

Assessment of Student Learning at IUPUI 2012-13 Annual Report

Overview

Like other higher education institutions, IUPUI assesses student learning for two main purposes: (1) to assure ourselves and our students that their learning experience at IUPUI meets or exceeds appropriate standards; and (2) to inform and guide improvements to our programs and services. In addition, we regularly report to stakeholders 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 some 30,000 students pursuing more than 250 degree and certificate programs offered by 20 schools, assessment is multi-faceted and complex. This report highlights the many approaches to assessment at IUPUI at campus and unit levels, from articulating learning outcomes through strengthening curricula and teaching and learning practices based on findings. This year's report also describes the work of the Program Review and Assessment Committee (PRAC) in supporting those engaged most directly with the practices of assessment.

Assessment Practice 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 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 February 11, 2012)

Assessment, then, ascertains whether, what, how, and how well 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. Within degree programs, responsibility for assessment of student learning rests with the faculty, 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. Faculty determine program

curricula and are thus in the best position to identify opportunities for improvement and carry out curricular improvement. Within administrative and co-curricular units that work with students, assessment is often carried out by professional staff members with assessment expertise and/or in collaboration with faculty members who work with those units. Numerous internal and external structures support this aspect of faculty and staff work and ensure leadership and planning for assessment across the campus.

Accreditation represents an important external driver of assessment, though there are also external elements associated with program review, as explained below. IUPUI is evaluated every ten years for reaffirmation of accreditation by a regional body, the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools. In Fall 2012, various faculty and staff committees and several members of the Division of Planning and Institutional Improvement completed several years of intensive preparation for institutional reaffirmation of accreditation, including a campus-level self-study. These efforts culminated with the HLC accrediting team visit in November. The self-study report, as well as the report of the visiting team, continue to be publicly available at <http://www.iupui.edu/2012/>. In April 2013, the HLC approved the team's recommendation for reaffirmation, and IUPUI moved into a new accreditation cycle with mid-point review expected in 2016-17.

Regional accreditation focuses on entire institutions. Over fifty programs at IUPUI also 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 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's accredited programs and their current status is available at <http://www.planning.iupui.edu/accountability/>.

In 2012-13, the following programs or departments hosted specialized accreditation visits, each requiring a year or more of extensive self-evaluation and preparation:

- Kelley School of Business (and Accounting program, with review of Bloomington and Indianapolis together as a single core school), American Assembly of Collegiate Schools of Business
- Biomedical Engineering, B.S., Engineering Accreditation Commission of ABET, Inc.
- Computer Graphics Technology, B.S., Computing Accreditation Commission of ABET, Inc.
- Computer Information Technology, B.S., Computing Accreditation Commission of ABET, Inc.
- Occupational Therapy, M.S., Accreditation Council for Occupational Therapy Education
- Health Administration Information, B.S., Commission on Accreditation for Health Informatics and Information Management Education

- Health and Rehabilitation Sciences: new Physician Assistant program received provisional accreditation, Accrediting Review Commission on Education for the Physician Assistant, Inc. (ARCPA)
- School of Library and Information Science, M.L.S., American Library Association
- Public Health, M.P.H., Council on Education for Public Health
- Public Health, M.H.A., Commission on Accreditation on Health Care Management Education
- Public Health, Ph.D. in Epidemiology, Biostatistics, Health Policy and Management, Council on Education for Public Health
- Public Health, B.S. in Public Health (Environmental Health), Environmental Health Science and Protection Accreditation Council
- Social Work (BSW and MSW), Council on Social Work Education

Program Review. Although similar to specialized accreditation in requiring self-study and peer review, IUPUI's internal process of program review is more explicitly aligned with the campus mission and includes all programs, regardless of the existence of an external accreditor. The IUPUI program review process engages 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 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.

During 2012-13:

- The Departments of Africana Studies and Communication Studies in the School of Liberal Arts, the Departments of Mathematical Sciences and Psychology in the School of Science, the Foundation Studies program in Herron School of Art and Design, the Ph.D. and M.S.D. programs in the School of Dentistry, the School of Journalism at IUPUI, and the Divisions of Human Resources, Student Health and CAPS in Student Affairs, Diversity, Equity and Inclusion, and Information Management and Institutional Research were all reviewed.
- The Departments of English and History in Liberal Arts, the Departments of Biology, Chemistry, and Physics in the School of Science, the Division of Student Affairs, the Graduate Office, and the First Year Seminar program in University College were preparing their self-studies for 2013-14 program reviews.

- The Departments of Economics and Political Science in the School of Liberal Arts and the Department of Earth Sciences in the School of Science were completing immediate follow-up activities from their reviews in 2011-12.

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

Support for Assessment in 2012-13: Working Together toward Common Goals

All academic and administrative units at IUPUI are strongly encouraged to periodically evaluate their work and identify opportunities to improve their services and to link this process with the institutional planning and budgeting cycle. As part of its core mission and values, IUPUI thus fosters a culture of evidence and improvement, including provision of resources to support learning outcomes assessment. Assessment of student learning is most directly the work of academic programs, departments, and centers responsible for fostering curricular and co-curricular learning.

This year saw steady progress in the campus-wide undertaking to assure that our undergraduates are mastering the IUPUI Principles of Undergraduate Learning (PULs). Faculty had previously aligned the PULs with the learning goals of each academic program. Since Spring 2010, they have systematically assessed student learning outcomes, assuring regular attention to all PULs across all undergraduate programs and enabling reporting at the campus level and action at the departmental level. Moreover, most graduate and professional programs have now completed the process of aligning their graduate outcomes with the campus Principles of Graduate and Professional Learning (PGPLs) adopted in 2011.

Just as programs, departments, and centers work both independently and collectively on assessment, they identify representatives to a campus-wide body that works to improve assessment practice across the campus. Members of the Program Review and Assessment Committee (PRAC) engage regularly with common challenges and opportunities to strengthen their own work and the education we provide our students. This report features the important contributions of PRAC to assessment of student learning at IUPUI.

Assessing the Principles of Undergraduate Learning

As reported over the past several years, following the most recent revision of the PULs in 2007 (see <http://academicaffairs.iupui.edu/plans/pul/>), IUPUI schools and departments aligned the PULs with their respective undergraduate 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 already-established disciplinary outcomes. Other disciplines, largely in the liberal arts and sciences, faced the more complex challenge of translating commonly understood goals of their fields into learning outcomes that could be assessed and then clarifying the ways in which the PULs were aligned with these goals.

Following faculty identification of the PULs emphasized in every course taught (in most cases, one each for major, moderate, and minor emphasis per course), the Office of the Registrar and the Office of Information Management and Institutional Research (IMIR) created a database to store and display this information (available at <http://www.planning.iupui.edu/pul/matrix>). This campus-wide grid serves two important purposes: to facilitate the work of faculty in assuring that all students majoring or minoring in their field have multiple opportunities to acquire the PUL skills and characteristics, not only in courses offered by the department, but also in required or elective courses offered by other departments; and to provide a reference for advisors to help 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; a few 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. Course instructors use their accustomed tools and a common rating scale to report the PUL results at the same time that they submit course grades for each student.

Beginning in Spring 2010, IMIR staff sampled the ratings of student learning submitted by faculty in all courses scheduled for PUL assessment each semester and provided aggregate reports to each school for each PUL. Reports of outcomes in 400-level courses are 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.

By the close of academic year 2012-13, the combination of seven semesters' data began to provide meaningful information about undergraduate student learning of the PULs. The table below, prepared by IMIR, represents an encouraging look at the campus level, with mean results from the 400-level courses ranging from a low of 3.03 to a high of 3.46 on a 4-point scale (where 1 = Not at All Effective and 4 = Very Effective). Several IUPUI schools have also requested reports sorted by department to permit closer examination of opportunities for program-level improvement.

IUPUI Faculty Ratings of Student Performance on PULs with Major Emphasis (400-Level Courses)						
PUL – Major Emphasis	Mean²	Not Effective	Somewhat Effective	Effective	Very Effective	Total
1A. Written Oral & Visual Communication Skills	2,610 3.27	120 4.6%	255 9.8%	1,031 39.5%	1,204 46.1%	2,610 100%
1B. Quantitative Skills	1,616 3.03	111 6.9%	278 17.2%	676 41.8%	551 34.1%	1,616 100%
1C. Information Resource Skills	311 3.10	37 11.9%	38 12.2%	94 30.2%	142 45.7%	311 100%
2. Critical Thinking	2,556 3.21	105 4.1%	304 11.9%	1,089 42.6%	1,058 41.4%	2,556 100%
3. Integration and Application of Knowledge	6,683 3.43	169 2.5%	388 5.8%	2,501 37.4%	3,625 54.2%	6,683 100%

4. Intellectual Depth Breadth and Adaptiveness	3,398 3.38	97 2.9%	290 8.5%	1,249 36.8%	1,762 51.9%	3,398 100%
5. Understanding Society and Culture	1,810 3.29	110 6.1%	195 10.8%	566 31.3%	939 51.9%	1,810 100%
6. Values and Ethics	1,230 3.46	38 3.1%	61 5.0%	431 35.0%	700 56.9%	1,230 100%
Total¹	20,214 3.33	787 3.9%	1,809 9.0%	7,637 37.8%	9,981 49.4%	20,214 100%
¹ Combined number of student ratings in all 400-level courses sampled from Spring 2010 through Spring 2013. A student may be evaluated more than once if he or she is taking more than one 400-level course.						
² Scale: 1 = Not Effective, 2 = Somewhat Effective, 3 = Effective, 4 = Very Effective						

The first five-year cycle begun in Spring 2010 will not conclude until Fall 2014, but serious review of accumulating data is already under way. For example, the School of Education faculty draws on both PUL data and comparable elements of the school's Benchmark I Assessment for early identification of students who may be struggling. The school recently added a policy requiring that candidates with three or more negative indicators on the rubrics used for assessment be assigned a faculty mentor. The mentor works closely with the student to help improve the relevant skills during the subsequent one or two semesters so that problems are resolved prior to the start of student teaching. Study of the PUL assessment results for the School of Public and Environmental Affairs helped faculty recognize the need to revise the identification of PULs in its courses to obtain a clearer picture of student learning and improvement over time. Originally, Written and Oral Communication was assessed only in 100 and 200 level courses, where one might expect student ratings to be lower than upon graduation. The faculty is considering addition of a higher-level public-affairs writing course, both to strengthen writing outcomes and to provide a checkpoint later in the curriculum to determine improvements.

The Program Review and Assessment Committee

As illustrated throughout this report, IUPUI does not have a central office that independently conducts assessment and reports findings to faculty with recommended actions for improvement. Our structure of distinguished and distinctive academic schools and exemplary centers for experiential and co-curricular education requires a faculty-owned approach wherein units support and collaborate with one another.

The Program Review and Assessment Committee (PRAC) is composed of representatives of a broad range of academic and support units and led by faculty. The committee:

- establishes guidelines for comprehensive program review for academic and administrative units;
- offers guidance for student learning outcomes assessment throughout the institution;
- provides a forum for the exchange of program review and assessment information and strategies among graduate and undergraduate programs and administrative units across the institution;
- funds small grants that promise innovative approaches or improved practice in assessment; and
- has responsibility for preparing campus assessment plans and reports that may be required by the Higher Learning Commission of the North Central Association of Colleges and Schools.

The activities of the committee are supported by staff in the Division of Planning and Institutional Improvement (PAII), including the Offices of Program Review, Institutional Effectiveness, Institutional Research, and the Testing Center.

Responsibilities of individual PRAC members include:

- Communicating information and action items from PRAC to appropriate individuals, committees, or groups (e.g., Dean/Associate Dean/Chair, curriculum committee, assessment committee, faculty as a whole) in the member's school or unit
- Providing guidance and expertise on assessment issues within the member's school or unit
- Contributing to PRAC members' exchange of information and ideas about program review and assessment practices, policies, and experiences
- Compiling and submitting the annual school or unit assessment report (<http://www.planning.iupui.edu/43.html>) to PAII on behalf of their school or unit

At monthly meetings, PRAC members discuss current issues related to assessment and program review, hear reports on special initiatives and practices, and engage with various departments on outcomes of their program reviews and assessment grants.

- During 2012-13, the committee approved new assessment grants for projects in the School of Dentistry, School of Education, Department of English, Spanish Teaching Program, and the School of Medicine. Faculty from the Department of Biology, University Library, the Center for Service and Learning, University College, and the Department of Physical Therapy presented results from recently completed assessment grants.
- At the April 2013 meeting, PRAC members heard reports from chairs of the Department of Communication Studies, the Department of Earth Sciences, and the Foundation Studies program in the Herron School of Art and Design about their recent program reviews and discussed ways to strengthen the review process.
- In alternating months, PRAC heard status reports on several campus initiatives, including implementation of the Principles of Graduate and Professional Learning, the new IUPUI Strategic Planning process, the new IUPUI General Education Core implementation, the campus ePortfolio Initiative, and plans to enhance academic advising and career planning services.
- The committee also prepared for and hosted members of the Higher Learning Commission's visiting evaluation team in Fall 2012.
- Over the year, staff from the Office of Institutional Research and Information Management presented plans for survey administration during 2012-13, campus results of the Spring 2012 NSSE Survey, trends in Academic Services survey results, and early results from the 2013 Continuing Student Survey.

Some of PRAC's work is conducted via continuing and ad hoc subcommittees. The ongoing Assessment Grants Subcommittee, for example, manages the proposal submission and review process and brings recommendations to the full committee for approval. The Advanced Practitioners Subcommittee monitors and meets frequently to discuss new directions and developments in the assessment field and advise the PRAC membership as appropriate. The chart on Direct and Indirect Measures of Student Learning included as Appendix B of this report

was developed by that subcommittee and authored by its chair. Another subcommittee, on Performance Indicators for Teaching and Learning, meets annually to evaluate and determine progress on those indicators for reporting in the annual IUPUI Performance Report.

The PRAC Reports Review Subcommittee works intensively in mid-year to review each of the annual educational unit assessment reports submitted for the previous academic year and provide peer feedback to report authors. Each report is reviewed by two subcommittee members from other units, using a committee-developed evaluation rubric to assure commonality across reports and reviewers. In addition to providing this individual feedback to each unit, the subcommittee also prepares a report to the full committee on overall progress in both assessment practices and report clarity, often an occasion for large-group reflection on ways to improve and learn from one another. The subcommittee identified exemplars from the previous year to present their work at PRAC meetings during 2012-13, including introductory biology, University College, the Center for Teaching and Learning, and the undergraduate Spanish program. Each year since its creation in Fall 2010, the subcommittee has seen steady overall improvement in content and readability of these important reports.

Educational Unit Report Highlights, 2012-13

Each year, academic and co-curricular units prepare summary reports of their assessment activities for the Program Review and Assessment Committee. Those submitted for 2012-13 are posted on the PRAC web site at <http://www.planning.iupui.edu/64.html#13>.

Each unit's approach to reporting is adapted to meet its particular number, range, and types of programs. Most units identify student learning outcomes for their programs and describe approaches to helping students achieve the outcomes, methods of assessing this achievement, assessment findings, and improvements they have made or plan to make based on these 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 detail such items as learning outcomes or assessment procedures that may change very little from one year to the next.

The peer review and feedback on 2012-13 reports included notes from reviewers about particular aspects of the reports that might be helpful to other report authors as they work to strengthen their reports for 2013-14. These notes are appended to this report as Appendix C.

Reports from the following schools and educational units are available for 2012-13.

- Center for Service and Learning
- Indiana University-Purdue University Columbus
 - Business
 - Education
 - General Studies
 - Mental Health Counseling Program
 - Psychology

- School of Dentistry
 - Dental Hygiene
- School of Education: Elementary and Secondary Education
- School of Engineering and Technology
- School of Health and Rehabilitation Sciences
- Herron School of Art and Design
- School of Informatics and Computing
- Kelley School of Business Indianapolis
- Robert H. McKinney School of Law
- School of Liberal Arts
- School of Library and Information Science
- School of Medicine
 - Health Professions Programs
- School of Nursing
- School of Physical Education and Tourism Management
- School of Public and Environmental Affairs
- School of Science
- School of Social Work
 - Labor Studies Programs
- Division of Student Affairs
- University College

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 courses and those in their major fields of study. In addition, the Division of Student Life (now the Division of Student Affairs) has adopted the PULs and added two principles of their own—Intra- and Inter-personal development—to form the Principles of Co-Curricular Learning. These new Principles furnish the framework for co-curricular programs, including leadership development, residence life, campus recreation, and student involvement.

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 principle 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 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). These experiences occur within courses, and are identified accordingly on students’ transcripts. RISE experiences incorporate the PULs and often contain 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 the pursuit of best practices. Many of these “best practices” support students’ success in achieving their educational goals, particularly by enhancing academic 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 its First-Year Experience programs to assure that students are well supported as they make the transition to college. 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 (courses that enroll the highest numbers of entering undergraduates and 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 engagement levels, student perceptions, and percentages of students retained 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 understand why students encounter difficulties with particular courses or concepts. Similarly, after attempting to improve some aspect of student academic support, a program evaluation approach is often the best means to follow up to assure the desired improvement. Forms of assessment that go beyond ascertaining academic achievement are thus necessary and useful in helping academic programs serve students well.

Structures supporting assessment

Primary responsibility for assessment of learning at IUPUI 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, including its offices of Program Review, Information Management and Institutional Research (IMIR), Institutional Effectiveness, and Testing Center. The Office of the Executive Vice Chancellor for Academic Affairs contributes 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 prompt attention to 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 evidence of student learning in general education, as well as in the major field of study. Annually, each educational unit prepares an Assessment Report to PRAC. These “PRAC reports” serve as the main foundation for this report on learning outcomes 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. Underlying each of the macro-indicators related to teaching and learning is a set of sub-indicators based on direct and indirect evidence. A red/yellow/green dashboard supplies a quick overview of progress for each indicator. Dashboard “colors” for the indicators are determined by committees of 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.)

Common methods of assessment

Grades. Assignment and course grades are considered to be indirect evidence of learning for purposes of program or institutional assessment, but 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 they can intervene when necessary. 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 Satisfaction and Priorities Survey (CSSPS) 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. Currently, NSSE is administered every third year, while the CSSPS is administered in other years. Comparison of average responses of

lower- and upper-division students offers 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. NSSE does not directly measure student learning, but higher education research has demonstrated that the engaged practices on which NSSE focuses are closely linked with student learning. Our local surveys are particularly helpful for understanding students' 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 undergraduate 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 were their perceptions when they graduated. 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 CSSPS 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 professional 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., attorneys, teachers, nurses and allied health professionals, some kinds of social workers). Pass rates of IUPUI graduates on these exams furnish important feedback to faculty about areas showing satisfactory learning and opportunities for improvement. Similarly, student scores on various graduate entrance examinations or 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 created during varied learning experiences rather than scores on one-time-only examinations) collected, reflected upon, reviewed, and evaluated in IUPUI's ePortfolio system can be aggregated via digital reporting mechanisms to provide information at program and campus levels. As departments incorporate the ePortfolio into their curricula, they often refine courses or even entire programs to address desired learning outcomes 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
Authentic Course-Embedded: Exams/Tests, Quizzes, Papers, Oral Presentations, Group Work, Assignments	<ul style="list-style-type: none"> - Require higher-order cognitive skills and problem solving. - 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. -Students tend to take activity more seriously if associated with grade. - Authentic and part of already existing faculty and student work (not add-on assessment). -Facilitates development of a “culture of evidence”. - Increasingly the mandate from accrediting agencies. 	<ul style="list-style-type: none"> - Time-consuming to develop standardized criteria for evaluating (e.g., rubrics). -Can be difficult to collect and aggregate for a large, public institution.
Electronic Portfolios	<ul style="list-style-type: none"> -Effective mechanism for collecting and storing student work (authentic direct measures). - Allows multiple formats (e.g., paper, video, audio). -Allows for students to reflect on learning experiences. 	<ul style="list-style-type: none"> - Time-consuming to develop standardized criteria for evaluating (e.g., rubrics). -Can be difficult to collect and aggregate for a large, public institution. -Technology can be difficult to develop, use, and navigate.
Locally Developed Exit Exams	<ul style="list-style-type: none"> - Match local goals. - Aligned with curriculum. - Faculty-developed. - Development and scoring processes are informative. 	<ul style="list-style-type: none"> - Difficult to develop valid instruments. - Time-consuming to develop.
Commercial Standardized Tests (e.g., Collegiate Learning Assessment)	<ul style="list-style-type: none"> - Low time investment. - National norms. 	<ul style="list-style-type: none"> - Expensive. - May not match specific program goals - Students may not be motivated to perform at best ability and this can negatively affect reliability and validity. - May measure “generalized intelligence” which may not change due to curriculum or classroom experiences.

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

Focus group interviews	-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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Handout created by Michele J. Hansen, Ph.D., Indiana University-Purdue University Indianapolis

Appendix C

2014 Peer Review of 2012-13 PRAC Reports Report Items of Interest to Others

Center for Service and Learning

- The clarity and elegance of the instruments used to assess learning would be particularly helpful for those embarking on this sort of work.
- Very clear, succinct, specific discussions of outcomes, measures, and results. Great example of how to assess academic support programs.

Dental Hygiene

- Scanning of current workforce to better understand issues.
- How to use the grid format effectively so that outcomes track with PULs, measures, results, and actions. How to summarize for a “lay” reader.

Dentistry

- How they highlighted not only summative assessments but also formative assessments related to each objective.
- How to organize and cover a large and complex set of programs with attention to important details in all categories. No category was neglected, actual results were reported, and specific steps toward improvement were described.

Education

- The organization of the indicators by PULs in Benchmark I and the really great rubric used for Education: Benchmark IV would be worthy of being shared with others as great examples of outcomes mapping (part I) and the development of a helpful rubric (part IV).

Engineering & Technology

- The plans for assessing all programs on a systematic basis over the course of X years. The crosswalks of PULs to accrediting body outcomes. The succinct, but powerful assessment highlights from the ENT section. The careful attention paid to learning in-class and out-of-class.

Herron

- The entire report is a nice reminder that assessment needs to be imagined and implemented in a variety of ways in order to serve students’ best interests.
- Sophomore Advancement Review process in the BFA program. Use of group and peer assessment.

Health and Rehabilitation Sciences

- Good formatting for explicitly linking desired learning outcomes, how those outcomes are assessed, assessment results, and changes to be made as a result of those findings.
- Report as a whole is very strong. The section on the bachelor’s degree in Health and Rehabilitation Sciences is exemplary.

Informatics

- The introduction was especially well done in the way that it provides the parameters for the report that follows. Engagement with assessment is obvious, and the overall analysis is excellent.
- The examples of improvements made based on assessment findings.

IUPUC General Studies

- Assessment of advising as part of overall process.
- Alignment among General Education outcomes, IUPUI PULs, and Indiana Core Competencies.

IUPUC Mental Health

- The professional development and career development rubrics would be helpful to those trying to assess student learning in those areas.

IUPUC Psychology

- The table mapping learning objectives to assessment and outcomes by class would be helpful to those assessing larger programs/departments.

Liberal Arts

- This report contains some nice reflection, particularly in the Introduction and the Next Steps/Conclusions sections, on the role of assessment in disciplines that are largely about habits of mind and improved self-efficacy rather than about the acquisition of specific, easily defined and quantified skills and competencies.

Medicine

- The structure of the committees in charge of reviewing student learning, standards, and program effectiveness.

Nursing

- I found the organization of this report to be very good. The introductory section gives a summary of how the report is structured. The report is easy to follow and the information is contained in the tables.
- The organization and thorough descriptions of the Learning Outcomes and Assessment Measures, tied in to ultimate goals for graduating undergraduate and graduate students are commendable.

Physical Education and Tourism Management

- The detailed action steps taken to improve learning based upon assessment findings make a good model for how to use assessment to implement changes in program.
- The school is to be commended for its commitment to service learning and the RISE Initiative. Kinesiology would be exemplary [with careful proofreading].

Science

- Results from the PLTL project (and cPLTL), course improvement efforts in biology and chemistry, SOS Career Development Services evaluations.

Library and Information Science

- Clear that assessment is being used to move ahead with improvements in the program. This is especially apparent in the realm of sequencing courses, with assessment findings driving the process of rethinking prerequisites, core courses, and advanced courses. This attempt to address shortcomings as a result of the analysis of assessment data is, of course, the goal, and it is clear that SLIS is pursuing that goal.
- The artifact matrix sounds like an interesting tool for assessing authentic learning.

Social Work

- BSW—operationalization of competency-based assessment of PULs. Very nice connections. Overall, sharing the Learning Evaluation Tools sometime at PRAC would be great!
- How to present complex assessment results in summary form but also understandably, combined with useful narrative about program background and faculty responses to areas for improvement.

School of Public and Environmental Affairs

- The introduction is, I think, especially good as far as providing a context for understanding the programs and the report. You get a very good sense of the school.
- The table provides good organization and clarity between the outcomes, measures, and results. The expanded discussion of particular measures and results provides insight into rationale for actions taken in response to the results.
- Clear, concise description of degree programs and assessment of learning outcomes, tied directly to PULs.

Student Life

- Careful attention to making thoughtful use of developing measures in a complex environment.

University College

- This report includes some very good examples of assessing factors that contribute to student success beyond just learning outcomes in the classroom (although that aspect is also well-addressed).
- Does more than share the average PUL ratings. I think that it is hard for faculty/staff/administrators to understand what a 3.3 on a 4.0 scale means and whether that is high or low or having any context. There is very little differentiation in the PUL scores, so it is necessary to supplement them with other data.