

# Learning Assessment at IUPUI 2011-12 Annual Report

## Overview

As is the case at other institutions of higher learning, 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 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 22 schools, assessment is multi-faceted and complex. While summary risks over-simplification, this report highlights the many facets of assessment at IUPUI at campus and unit levels, from articulating learning outcomes through strengthening practice based on findings. This year's report also describes the 2012 "self-study" for reaffirmation of accreditation in which the campus community examined all practices and outcomes of its mission to provide evidence that we continue to meet high standards for teaching, learning, research, and ethical conduct in our operations .

## 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 February 11, 2012).

**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 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. During 2011-2012, various faculty and staff committees and several members of the Division of Planning and Institutional Improvement were intensively involved in developing the institution's reaffirmation of accreditation self-study, the culmination of several years spent strengthening institutional assessment processes and gathering relevant information. A later section of this report describes these efforts in detail.

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 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 2011-12, the following programs or departments received specialized accreditation visits, each requiring a year or more of extensive self-examination 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
- 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

**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 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 (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 2011-12:

- The Department of Earth Sciences in the School of Science, the General Studies Degree Program in the Division of Continuing Studies, and the Departments of Political Science and Economics in the School of Liberal Arts were all engaged in their program reviews. (Note that the number of program reviews was smaller than usual because the whole campus was itself actively preparing for reaffirmation of accreditation by the Higher Learning Commission.)
- At the same time, the School of Journalism in Indianapolis, the Africana Studies and Communications Studies Programs in Liberal Arts, the Psychology and Mathematics Departments in the School of Science, the Foundation Studies Program in the Herron School of Art and Design, the Departments of Student Health and of Counseling & Psychological Services in the Division of Student Life, and the Office of Information Management and Institutional Research were all preparing their self-studies for 2012-13 program reviews.
- The Museum Studies Programs 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 completing the immediate follow-up activities from their reviews in 2010-11.

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 in 2011-12: It Takes a Campus**

Assessment of student learning is most directly the work of academic programs, departments, and centers responsible for fostering the desired learning. All academic and administrative units, however, are 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 improvement, including provision of resources to support learning outcomes assessment.

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 integrated the PULs with the learning goals of each academic program and, since Spring 2010, have assessed student learning outcomes in ways systematic enough to assure regular attention to all PULs across all undergraduate programs and consistent enough to allow reporting at the campus level and action at the departmental level. Moreover, most graduate and professional programs began (and in some cases completed) the process of aligning graduate outcomes with the Principles of Graduate and Professional Learning (PGPLs) adopted in 2011.

In addition, 2011-12 saw the culmination of several years' analysis of how well we are realizing our vision, mission, and values as we serve the wide range of our stakeholders. Regional accreditation of institutions of higher learning occurs on a ten-year cycle, and IUPUI began in Fall 2008 to prepare for reaffirmation of our regional accreditation in Fall 2012, with the most intensive work taking place during 2011-2012. Because this work was at the center of our assessment efforts during that year, this report highlights the intensive and extensive campus-wide work of what is known as "self-study," a demanding but deeply meaningful pursuit.

### **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/>), 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 disciplinary outcomes already established. Other disciplines, largely in the liberal arts and sciences, faced the more complex challenge of translating commonly understood goals of their fields into language more susceptible to evaluation before they could clarify the ways in which the PULs were aligned with these goals.

Following faculty identification of the PULs emphasized in every course taught (for most courses, 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 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 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; 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 2011-12, the combination of several semesters' data began to provide meaningful information about undergraduate student learning of the PULs. The table below represents an encouraging look at the campus level, with mean results from the 400-level courses ranging from a low of 3.09 to a high of 3.51 on a 4-point scale (where 1 = Not at All Effective and 4 = Very Effective). Several IUPUI schools have requested reports sorted by department to permit closer examination of opportunities for program-level improvement.

<b>IUPUI Faculty Ratings of Student Performance on PULs with Major Emphasis (400-Level Courses)</b>						
<b>PUL – Major Emphasis</b>	<b>Mean<sup>2</sup></b>	<b>Not Effective</b>	<b>Somewhat Effective</b>	<b>Effective</b>	<b>Very Effective</b>	<b>Total</b>
1A. Written Oral & Visual Communication Skills	1,958 3.26	102 5.2%	194 9.9%	763 39.0%	899 45.9%	1,958 100%
1B. Quantitative Skills	1,159 3.09	63 5.4%	205 17.7%	452 39.0%	439 37.9%	1,159 100%
1C. Information Resource Skills	188 3.21	13 6.9%	24 12.8%	62 33.0%	89 47.3%	188 100%
2. Critical Thinking	2,076 3.19	95 4.6%	260 12.5%	873 42.1%	848 40.9%	2,076 100%
3. Integration and Application of Knowledge	5,461 3.43	147 2.7%	312 5.7%	2,071 37.9%	2,931 53.7%	5,461 100%
4. Intellectual Depth Breadth and Adaptiveness	2,532 3.39	69 2.7%	227 9.0%	896 35.4%	1,340 52.9%	2,532 100%
5. Understanding Society and Culture	1,559 3.28	88 5.6%	186 11.9%	479 30.7%	806 51.7%	1,559 100%
6. Values and Ethics	816 3.51	13 1.6%	35 4.3%	290 35.5%	478 58.6%	816 100%
<b>Total<sup>1</sup></b>	15,749 3.33	590 3.8%	1,443 9.2%	5,886 37.4%	7,830 49.7%	15,749 100%

<sup>1</sup> Combined number of student ratings in all 400-level courses sampled from Spring 2010 through Fall 2012. A student may be evaluated more than once if he or she is taking more than one 400-level course.

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

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, Indianapolis faculty of the Kelley School of Business examined closely any PULs for which faculty assessed fewer than 70 percent of students at Effective or Very Effective levels. One such area was PUL 4, Intellectual Depth, Breadth, and Adaptiveness, linked to Principles of Business Learning 2: Management, Leadership, and Ethics. Faculty are increasing coverage of the relevant skills in a new course (Z371) and requiring students to take Z340 Human Resources Management in place of Z302 Organizational Behavior. In the School of Social Work, though data are not yet sufficiently complete to be conclusive, faculty responded to disappointing student performance on PUL 1A communication skills by moving 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.

### **Rigorous Campus Self-Study for Reaffirmation of Accreditation**

The Higher Learning Commission (HLC) of the North Central Association of Schools and Colleges adopted new criteria for accreditation in 2012, providing a transitional period for institutions scheduled for review before 2013 to continue their self-examination under the criteria with which those processes began. Because criteria applied to IUPUI in 2012 may no longer be readily available on the HLC web site, they are provided here to help readers of this report understand the demanding standards which IUPUI and our peer institutions must meet. The days of counting books in the library and credentials of faculty disappeared long ago.

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- **Criterion One – Mission and Integrity:** The organization operates with integrity to ensure the fulfillment of its mission through structures and processes that involve the board, administration, faculty, staff, and students.
    - Core Component 1a: The organization's mission documents are clear and articulate publicly the organization's commitments.
    - Core Component 1b: In its mission documents, the organization recognizes the diversity of its learners, other constituencies, and the greater society it serves.
    - Core Component 1c: Understanding of and support for the mission pervade the organization.
    - Core Component 1d: The organization's governance and administrative structures promote effective leadership and support collaborative processes that enable the organization to fulfill its mission.
    - Core Component 1e: The organization upholds and protects its integrity.
  - **Criterion Two – Preparing for the Future:** The organization's allocation of resources and its processes for evaluation and planning demonstrate its capacity to fulfill its mission, improve the quality of its education, and respond to future challenges and opportunities.
    - Core Component 2a: The organization realistically prepares for a future shaped by multiple societal and economic trends.
    - Core Component 2b: The organization's resource base supports its educational programs and its plans for maintaining and strengthening their quality in the future.
    - Core Component 2c: The organization's ongoing evaluation and assessment processes provide reliable evidence of institutional effectiveness that clearly informs strategies for continuous improvement.
    - Core Component 2d: All levels of planning align with the organization's mission, thereby enhancing its capacity to fulfill that mission.

- **Criterion Three – Student Learning and Effective Teaching:** The organization provides evidence of student learning and teaching effectiveness that demonstrates it is fulfilling its educational mission.
  - Core Component 3a: The organization’s goals for student learning outcomes are clearly stated for each educational program and make effective assessment possible.
  - Core Component 3b: The organization values and supports effective teaching.
  - Core Component 3c: The organization creates effective learning environments.
  - Core Component 3d: The organization’s learning resources support student learning and effective teaching.
  
- **Criterion Four – Acquisition, Discovery, and Application of Knowledge:** The organization promotes a life of learning for its faculty, administration, staff, and students by fostering and supporting inquiry, creativity, practice, and social responsibility in ways consistent with its mission.
  - Core Component 4a: The organization demonstrates, through the actions of its board, administrators, students, faculty, and staff, that it values a life of learning.
  - Core Component 4b: The organization demonstrates that acquisition of a breadth of knowledge and skills and the exercise of intellectual inquiry are integral to its educational programs.
  - Core Component 4c: The organization assesses the usefulness of its curricula to students who will live and work in a global, diverse, and technological society.
  - Core Component 4d: The organization provides support to ensure that faculty, students, and staff acquire, discover, and apply knowledge responsibly.
  
- **Criterion Five – Engagement and Service:** As called for by its mission, the organization identifies its constituencies and serves them in ways both value.
  - Core Component 5a: The organization learns from the constituencies it serves and analyzes its capacity to serve their needs and expectations.
  - Core Component 5b: The organization has the capacity and the commitment to engage with its identified constituencies and communities.
  - Core Component 5c: The organization demonstrates its responsiveness to those constituencies that depend on it for service.
  - Core Component 5d: Internal and external constituencies value the services the organization provides.

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In a nutshell, these criteria and their core components frame the purpose of self-study, which is to collect, consider, and select convincing *evidence* that the institution meets each standard and is therefore worthy of accreditation by the higher education community. IUPUI designed a process that would be broadly inclusive, engaging numerous faculty and staff directly in the process of collecting and sifting data, making use of the web to share work among the various participants, convening campus-wide Town Hall meetings for input from a broader range of stakeholders, and making work available online for additional means of collecting input.

Two senior administrators, Senior Advisor to the Chancellor for Academic Planning and Evaluation Trudy Banta and Associate Vice Chancellor for Academic Affairs Mary Fisher, co-chaired the review, beginning in Fall 2008 with a small group of key faculty and staff to plan the process and focus particularly on implementing campus-wide assessment of the Principles of Undergraduate Learning. The two also began offering regular progress reports to campus-level committees, including the faculty and staff governance organizations, academic deans, and the Program Review and Assessment Committee (PRAC).

In Fall 2009, Executive Vice Chancellor Uday Sukhatme appointed an expanded 2012 Committee with representation from IUPUI’s larger schools and important campus-wide

committees. The 2012 Committee met monthly for more than three years to organize and supervise the self-study process, and Banta and Fisher continued to report monthly to key committees and administrators and solicit their ideas throughout that period. In Fall 2010, Criterion Teams—one for each of the five HLC Criteria for Accreditation—along with a Data Team and a Writing Team began the work of pulling together data that might provide suitable evidence of meeting the criteria. Co-chairs of each team joined the 2012 Committee, which also sponsored a monthly online newsletter to inform all faculty, staff, and students about the accreditation process and its importance. In Spring 2011, a series of campus-wide Town Hall meetings served as forums to engage faculty, staff, and students in discussing suggestions to address each criterion.

The committees and writing team members worked during spring, summer, and fall of 2011 to develop detailed outlines and then drafts of the five main chapters of the self-study report, drawing on some ten years of data about every facet of campus operations. In Spring 2012, these drafts were posted on the 2012 web site, and interested stakeholders were invited to review, comment, make suggestions, and ask questions on the material. Five new Town Hall sessions solicited specific feedback on each draft chapter, yielding many helpful suggestions for additional evidence that could be included. These meetings also prompted open, wide-ranging reflection about key challenges, which were incorporated into a new set of draft chapters. Over the summer of 2012, the Writing Team members polished each chapter, prepared an introduction and preface to the book-length full report, joined university archivists to assure that electronic appendix material would continue to be available as linked from within the report, collected supplemental data to be transmitted to the HLC staff, and worked with the office of Public Affairs and Governmental Relations to create a unified, comprehensive final report and web site to secure public comment from external stakeholders.

The Criterion Committees experienced no difficulty in locating data about their respective criteria and core components. IUPUI's established practices of cyclical surveying of constituents, regular program evaluation, continuous student learning assessment, and annual planning and reporting by all units, and its habitual transparency in making virtually all institutional information accessible online, created far more data than could be used within a recommended 200-page maximum report length. Purposeful overlaps among the criteria themselves necessitated further consultation among the committees to reduce use of the same data as evidence in several chapters.

The HLC explanation of Criterion One: Mission and Integrity emphasizes that the HLC expects “organizational commitment to high academic standards and to assessment of achieved learning.”<sup>1</sup> Similarly, in describing the intent of Core Component 3a, the Commission points out that:

Assessment of student learning is a process, and the process must have results foundational to the education of students.

- The results should testify to achievement of stated goals for learning.
- The results should enable the organization to strengthen and improve the capacity for student learning.

<sup>1</sup> The Higher Learning Commission *Handbook of Accreditation*, Version 1:10/03, Section 3.2 “Exploring the Criteria and the Core Components,” p. 2. Retrieved August 2010 from <http://www.ncahigherlearningcommission.org>.

- The results should have credibility with the faculty responsible for creating effective learning environments.
- The results should have such credibility that they shape budgeting and planning priorities.<sup>2</sup>

The contributions of PRAC and its members were thus particularly valuable. Contents of the units' annual PRAC reports, the PUL assessment results, and the annual Learning Assessment at IUPUI report provided useful evidence of effective learning and teaching for Chapter Three and of students' acquisition of a breadth of knowledge and skills needed for a global, diverse, and technological society for Chapter Four. Several of the PRAC members served either on criterion committees or on the data or writing teams. Most PRAC members provided leadership for their units in participating actively in the Town Hall forums.

Consistent with IUPUI's commitment to transparency, the IUPUI 2012 Self-Study Report, *Excellence through Collaboration and Innovation*, along with an executive summary highlighting strengths and challenges, will continue to be available on the IUPUI web site at <http://www.iupui.edu/2012>. The HLC Evaluation Team visit to the campus in November 2012 will result in a report and recommendations to the HLC Board of Directors, leading to a decision on reaffirmation of accreditation sometime in spring of 2013. When the evaluation team's report becomes available, IUPUI will also post it on the web site.

### **Educational Unit Report Highlights, 2011-12**

Each year, educational units are asked to prepare summary reports of their assessment activities for the Program Review and Assessment Committee. Those submitted for 2011-12 are posted on the PRAC web site at <http://www.planning.iupui.edu/64.html#12>.

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 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. Reports from the following schools and educational units are available.

- Center for Service and Learning
- Indiana University-Purdue University Columbus
  - Business
  - Education
  - General Studies
  - Psychology
- School of Dentistry

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<sup>2</sup> HLC *Handbook of Accreditation*, Version 1:10/03, p. 9.

- Dental Hygiene
- School of Education: Elementary and Secondary Education
- School of Engineering and Technology
- Division of General Studies
- School of Health and Rehabilitation Sciences
- Herron School of Art and Design
- School of Informatics
- School of Journalism
- Kelley School of Business Indianapolis
- Robert H. McKinney School of Law
- School of Liberal Arts
- School of Library and Information Science
- School of Medicine
  - Public Health
  - 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 Life
- 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 has adopted the PULs as the basis for its varied 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 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). These experiences occur within courses, and are identified accordingly 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 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 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 first-time, full-time freshmen 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 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 understand 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 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. Other surveys can be particularly helpful for 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 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 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 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 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 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 drawn from varied learning experiences rather than 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 and 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
<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</li> </ul>

		experiences.
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## 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</b> (e.g., senior exit interviews)	<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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