress on ten mission-critical goals, including student learning outcomes. Underlying each of the macro-indicators related to teaching and learning is a set of sub-indicators based on direct and indirect evidence. A standard red/yellow/green dashboard provides a quick overview of progress for each indicator. Dashboard “colors” for the indicators are determined by committees of appropriate faculty members and administrators convened annually to review the past year’s data. The *IUPUI Performance Report* is published early each calendar year in print and online. (See [www.iport.iupui.edu](http://www.iport.iupui.edu).)

## Common methods of assessment

**Grades.** While assignment and course grades may not be considered to be direct evidence of learning for purposes of program or institutional assessment, they do represent essential direct feedback from instructor to learner on individual progress and achievement. Since low grades can cause students to be underprepared for later courses, faculty members pay close attention to unusually high rates of low grades in classes so that necessary interventions can be undertaken. Grades in capstone courses and experiences (culminating experiences that offer students opportunities to integrate and apply learning of both content and skills) can often provide direct evidence of cumulative student learning. These courses and experiences typically include research projects, honors theses, creative exhibitions or performances, and/or internships or practica. Grades in these courses or experiences may bear directly on program assessment and are now integrated with PUL assessment as well.

**Surveys.** Indirect evidence of student learning is collected annually through a variety of surveys administered to representative samples of enrolled undergraduates. The locally developed IUPUI Continuing Student Survey was administered annually from 1995 until 2001, when it was moved to biennial administration to permit use of the National Survey of Student Engagement (NSSE) in alternate years. Comparison of average responses of lower- and upper-division students provides an indication of how best practices adopted at IUPUI contribute to learning and development. National surveys like the NSSE allow IUPUI to benchmark its performance on learner engagement over time and against a set of peer institutions and other participating

institutions. Other surveys can be particularly valuable in understanding student perceptions of the extent to which they are learning the PUL skills and knowledge they are expected to master.

Another example of survey-based indirect evidence is the survey of alumni employment and satisfaction conducted since 1996-97. Several subsets of questions probe how well students believe their education at IUPUI prepared them for their careers and/or graduate study. Direct experience in a job or graduate program may provide alumni with perspectives on their learning that are more realistic than their perceptions at graduation. School-level results of both locally developed surveys and the NSSE are given to IUPUI schools to enable them to compare themselves to other schools on campus and to results for similar units at other institutions that administer NSSE. In addition, program-level results of the Continuing Student Survey are provided to individual programs in years when those programs undergo their IUPUI program reviews.

**External sources.** External audiences also contribute directly to our understanding of our undergraduates' learning outcomes. For example, many of the schools that prepare students for employment in particular fields (e.g., nursing, business, engineering) periodically survey employers of their graduates to assure that students are indeed acquiring the kinds of abilities and knowledge needed to thrive professionally. In other cases, graduates must pass a state- or nationally-normed examination or other review process in order to enter a profession (e.g., teachers, nurses and allied health professionals, some kinds of social workers, and others). Pass rates of IUPUI graduates on these exams provide important feedback to faculty about areas showing solid learning and opportunities for improvement. Similarly, student scores on various graduate entrance examinations or their acceptance rates into graduate school can supply helpful external validation for many departments.

**Portfolios.** Portfolios of student work also offer direct evidence of learning outcomes. Some degree programs continue to rely on traditional methods of assembling and evaluating portfolios. Other programs have been drawn to the flexibility of IUPUI's ePortfolio. IUPUI's system has been designed to serve both assessment and instructional purposes. Data derived from authentic evidence (that is, evidence drawn from varied learning experiences rather than one-time-only examinations) collected, reflected upon, reviewed, and evaluated in IUPUI's ePortfolio system can increasingly be aggregated via digital reporting mechanisms to provide information at program and campus levels. As departments incorporate the ePortfolio into their curricula, they refine courses and entire programs to address desired learning outcomes ever more deliberately and effectively. Thus, the ePortfolio supports improvement in learning outcomes at the same time that it demonstrates these outcomes.

For further information about advantages and drawbacks of different methods of direct and indirect assessment, see Appendix B.

## Appendix B

### Direct and Indirect Measures of Student Learning

#### Direct Measures

**Definition:** Direct measures require students to demonstrate their knowledge and skills. They provide tangible, visible and self-explanatory evidence of what students have and have not learned as a result of a course, program, or activity (Suskie, 2004, 2009; Palomba and Banta, 1999). Actual student behavior or work is measured or assessed.

**Examples:** exams/tests, quizzes, papers, oral presentations, group work, assignments, exit exams, standardized tests

Direct Measures		
Types	Advantages	Disadvantages
<b>Authentic Course-Embedded:</b> Exams/Tests, Quizzes, Papers, Oral Presentations, Group Work, Assignments	<ul style="list-style-type: none"> <li>- Require higher-order cognitive skills and problem solving.</li> <li>- Direct measures are most effective if they are also course-embedded which means the work done by the student is actually work that counts towards a grade.</li> <li>-Students tend to take activity more seriously if associated with grade.</li> <li>- Authentic and part of already existing faculty and student work (not add-on assessment).</li> <li>-Facilitates development of a “culture of evidence”.</li> <li>- Increasingly the mandate from accrediting agencies.</li> </ul>	<ul style="list-style-type: none"> <li>- Time-consuming to develop standardized criteria for evaluating (e.g., rubrics).</li> <li>-Can be difficult to collect and aggregate for a large, public institution.</li> </ul>
<b>Electronic Portfolios</b>	<ul style="list-style-type: none"> <li>-Effective mechanism for collecting and storing student work (authentic direct measures).</li> <li>- Allows multiple formats (e.g., paper, video, audio).</li> <li>-Allows for students to reflect on learning experiences.</li> </ul>	<ul style="list-style-type: none"> <li>- Time-consuming to develop standardized criteria for evaluating (e.g., rubrics).</li> <li>-Can be difficult to collect and aggregate for a large, public institution.</li> <li>-Technology can be difficult to develop, use, and navigate.</li> </ul>
<b>Locally Developed Exit Exams</b>	<ul style="list-style-type: none"> <li>- Match local goals.</li> <li>- Aligned with curriculum.</li> <li>- Faculty-developed.</li> <li>- Development and scoring processes are informative.</li> </ul>	<ul style="list-style-type: none"> <li>- Difficult to develop valid instruments.</li> <li>- Time-consuming to develop.</li> </ul>
<b>Commercial Standardized Tests</b> (e.g., Collegiate Learning Assessment)	<ul style="list-style-type: none"> <li>- Low time investment.</li> <li>- National norms.</li> </ul>	<ul style="list-style-type: none"> <li>- Expensive.</li> <li>- May not match specific program goals</li> <li>- Students may not be motivated to perform at best ability and this can negatively affect reliability and validity.</li> <li>- May measure “generalized intelligence” which may not change due to curriculum or classroom experiences.</li> </ul>

## Indirect Measures

**Definition:** Assessments that measure opinions or thoughts about students' or alumni's own knowledge, skills, attitudes, learning experiences, perceptions of services received or employers' opinions. While these types of measures are important and necessary they do not measure students' performance directly. They supplement direct measures of learning by providing information about how and why learning is occurring.

**Examples:** self-assessment, peer-feedback, surveys, end-of-course evaluations, questionnaires, focus groups, or exit interviews, and other activities that gather impressions or opinions about the program and/or its learning goals. Other examples: academic performance levels (e.g., GPAs), graduation rates, retention and transfer studies, graduate follow-up studies, success of students in subsequent institutional settings, and job placement data.

Indirect Measures		
Types	Advantages	Disadvantages
<b>Grades</b>	<ul style="list-style-type: none"> <li>- Inexpensive.</li> <li>- Relatively easy to aggregate and collect.</li> <li>- Available for almost all students.</li> <li>- Good indicator of academic success and progress toward degree.</li> <li>- Can be good proxy for student learning.</li> </ul>	<ul style="list-style-type: none"> <li>- Not standardized.</li> <li>- Not ideal measure for determining students' actual knowledge, skills, and abilities.</li> <li>- Grades alone do not indicate if students are able to write well, think critically, problem solve, and apply values and ethics.</li> </ul>
<b>Surveys and/or questionnaires</b>	<ul style="list-style-type: none"> <li>-Inexpensive.</li> <li>-Understand issues that are difficult to observe systematically.</li> <li>- Critical to understand what individuals perceive, know, and think of programs and services.</li> <li>-Acknowledges importance of students' (or alumni), faculty, and staff opinions.</li> <li>- Can help understand students' perceptions of learning experiences</li> <li>-Students can offer suggestions for improvement.</li> <li>-Can provide information about how and why learning is occurring.</li> <li>- Statistical relationships, prediction control, description, hypothesis testing.</li> <li>- Precise, numerical.</li> <li>- Resulting data can be analyzed, reanalyzed to address specific questions.</li> </ul>	<ul style="list-style-type: none"> <li>-Not a direct measure of learning.</li> <li>-Difficult to develop valid instruments.</li> <li>-Low response rates for large sample, web-based surveys.</li> <li>-Do not involve higher order cognitive processes.</li> </ul>
<b>Interviews (e.g., senior exit interviews)</b>	<ul style="list-style-type: none"> <li>- Comprehensive, holistic, richly descriptive.</li> <li>- Provides in-depth information about students' learning experiences.</li> <li>- Allows individualization and follow-up probes.</li> <li>- May develop positive interactions with students.</li> </ul>	<ul style="list-style-type: none"> <li>- May be intimidating, biasing results.</li> <li>- Not ideal for embarrassing, personal, or politically charged issues.</li> <li>-Time-consuming to conduct and analyze data.</li> <li>- May not be representative.</li> </ul>

<b>Focus group interviews</b>	-Same as interviews. -Allows more students to be "interviewed" in less time.	-Same as interviews. -A few students can skew the results if not carefully facilitated.
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