



*Academic Program Assessment*

Office of the Vice Chancellor for Academic Affairs  
Indiana University-Purdue University Fort Wayne

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May 2004

*Academic Program Assessment* is produced by the Office of the Vice Chancellor for Academic Affairs at Indiana University-Purdue University Fort Wayne (IPFW) to promote and support continuous quality improvement among programs and departments across campus. It is designed for use by faculty, administrators, staff, and students in academic program assessment and improvement.

In addition to the role faculty play in program assessment, they are also involved in directing and evaluating campus-level assessment activities via the Assessment Council. Composed of faculty representatives from each school, the Council reviews annual assessment reports, provides feedback, and makes recommendations to the Vice Chancellor, the Educational Policy Committee, schools and divisions, and other University committees and councils as appropriate.

Your feedback about *Academic Program Assessment* would be appreciated. Please use the Evaluation (Appendix A) to provide constructive comments about how this handbook might be improved.



VICE CHANCELLOR FOR ACADEMIC AFFAIRS

May 18, 2004

Dear Colleagues:

Good assessment practices and high academic standards are vital components in maintaining and enhancing the reputation of IPFW. The Office of Academic Affairs is committed to promoting faculty, staff and student understanding of assessment and to helping them keep abreast of developments in this area.

As you know, assessment is a key requirement for IPFW's continued accreditation with the Higher Learning Commission. For many of the professional programs, assessment plays a significant role in professional accreditation. While these are important reasons for strengthening the assessment process, the ultimate benefits go far beyond meeting accreditation standards. Assessment is really about academic program improvement. It allows IPFW to document the quality and success of its academic programs and identify new opportunities for growth and development. At the same time, assessment allows each academic program to identify areas and issues that must be addressed to provide the quality educational opportunities that our students need to be successful in their future careers or educational pursuits.

I encourage each of you to review this handbook and implement its recommendations as appropriate. We owe our students, our public and ourselves nothing less than the best education possible. Assessment will help us meet that challenge.

Sincerely,

Susan B. Hannah, Ph.D.  
Vice Chancellor for Academic Affairs

# Academic Program Assessment

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## Academic Program Assessment

### Assessment and Evaluation: What It Is and Why It's Important

Assessment is a systematic approach to collecting, analyzing, and reviewing data to improve learning. It is important because it tells us what and how much students are learning and where they're learning it, and it gives us insight into how we might refine our programs to help them learn more. The best assessment activities supply us with meaningful information that can be used as the basis for improving educational programs (Astin, 1991). Assessment is not evaluation of *individual* faculty, staff, or students; rather, it tells us how well the *entire* academic program is meeting its purpose. Nor is assessment considered a simple record of course grades—assessment occurs at the outcome or program level and is more longitudinal in nature.

The best assessment plans satisfy the needs of multiple stakeholders. In the past several years, many colleges and universities have developed authentic assessment processes that give them useful, and sometimes unexpected, insights into their academic and service programs. Accrediting agencies such as the Accreditation Board for Engineering and Technology and the Higher Learning Commission (HLC) are also interested in assessment because it is one measure of post-secondary institutions' ability to achieve their goals. In a recent statement on learning, the HLC (2003) commends assessment as "critical not only to promoting and improving effective curricular and co-curricular learning experiences and to providing evidence of the quality of educational experiences and programs, but also to enhancing the public's perception of the value of higher education" (pp. 1-2).

Program assessment plans should be designed to meet the unique needs of the faculty and programs that design them, but the following tenets outline some common characteristics of the best plans:

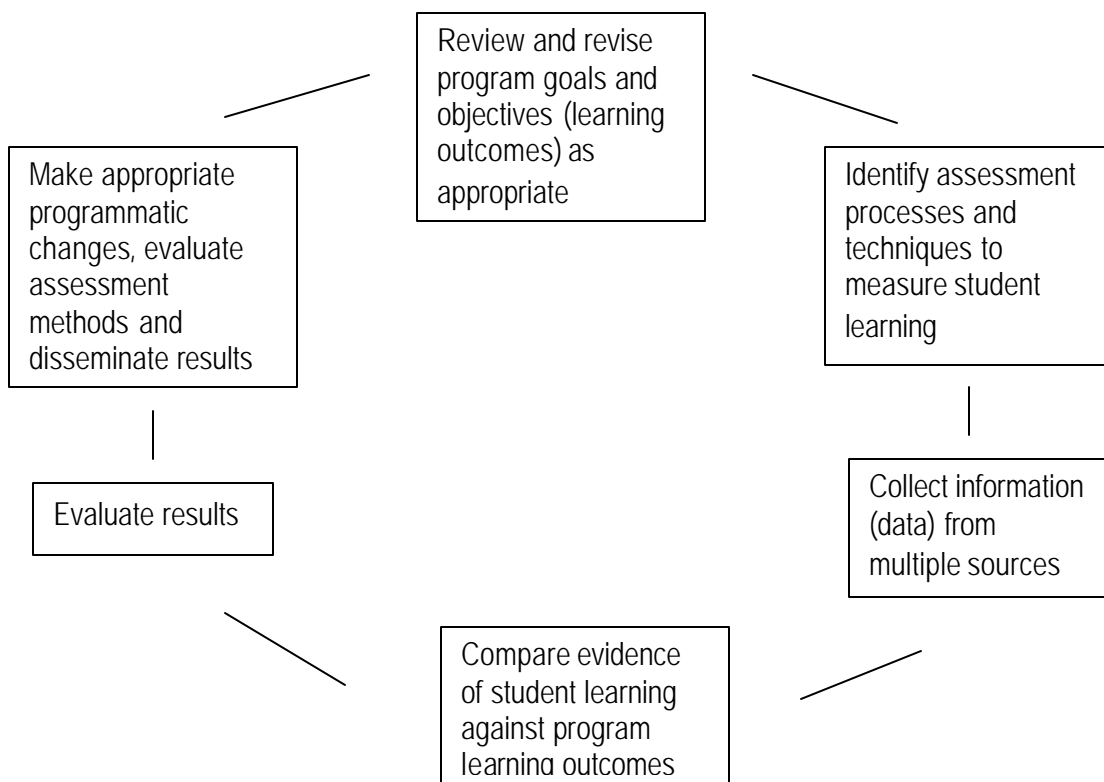
1. The assessment of student learning begins with educational values.
2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.
3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.
4. Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.
5. Assessment works best when it is ongoing, not episodic.
6. Assessment fosters wider improvement when representatives from across the educational community are involved.
7. Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.
8. Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.
9. Through assessment, educators meet responsibilities to students and to the public.  
(The American Association for Higher Education, *The Principles of Good Practice for Assessing Students*, 1992, pp. 2-3)

Assessment is important because it helps us determine if our purpose as an academic institution—educating IPFW students—is being achieved. It helps us understand the causal relationships between our actions (teaching) and outcomes (learning) (Astin, 1991), it explicitly establishes what is of importance (i.e., program goals and objectives), and it sets standards for student achievement. Well executed plans and results that are widely disseminated catalyze pedagogical discussion among faculty within and across programs. Ultimately, assessment is a manifestation of the intellectual curiosity of faculty about their programs and is a part of scholarship

and applied research. As such, it can be approached in the spirit of experimentation and innovation.

### Getting Started

The process of assessment provides opportunities for faculty to communicate values and expectations for student learning in their respective departments and to make good decisions and good choices when considering change. Although the content of each assessment plan will be unique to each program, the processes generally assume the following steps:



This process is organic and iterative: as programs change to meet constituents' demands, so too will their goals, objectives, and assessment plans. As programs become more proficient in assessment, they are likely to refine and improve their assessment processes.

Review and revise program goals and objectives (learning outcomes) as appropriate.

Before progressing too far in developing your assessment plan, ensure that program goals

(general statements of expected learning) and objectives (specific, measurable cognitive, affective or behavioral learning outcomes that achieve the goals) are relevant and current. If, in light of changes in your discipline or in the marketplace, the program's goals and objectives should be updated, it is best to do so before designing an assessment plan. Consider having open forums with faculty, alumni, employers, and other constituents during this process to discuss expectations for graduates. Involving stakeholders will give you a broader, richer perspective of the programs, their purpose, and their effects. Such discussions may also be a valuable component of the program review process.

Current students can also strengthen the process and ensure that the curriculum and assessment are relevant. They can help interpret results, and design and improve assessment techniques. Encouraging students to participate gives them insight into the challenges of education and perhaps, a new appreciation for their major department's efforts to insure that their education is of the best quality.

Ensuring that the objectives are appropriate is important because they serve as the standard for assessing student learning (learning outcomes); actual student achievement will be compared to the program objectives to identify any gaps. Objectives are statements of what you expect students to know and do as a consequence of completing the program of study. In addition, the link among these goals and objectives, those of your school, and ultimately those of IPFW, should be explicitly stated (Lopez 1997). The IPFW academic mission can only be achieved through the effectiveness of each program.

Writing meaningful, measurable program objectives is challenging but worthwhile because they convert program goals into smaller, explicit standards of student behaviors that can be observed and measured. Consider the following as you develop learning objectives:

- What are the specific behaviors, skills, and abilities students must exhibit?
- What is the minimum level of observable student performance acceptable (the performance standard)?
- Under what conditions or circumstances do you expect the performance to occur?
- What type of evidence would be required to persuade critics that the goals have been met?

When writing objectives, avoid using terms to characterize student learning that cannot be measured such as “understand” and “know.” Instead, refer to Bloom’s (1964) taxonomy (<http://faculty.washington.edu/~krumme/guides/bloom.html>) to ensure that the objectives are written in a consistent action-oriented fashion at an appropriate cognitive level. For example, “know how to use XYZ software,” would be more assessable if it were rewritten as “access XYZ software and use it to create a XYZ project in the computer laboratory.” Or “understand the events at Gettysburg” might become “develop a timeline of the main events at Gettysburg.”

It is advisable to review the course curriculum and prepare an inventory or map that evaluates the contribution each course’s objectives make to achieving the program goals (see <http://www.nwhealth.edu/ctl/survey/survey.doc> and <http://www.unr.edu/assess/PlanResources/Download%20Files/Curriculum%20Map%20Overview%20Example.pdf> for examples) . Identifying gaps and overlaps improves faculty understanding of the role each course plays (or does not play) in accomplishing the program goals. This exercise may also reveal likely points at which assessment activities could occur (e.g., capstone experiences) or those at which existing assignments (e.g., lab exercises, papers, presentations) and exams might be co-opted for assessment purposes as well.

It is unnecessary to assess all student outcomes simultaneously; instead, prioritize one or two that are most important or of most interest and begin by measuring those. Over three to five years all outcomes should be measured at least once and the most important of these should be measured more frequently. You will want to consider what proportion of students should be able to perform the objectives. Is it important that all students perform at a particular level or standard, or is a smaller proportion acceptable?

Identify assessment processes and techniques to measure student learning. Evidence of student learning outcomes takes a number of forms including surveys, projects, papers, exams, portfolios, presentations, and demonstrations. Instruments may be purchased or designed internally. Measures produce information in three domains: *cognitive* (knowledge), *behavioral* (skills), and *affective* (attitudes). Employing a variety of instruments and techniques to determine program effectiveness usually results in better information, but balance this with the volume and type of data produced by your efforts so that adequate resources can be allocated to manage them. (See Appendix B, the Assessment Mini-grant Proposal for requesting funds to support assessment activities.)

Measures of student learning can be classified as direct or indirect. In general, *direct measures* allow us to determine how much students are learning by evaluating products of learning. Artifacts such as portfolios, capstone courses, standardized tests, and licensure examinations are typically considered direct measures of student learning. On the other hand, surveys; exit interviews; focus groups; grades; and retention, placement, and graduation rates are *indirect measures*. Indirect measures ask students and others to provide feedback about their learning experience.

The same principles of good research in your discipline apply to assessment. Considerations of validity, reliability, sampling, and data analysis are all relevant here. However,

the processes should also be easy to use, convenient, and most importantly, provide data that are meaningful for your program. Use techniques with which you are familiar or that lend themselves to your discipline. Approach assessment processes as a form of scholarship in applied research. There are opportunities to publish assessment-related research in all disciplines (e.g., *Computer Science Education, Journal of Management Education, Journal of Research in Mathematics Education, Music Education Research, Nurse Education*).

Collect information (data) from multiple sources. Collecting information or data from multiple sources, at a variety of times in the educational process, and using multiple methods (triangulating) usually provides more robust and accurate information, and avoids some systematic bias that might otherwise be introduced (Lopez, 1996). For example, a combination of indirect and direct, quantitative and qualitative measures with the involvement of internal (faculty) and external (practitioners) evaluators may prove more valid than using only one type of measure with only faculty evaluators.

Compare evidence of student learning against program learning outcomes. Comparing evidence of student learning against the program objectives determines whether student performance is at, above, or below the level of learning articulated in the program objectives. The type of measure used to collect information is related to the type of comparisons made. Commercially produced tests such as the Major Field Tests produced by the Educational Testing Services and the California Critical Thinking Skills Test are norm-referenced tests. That is, IPFW student scores are compared to the scores of students at other institutions. Criterion-referenced tests are developed internally (such as by the program or school) and compare students' scores against an absolute standard.

Evaluate results. Evaluating the results of assessment is at the heart of the process. It is in evaluating gaps between program's expectations of how much, what type, and at what level

student learning should occur and actual student performance that faculty will understand why those discrepancies, if any, exist. During the evaluation you will interpret what the data mean to the program and curriculum. Do the results reveal areas of the program that are particularly effective? If so, build upon these. Do the results indicate that students' knowledge, affect, or skills are weak in certain areas? How might that be corrected? Are the results accurate? Is the assessment process itself strong? Build in some time for faculty to think about the results and what they mean, and how the next assessment process might be changed to capture additional or different data to further inform program improvement. Consider including a variety of constituents in this process—assessment conversations that include multiple perspectives are valuable for their own sake and often result in program innovations.

Make appropriate programmatic changes, evaluate assessment methods and disseminate results. Based on the results of assessment, make changes to the curriculum as necessary to move students closer to the type and level of skills and knowledge established by the program. For example, discovering that students' oral communication skills are not up to the program's standards may mean that you want to create additional opportunities for presentations. Faculty can use these presentations to provide feedback and help students become competent speakers. On-going monitoring of these skills will help you determine the effectiveness of the changes.

Disseminating the results of assessment to all stakeholders promotes organization-level learning. It promotes intra- and inter-department dialog and, over time, identifies pitfalls and best practices. It communicates IPFW's commitment to maintaining or improving student learning and serves as a statement of its expectations of students.

Although making program changes, evaluating the assessment process and methods and disseminating the assessment results represents the last phase in our assessment model, it is

actually an on-going feedback loop. Continue to monitor results through a continuous cycle of data collection and evaluation to get the most from your assessment activities.

### **Assessment and Program Review**

It makes sense to connect assessment results with program review because the results of one influence the other; program review is a component of assessment (learning objective development) and assessment results should inform the program and its curriculum. Like other quality improvement endeavors, assessment should be a continuous source of information about the program and as such can be integral to program review. Through assessment, program changes become a routine component of the department's planning and budgeting documents and to those of the school and IPFW as a whole.

### **The Assessment Plan**

The assessment plan should be reviewed each year and submitted as a component of the annual program assessment report. The report communicates assessment findings and your interpretation of their meaning, it alerts the campus community to program and assessment changes, and demonstrates on-going improvement in academic quality. Schools determine the form and content of reports from their respective programs, but they often include the following: the learning outcomes; which students were measured (such as sample, size, and response rate); how, when, and by whom they were measured; a summary of the data and criterion against which interpretation and conclusions were drawn; and a description of how the assessment loop was closed by explicating the responses and/or actions that have been taken or are planned, either for the improvement of the program or for improvement of the assessment process itself. Where appropriate, report changes resulting from assessment findings from the previous year and any steps taken to address concerns previously expressed by your school could be included. Schools submit an assessment report (Appendix C) to the Assessment Council for review and feedback.

## Internet Resources

The following links to internet resources may be helpful in developing your assessment plan:

American Association of Higher Education: <http://www.aahe.org/assessment/web.htm>

Education Testing Services: <http://www.ets.org/hea/index.html>

Higher Learning Commission of the North Central Association: <http://www.ncahigherlearningcommission.org/resources/assessment/index.html>

IPFW: <http://www.ipfw.edu/vcaa/Assessment/assmthome.html>

North Carolina State University: <http://www2.acs.ncsu.edu/UPA/assmt/resource.htm>

*Practical Assessment, Research and Evaluation* <http://pareonline.net/>

## References

- American Association for Higher Education (1992). Principles of good practice for assessing student learning. Washington, D.C.: AAHE.
- Astin, A. W. (1991). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education*. New York: American Council on Education & Macmillan.
- Bloom, B. S. (Ed.). (1964). *Taxonomy of educational objectives: The classification of educational goals*. New York: Longman.
- Higher Learning Commission. (2003, February 21). Commission statement on assessment of student learning. Retrieved January 13, 2004, from <http://www.ncahigherlearningcommission.org/resources/positionstatements/assessment/index.html>.
- Lopez, C. (1996). *Opportunities for improvement: Advice from consultant-evaluators on assessing student learning*. Chicago: National Central Accreditation Commission on Institution of Higher Education.

**Appendix A**  
**Evaluation of *Academic Program Assessment***

Please use this form to provide feedback about the usefulness of this assessment handbook. Send the completed form to Erin J. Frew, Director of Assessment, Office of Academic Affairs, Kettler Hall, Room 255. Thank you.

1. What would make *Academic Program Assessment* more useful for you? (Please comment) \_\_\_\_\_  
\_\_\_\_\_

2. What was particularly helpful? \_\_\_\_\_  
\_\_\_\_\_

3. What was not particularly helpful? \_\_\_\_\_  
\_\_\_\_\_

4. What topics should be included in updates? \_\_\_\_\_  
\_\_\_\_\_

5. Other comments: \_\_\_\_\_  
\_\_\_\_\_

## Appendix B Assessment Mini-Grant Proposal

The Vice Chancellor for Academic Affairs established a mini-grant fund to help support school, department, and program efforts to improve their assessment of student academic achievement. Examples of projects that could be funded include, but are not limited to:

- wages for a temporary (student or staff) worker to assist faculty with the collection, recording, compilation, and analysis of assessment data;
- wages for a research assistant to help with the design, piloting, and analysis of a new or revised assessment measure;
- travel to another campus in order to consult with colleagues who have successfully implemented an assessment approach that you are considering;
- stipend for a consultant to work with your school, department, or program on improving the assessment plan that is in place;
- funding toward the purchase of assessment software or other resources; and
- travel to an appropriate assessment conference or workshop (reimbursement limited to transportation and registration).

**Amount:** The usual range for the mini-grants will be \$300-\$750, but larger grants may be approved depending on the scope and significance of the project.

**Eligibility:** Grants should be developed and submitted by or in consultation with the individual(s) responsible for assessment in the respective unit. In general, no more than one grant per year will be approved for an individual unit.

**Application:** To apply, provide the following information:

1. Brief description of the proposed project and the need that will be met by the project (e.g., improvement of existing assessment plan; faculty development opportunity for individual(s) responsible for assessment; expert advice on specific assessment problems in your unit, etc.).
2. A plan of work, approximate time line, and the individual(s) responsible.
3. Measure(s) for evaluating the project's success.
4. Amount of funding requested and what it will be used for.

**Deadline:** None. Applications will be reviewed in the order in which they are received, until funds are exhausted,

**Report:** Upon completion of the project, a report summarizing the results and providing final expense figures will be required.

**Contact:** Submit applications to Erin Frew, Director of Assessment. Questions may be addressed to Erin or to any VCAA staff member.

**Appendix C**  
**School Assessment Report**

<b>Criterion</b>	<b>Y / N</b>	<b>Comments/recommendations</b>
All departments/programs have assessment plans	Y / N	
Assessment measures are linked to program goals	Y / N	
Assessment Plan Standards in Paragraph III.B.1. of SD 98-22 have been followed.	Y/N	
All departments/programs submitted reports	Y / N	
Departments/programs use assessment for program improvement	Y / N	
Departments/programs base recommendations on data	Y / N	
Prior year recommendations were implemented	Y / N	
School* support for assessment requested/needed	Y / N	
School*-level review effective	Y / N	
University-level support for assessment requested/needed	Y/N	
Recommended change s to department/program plans	Y / N	
Recommendations to Assessment Council	Y / N	

\*includes ACCS & Honors Program

revised and approved by the Assessment Council 4/04