ASSESSMENT MANUAL

2009 - 2014

The Point Loma Nazarene University Assessment Manual provides guidelines for conducting assessment in the curricular and co-curricular programs of the University.

POINT LOMA NAZARENE UNIVERSITY
ASSESSMENT MANUAL

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ASSESSMENT MANUAL

Introduction

"Assessment per se guarantees nothing by way of improvement; no more than a thermometer cures a fever." T.J. Marchese

Assessment of learning outcomes is a process that develops procedures to answer the questions:

- What do we want our student to know, understand and be able to do?
- How will we know what our students have learned?

This Assessment Manual is designed to facilitate the process of determining what our students know, understand and are able to do and to confirm how we have made that decision. Academic assessment is, therefore, a process that benefits both the university and the student by directing attention to student learning, continuous improvement and institutional accountability.

This Assessment Manual represents the work begun by previous Assessment Committees to develop a systematic and meaningful process of examining student learning. This manual also represents the growth in learning established in the institution. Initially this Assessment Manual will focus on learning and improvement of learning in the academic and related co-curricular settings of the university.   Assessment of learning in the support units will be included at a later time.

Background

Point Loma Nazarene University's (PLNU) Assessment Approach

o   Commitment to Assessment

President Bob Brower, in a letter to the campus community dated May 8, 2000, said: "Assessment has been an increasingly important part of the Western Association of Schools and Colleges' (WASC) means of determining reaffirmation of accreditation for institutions of higher education. . . . I would like to make it clear that I am committed to implementing a comprehensive model of institutional effectiveness at Point Loma Nazarene University."

In this letter, President Brower called for the formulation of an Assessment Committee to oversee a comprehensive plan for the assessment of institutional effectiveness, and a workable

timeline that would enable PLNU to meet obligations to WASC by incorporating an outcomes assessment model in our interim report.

Institutional Effectiveness Committee

Committee reports to: President (or designee)
Frequency of reports: As needed
Make-up of committee: Size: 12
Members:

Elected by faculty: 5	One from the Arts
	One from the Natural Sciences
	One from Social Sciences
	One from Professional Studies
	One from Education
Ex officio:	Director of Institutional Effectiveness
	One member of the General Education Committee
	Provost (or designee)
	Vice President for Finance and Administrative Services (or designee)
	Vice President for External Relations (or designee)
	Vice President for Student Development (or designee)
	Vice President for Spiritual Development (or designee)

Length of tenure for elected members: Three year staggered terms
Chair: Director of Institutional Effectiveness
Suggested frequency of meetings: Monthly or as needed

Major Responsibilities:

1. Advise the Director of Institutional Effectiveness on issues related to institutional assessment.
2. Facilitate the assessment program for the University in order to support institutional effectiveness.
3. Provide support for academic, administrative and co-curricular leaders in their work to review program objectives, means of assessment, criteria for assessment, results of assessment, and use of results.
4. Receive and review annual assessment reports from all institutional units.
5. Ensure that the institutional assessment program is linked to the University's strategic plan and the academic planning process.

Accreditation

- o PLNU Relationship with the regional accreditation agency: Western Association of Schools & Colleges (WASC)

The accreditation process now in place for member institutions of the Western Association of Schools and Colleges (WASC) provides for a cycle that is directly connected to the distinctive context of Point Loma Nazarene University (PLNU). The WASC accreditation process aids institutions in developing and sustaining effective educational programs and assures the educational community, the general public, and other organizations that an accredited institution has met high standards of quality and effectiveness. The Commission accredits institutions, not individual programs. Therefore, in addition to assessing the academic quality and educational effectiveness of institutions, the Commission emphasizes institutional structures, processes, and resources.

The process focuses heavily on two Core Commitments: Commitment to Capacity and Commitment to Educational Effectiveness. That is, PLNU is asked to demonstrate a clear purpose, integrity, fiscal responsibility, and the organizational structures and processes essential to fulfilling the University's purposes. In addition, PLNU must provide evidence of clear and appropriate educational objectives together with assessment protocols that ensure student accomplishments at a level appropriate to the degree awarded.

The accreditation process is aimed at:

1. Assuring the educational community, the general public, and other organizations and agencies that an accredited institution has demonstrated it meets the Commission's Core Commitments to Institutional Capacity and Educational Effectiveness, and has been successfully reviewed under Commission Standards;

2. Promoting deep institutional engagement with issues of educational effectiveness and student learning, and developing and sharing good practices in assessing and improving the teaching and learning process;

3. Developing and applying Standards to review and improve educational quality and institutional performance, and validating these Standards and revising them through ongoing research and feedback;

4. Promoting within institutions a culture of evidence where indicators of performance are regularly developed and data collected to inform institutional decision making, planning, and improvement;

5. Developing systems of institutional review and evaluation that are adaptive to institutional context and purposes, that build on institutional evidence and support rigorous reviews, and reduce the burden and cost of accreditation; and

6. Promoting the active interchange of ideas among public and independent institutions that furthers the principles of improved institutional performance, educational effectiveness, and the process of peer review

From the Handbook of Accreditation, Western Association of Schools and Colleges, 2009

o Point Loma Nazarene University Re-accreditation Cycle with WASC

2012, Nov 1:	Interim Report
2015, Fall:	Institutional Proposal
2017, Fall:	Capacity and Preparatory Review
2019, Spring:	Educational Effectiveness Review

Expectations for Assessment at PLNU

o Point Loma Nazarene University Expectations for Assessment:
1. Student learning outcomes are identified, publicized and assessed at all levels: general education, majors, co-curricular, and broadly (broad university-wide educational outcomes)
2. Individual faculty members are involved in student learning assessment planning
3. Assessment is conducted in a systematic, continuous cycle, for the purpose of improving student learning
4. The assessment plan or system is reviewed and evaluated periodically for the purpose of improving the assessment system
5. Assessment is included in all comprehensive self-studies.
6. A census is conducted by the institution
7. The institution establishes its own working definitions of assessment.
8. The faculty is directly involved in assessment.
9. Several specific assessment efforts are already underway.
10. An institutional plan, or set of plans, has been developed.
11. Data has been incorporated in periodic evaluations of GE program effectiveness.
12. Assessment techniques have been incorporated into program review procedures.
13. An assessment system has been developed to review co-curricular programs.

From Assessment Handbook, October, 2000

FAQ's of Assessment at PLNU

1. **What is Assessment?**

   Assessment at Point Loma Nazarene University is the gathering, synthesis and utilization of information in order to facilitate on-going improvement in the institution's effectiveness to achieve its mission and to achieve learning objectives in major academic programs and general education.

2. **What is the purpose of Assessment?**

   PLNU is committed to high quality academic programs and general education in an environment of vital Christianity. In 1996, an ad hoc assessment committee defined assessment at PLNU to be "the gathering, synthesis and evaluation of information in order to enhance decision making and college effectiveness." (Point Loma Nazarene College Assessment Committee. *Assessment at Point Loma Nazarene College*, October 1996, 3.)

3. **Are there different levels of Assessment at PLNU?**

   The levels of assessment at PLNU are aligned to the Institutional Learning Outcomes:
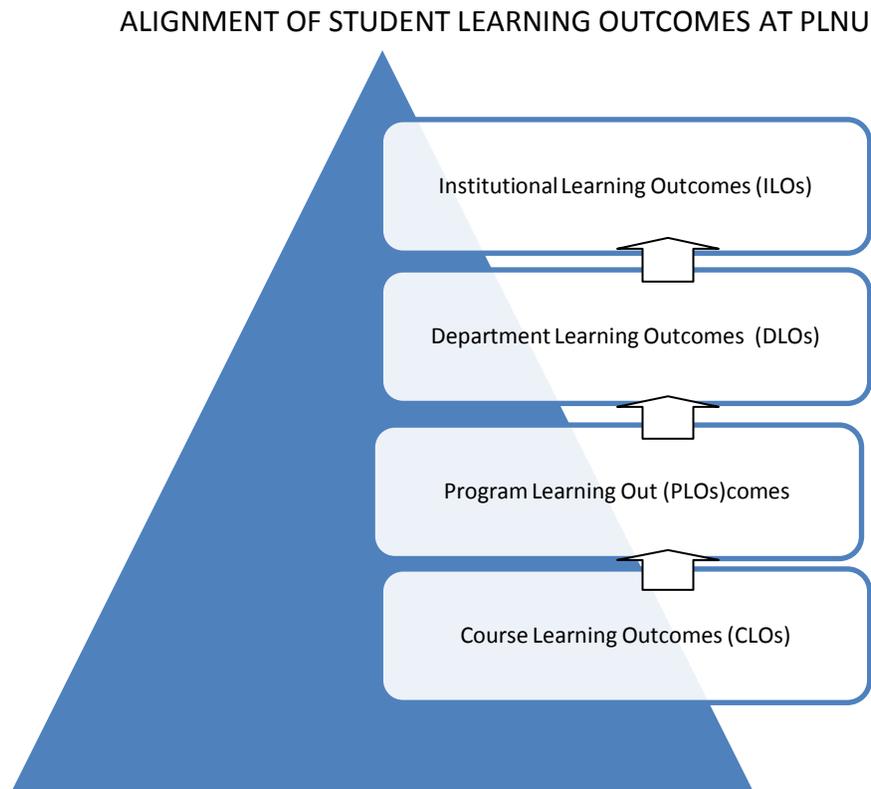
ALIGNMENT OF STUDENT LEARNING OUTCOMES AT PLNU

Institutional Learning Outcomes (ILOs)

Department Learning Outcomes (DLOs)

Program Learning Out (PLOs)comes

Course Learning Outcomes (CLOs)

INSTITUTIONAL LEARNING OUTCOMES

The Institutional Learning Outcomes will include learning informed by our faith, growing in a faith community, and serving in a context of faith.

Members of the Point Loma Nazarene University community will demonstrate the following characteristics:

1. **Learning,** Informed by our Faith in Christ

> ***Outcome*:**
> Members of the PLNU community will
>
> **1.a** display openness to and mastery of foundational knowledge and perspectives;
>
> **1.b** think critically, analytically, and creatively; and
>
> **1.c** communicate effectively.

2. **Growing,** In a Christ-centered Faith Community

> ***Outcome*:**
> Members of the PLNU community will
>
> **2.a** demonstrate God-inspired development and understanding of self and others,
>
> **2.b** live gracefully within complex professional, environmental and social contexts.

3. **Serving**, In a Context of Christian Faith

> ***Outcome*:**
> Members of the PLNU community will
> **3.a** engage in actions that reflect Christian discipleship in a context of communal service and collective responsibility,
> **3.b** serve both locally and globally in a vocational and social setting.

5. What is an Assessment Plan?

An assessment plan is a systematic collection of evidence on student learning that can be used to improve the curriculum and pedagogy within a given department, school or program. The plan is designed to assist programs in articulating their mission, goals, and learning outcomes in order to clarify the criterion for success for student achievement. In addition, the plan specifies how the program's mission, goals, and learning outcomes are integrated into the curriculum, how they will be measured, and how data will be collected, reported, and used in planning decisions.

An assessment plan is the detail of how you work through the steps of the assessment cycle for your learning outcomes. An assessment plan answers the questions:

- ✓ What are your learning outcomes?
- ✓ What evidence did you use to determine how well students are achieving the learning outcomes?
- ✓ How will you use this information to improve your program?

Resources:

Loyola Marymount University,
http://www.lmu.edu/about/services/academicplanning/assessment/Assessment_Resources?Creating_an_Assessment_Plan.htm

Occidental College, 2010, p. 3

6. Who submits Assessment Plans?

- o All academic departments and schools submit an assessment plan, unless an alternative schedule has already been negotiated with the Office of Institutional Effectiveness.
- o All co-curricular units submit an assessment plan.
- o All service units submit an assessment plan of their objectives.

7. What are the components of the PLNU Assessment Plan?

The Assessment Plan is divided into two parts: The Description of the Assessment Plan and the Assessment Activities.

A. Description of the Assessment Plan:

- ▪ Mission Statement: Review the Mission Statement; does it align to the PLNU mission statement?
- ▪ Learning Outcomes: Create a list of learning outcomes; do the department/school learning outcomes align to the Institutional Learning Outcomes? Does the program or do the major learning outcomes align to the department/school learning outcomes?
- ▪ Curriculum Map: Alignment means that curriculum is coherent; it has a common framework that provides linkages to curriculum, instruction/learning experiences and assessment. An example of an

alignment tool is a curriculum map. In a curriculum map you identify in which course a specific learning outcome will be taught and also identify in which course(s) the learning outcomes will be assessment.

- Multi-year, sustainable assessment plan: Develop a multi-year plan that includes both a timeline for assessing the department/school and program learning outcomes as well as an action timeline for implementation of findings and obtaining approvals. This plan should coordinate with the department/school Program Review.

B. <u>Assessment Activities</u>:

- Methods of Assessment and Criteria for Success: Develop measurement tools for the learning outcomes and establish internal or external benchmarks for success. Criteria are assessment measures for each outcome. Some examples of criteria are rubrics, nationally normed exams, like the ETS exams. Obtain Student Involvement in creating and using measurement tools; for example, a rubric.

- Summary of Data Collected: Collect assessment data and analyze the assessment data, review results and conclusions.

- Use of Results: Determine improvements, revisions, and planned changes to the curriculum and the program based on assessment information

  - ✓ Ensure that syllabi include program and course learning outcomes.
  - ✓ Ensure that all assignments in the course align to the course learning outcomes.

See also the Nichols' Model of Assessment (Appendix A)

8.   What is the difference between the Assessment Plan and the Annual Assessment Report?

The Assessment Plan is the entire plan, including both the description of the plan and the description of the assessment activities, strategies for assessment and timelines for completion. The Annual Assessment Report describes the activities undertaken in a particular year to give feedback both to the department and to the PLNU administration.

9.   Why an Annual Assessment Report?

- o The purpose of the evaluation of the Annual Assessment Reports is to provide:
  - feedback to the department or school on the progress of their assessment plan;
  - document findings of evaluations undertaken by academic programs to assess their current curriculum and pedagogy in the interim years within the program review cycle;
  - findings should be used to make academic planning decisions,
  - findings should also be used to enhance the program's faculty, staff, and student understanding of its essential mission and values.

- The Institutional Effectiveness Committee also provides a summary of the annual assessment reports to the Provost and the President. This will provide information for the assessment of the achievement of the Institutional Learning Outcomes.
- The format for this Annual Assessment Report is found in Appendix B.

10. Where do I submit my Assessment Plans or the Annual Assessment Report?

The Annual Assessment Report is submitted to the Office of Institutional Effectiveness as well as to the Dean of the College of Arts and Sciences, the Dean of the College of Social Sciences and Professional Studies, or the Dean of the School of Education.

11. When do I submit my Annual Assessment Report?

The Annual Assessment Report is due in the Office of Institutional Effectiveness June 1 of every academic year.

12. How are the Annual Assessment Reports evaluated?

- The Institutional Effectiveness Committee provides an annual written response to the Annual Assessment Report, with advice and recommendations on the plan, the measures, the analyses of the data gathered, and the feedback process for program improvement. The committee uses a rubric to assess these reports. The rubric is found in Appendix C.
- The committee will pay attention all aspects of the rubric but will ask the following questions as they review the reports:
  - What measures has the department or program employed? Direct, Indirect?
  - Are the measures or methods of assessment clearly defined?
  - Are there procedures in place to implement the measures on a continuing basis?
  - Are the measures appropriate and reliable?
  - Are the measures sufficient?
  - Are the methods of analysis of the data appropriate?
  - Is the analysis of appropriate depth and breadth?
  - What feedback mechanisms has the department employed?
  - Are the feedback mechanisms appropriate and reliable?
  - Was the feedback sufficient?
    - You are encouraged to attach any worksheets, survey data, graph or table data, or raw data (if appropriate) that were used in the final evaluations.

13. What are the Annual Assessment Activities that should be conducted?

- August Workshop: Review results of assessment activities from prior year
- September: Use results of assessment activities to propose program improvements

- October: Review means of assessment (tools of measurement) for assessment plans for all programs and revise assessment plans accordingly
- October - May: Conduct assessment activities (collect and analyze data)
- June 1 (pending analysis of data): File annual assessment report

14. What is the difference between classroom assessment and program assessment?

A quote from Mary J. Allen (2004) in *Assessing Academic Programs in Higher Education* differentiates between classroom and program assessment: "While classroom assessment examines learning in the day-to-day classroom, program assessment systematically examines student attainment in the entire curriculum."

15. Who supports assessment?

The office of Institutional Research, under the direction of the Director of Institutional Effectiveness will provide support for assessment activities at PLNU. The office of Institutional Research will serve on the Assessment Committee and maintain records for the committee.

16. What is the relationship of an assessment plan to a program review?

The assessment plan is an ongoing, annual review of the learning outcomes and how they affect curriculum and pedagogy. This review results in the Annual Academic Assessment Report. These annual assessment plans are compiled and used as a basis for completing the Program Review. A program review is periodic and includes an increased level of scrutiny, data and projected plans for the upcoming period until the next program review.
- Year 1
  - Establish an Assessment Plan
  - Revise the Plan as needed in successive years, and implement the current *Memo of Understanding* from the prior review cycle.
- Year 2 – 5
  - Implement the Assessment Plan by assessing outcomes according to the assessment schedule stated in the plan.
- Year 5
  - Write the Program Review, based on data from the Annual Assessment Reports

17. How long do we keep our Assessment Plans?

Department/School assessment plans are ongoing documents. Review of the Assessment Plan is conducted concurrently with the department/school Program Review. The current Institutional Assessment Plan is developed for 2009-2012.

18. What is the difference between goals, objectives and learning outcomes? (See vocabulary, pp. 46-47)

- o Goals are what you aim to achieve.
- o Objectives are detailed aspects of goals, the means to the end.
- o Learning outcomes are the end rather than the means.

19. What is a Program?

- o A program is a major or major/concentration within a department or school.

20. What are Student Learning Outcomes?

Student Learning Outcomes describe what a student will know, understand and be able to do as a result of their educational experience at PLNU. At PLNU we use Student Learning Outcomes to describe the entire process of creating learning outcomes, from Institutional Learning Outcomes to Course Learning Outcomes. Both the achievement of learning outcomes and the demonstration of the outcomes can occur either inside or outside the classroom.

Learning outcomes typically use the following formula:

| Students will | + | Action | + | Resulting Evidence |

Actions should be associated with the appropriate learning level or cognitive domain (i.e. Bloom's Taxonomy, or recent extensions of his theory.)

Writing an Assessment Plan: Assessment Plan Description

A. Writing a Program Mission Statement

Each department and program must have a mission statement (or statement of purpose.) The statement should follow these guidelines:

- o The mission statement should specify the purpose of the department/program within the overall college context;
- o The mission statement should align to the PLNU Mission Statement, Vision Statement, Core Values and Institutional Learning Outcomes. Alignment would make clear how the department/program contributes to the mission and learning outcomes of PLNU;
- o The mission statement should be succinct but should be sure to include the essential mission of the department or program. It should also define clearly to whom this statement is directed, or the stakeholders of the department or program.
- o Keep the mission statement succinct.

Example from Roanoke College: As an embodiment of the central values of a liberal arts education, the General Education program seeks to provide students with a broad base of knowledge and skills that will prepare them for productive lives as individuals and as members of communities. This includes a broad and diverse basis of knowledge, an understanding of the fundamental features of human life and culture, and the ability to reason and communicate effectively.

B. Writing Learning Outcomes

1. Writing Department/School Learning Outcomes (DLOs)

Definition of Department/School Learning Outcomes: Department/School Learning Outcomes (DLOs) will describe what a student should be able to KNOW – UNDERSTAND - DO as a result of their learning experience in the department or school.

Characteristics of Department/School Learning Outcomes:

- Should describe what students will learn in the department/school (not what faculty will or should do);
- Should be set in a context of the department/school not a program or an individual course;
- What will the student know, understand or be able to do as a result of learning in your department/school;
- Should align with the Institutional Learning Outcomes (ILOs);
- Should focus on the broad concepts of the discipline; this is where you may want to use national standards (learning outcomes) from the national or professional organization of your discipline;
- Ideal number of DLOs: 3 - 5;
- Should help faculty in the discipline design their programs.

Before writing or revising departmental department/school learning outcomes, try the following:
- Have some open discussion sessions on one of the following topics or something similar.

  o Describe the ideal student in your department at various phases throughout their progress. Be concrete and focus on those strengths, skills, and values that you feel are the result of, or at least supported and nurtured by, the experience in the department. Then ask:
    ▪ What does this student know?
    ▪ What can this student do?
    ▪ What does this student care about?

- List and briefly describe the departmental/school experiences that contribute most to the development of the ideal student.
  - List the achievements you implicitly expect of graduates in each major field.
  - Describe your alumni in terms of such achievements as career accomplishments, lifestyles, citizenship activities, and aesthetic and intellectual involvement.

- Collect and review instructional materials. Try sorting materials into 3 broad categories: recognition/recall, comprehension/simple application, critical thinking/problem-solving. Use any of the following:
  - syllabi and course outlines
  - course assignments and tests
  - textbooks (especially the tables of contents, introductions, and summaries)

- Collect and review documents that describe your department and its programs:
  - brochures and catalogue descriptions
  - accreditation reports
  - curriculum committee reports
  - mission statements

- Review and react to student learning outcomes from another unit that is similar but external (ex. another department or college in our accreditation region). Try grouping the statements into broad categories of student outcomes (i.e., knowledge, attitudinal, behavioral, values).

- Use the 25 percent problem to refine or reduce a set of goals or outcome statements. Imagine that you want to reduce program or course material by 25 percent. Which goals or outcomes would you keep and which would you discard?

- Administer a goals inventory or conduct an interview study. Involve a variety of groups (or "stakeholders") when possible. (A goals inventory is a survey where the faculty member rates the importance of a goal or outcome they aim to have students accomplish in the department, program or course.)

From: Shaping Department Student Learning Outcomes for Assessment – Definitions, Q&A, Getting Started with writing learning outcomes. (From Ball State University. Downloaded January, 2009)

Example of Department Learning Outcomes (DLOs)

DLO for Physics Department from Seattle University

Outcomes for all students in all physics classes: The student will demonstrate the ability to use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in physics.

  - Who: Students in the Physics Department
  - What: Use appropriate mathematical techniques and concepts

- o Where: Physics Department
- o When: when they take a physics class (no matter which course)
- o How much: to obtain quantitative solutions to problems in physics.

Resources Consulted:

Ball State University. *Shaping Department Student Learning Outcomes for Assessment – Definitions, Q&A, Getting Started with writing learning outcomes*. (From Ball State University. Downloaded January, 2009)

Seattle University.
The Physics Department learning outcomes. College of Science and Engineering.
http://www.seattleu.edu/scing/Physics/Default.aspx?id=24490

2. Writing Program Learning Outcomes (PLOs)

Definition of Program Learning Outcomes:

- o Program Learning Outcomes (PLOs) will describe what students should be able to KNOW – UNDERSTAND - DO as a result of their learning experience in program.
- o A program is a major in a discipline or a major and a minor in a discipline.

Characteristics of Program Learning Outcomes (PLOs):

- Should describe what student will learn in the program (not what faculty will or should do);
- Should be set in a context of the program not an individual course;
- Should align with the institutional, divisional or unit learning outcomes;
- Should focus on the central concepts of the discipline; this is where you may want to use national standards (learning outcomes) from the national or professional organization of your discipline;
- Ideal number of PLOs: 3 - 5;
- Use action verbs;
- Avoid using "fuzzy" words – too general;
- Is the PLO measureable?
- Should be student-focused rather than instructor focused;
- Should help faculty in the discipline design their courses;
- Should follow the **SMART** framework:
  - o PLOs are:
    - **S**pecific – These learning outcomes would be specific to the program that you are assessing. The PLO would specify what the student would know – understand – do as a result of participating in this program.
    - **M**easurable – The learning outcomes should be measureable while the student is at PLNU. It must be possible and feasible to collect accurate and reliable data while the student is enrolled in your program. How will you know if the outcome is achieved?

- **A**ttainable – The PLO would include reasonable targets – the student may have to stretch a little – but where would you like them to be at the end of this program?
- **R**esults-Oriented – The PLO would focus on student behaviors or responses – not on the program processes.
- **T**imely – The PLO would indicate when this result would be reached.

Example of a Program Learning Outcome (PLO):

PLO for History:

Students will analyze current events within a historical framework upon successful completion of the history program.

- Who: Students in history program
- What: analyze current events within a historical framework
- Where: history program
- When: upon completion of history program:
- How much: analyze . . . within a historical framework

Resources Consulted:

Allen, Mary J. *Assessing Academic Programs in Higher Education*. Anker Publishing Co., Inc., Bolton, MA, 2004.

Bloom, Benjamin S. Taxonomy of Educational Objectives.
http://www.coun.uvic.ca/learn/program/hndouts/bloom.html

Bresciani, Marilee J. *Outcomes-Based Academic and Co-Curricular Program Review: A Compilation of Institutional Good Practices.* Stylus Publishing, LLC, Sterling, Virginia, 2006.

Walvoord, Barbara E. *Assessment Clear and Simple: A Practical Guide for Institutions, Departments, and General Education.* Jossey-Bass, San Francisco, CA, 2004.

3. *Writing Course Learning Outcomes (CLOs)*

Definition of a Course Learning Outcomes (CLOs): Course Learning Outcomes will describe what a student should be able to KNOW, UNDERSTAND, and BE ABLE TO DO as a result of their learning experience in a course.

Characteristics of Course Learning Outcomes (CLOs):

- Should describe what student will learn in the course (not what faculty will or should do);
- Should align with the institutional and program learning outcomes;
- Should focus on the specific concepts of the discipline;
- Should be included in course syllabi;
- CLOs should be the same for all sections of a course. However, each instructor may include in their course syllabi additional outcomes and/or course expectations;

- Ideal number of CLOs: 8 – 10; remember each outcome will need to be assessed;
- CLOs must be assessable and suggest or imply an assessment. If they do include the method of assessment, it should not be too specific – a given CLO for a course should be appropriate for anyone teaching the course;
- CLOs are written in language that students (and those outside the field) are able to understand;
- CLOs should align to a cognitive domain such as Bloom's Taxonomy (see page 17) with an emphasis on the progression to higher-order thinking skills. Ideally, each course should include CLOs from more than one domain (cognitive, psychomotor, and affective). Use verbs that relate to the level of learning you want student to achieve in Bloom's taxonomy. One might be "define" (level 1); but, if you want student to reach level 4 in the taxonomy, you'll also need to write outcomes using verbs like "explain" (level 2) "use" (level 3) and "examine" (level 4.)
- CLOs ask students to apply what they have learned;
- Should help faculty teaching the course design the assignments to align with the CLOs;
- Use action verbs;
- Should follow the **SMART** framework:
  - CLOs are:
    - **S**pecific – These learning outcomes would be specific to the course that you are assessing. The CLO would specify what the student would KNOW – UNDERSTAND – BE ABLE TO DO as a result of taking this course.
    - **M**easurable – The learning outcomes would be stated in measurable terms. It has to be possible (and feasible) to collect accurate and reliable data while the student is enrolled in your course.
    - **A**ttainable – The CLO would include reasonable targets – the student may have to stretch a little – but where would you like them to be at the end of this course?
    - **R**esults-Oriented – The CLO would focus on student behaviors or responses – not on the program processes.
    - **T**imely – The CLO would indicate when this result would be reached.

EXAMPLE of Course Learning Outcomes:

For *Anthropology 101: Introduction to Cultural Anthropology:*
- Upon satisfactory completion of this course you will be able to:
1. Describe the diversity of cultures in the world as well as cultural universals;
2. Apply holistic analysis to social phenomena;
3. Analyze the relationship between the individual and the social group;

4. Display appreciation for the value of difference cultures and awareness of what we learn from them;

5. Discuss the dynamic nature of culture and processes of cultural change.
   - Who: Members of the Anthropology 101 class
   - What: CLOs 1 - 5
   - Where: Anthropology Department
   - How much: Describe . . ., apply . . ., analyze . . ., display . . ., discuss . . .
   - When: By the successful completion of the course

Note that under <u>How Much</u> that the faculty were applying Bloom's Taxonomy, taking the student from the level of Understanding through Analysis and Evaluating.

The following example describes a CLO that is not measurable as written, an explanation for why the CLO is not considered measurable, and a suggested edit that improves the CLO.

Original CLO:
Explore in depth the literature on an aspect of teaching strategies.

Evaluation of Language used in this CLO:
Exploration is not a measurable activity but the quality of the product of exploration would be measurable with a suitable rubric.

Improved CLO:
Write a paper based on an in-depth exploration of the literature on an aspect of teaching strategies.

Additional Tips for Writing Course Learning Outcomes (CLOs)

Creating course learning outcomes (CLOs) for your degree or service program is a process. Some programs have found the following steps to be helpful:

Step 1

Start by having a faculty/staff meeting (ideally including students and community members) and brainstorm about what an ideal graduate would KNOW, UNDERSTAND, AND BE ABLE TO DO.

Consult the web site for your professional/disciplinary organization – many of them are developing course learning outcomes for degree or service programs at various levels.

Step 2
Agree on a first draft of a list of outcomes, understanding that they will be revised several times before becoming firm (or definitive) and that they will change over time for currency in the discipline or service area and changing needs and characteristics of students.

Step 3

List the course learning outcomes on every syllabus for the required courses in your degree program (or programs within your student service area), indicating which of them will be covered in each particular course (or service program).

Step 4

Gather feedback from students in each course or service program about how well they perceive that course learning outcomes were addressed.

Step 5

Assess course learning by designing assignments specifically geared to measure achievement of each of the outcomes that are designated for each course, degree program, or service area.

Step 6

In light of this data, meet (with faculty, staff, and students) at the end of each semester or academic year and revise the list of outcomes, teaching methods, curriculum, and/or program.

Step 7

Repeat the above steps regularly and as needed to improve student learning. (From various sources)

Resources:

Allen, Mary J. *Assessing General Education Programs.* Anker Publishing Co. Inc., Jossey-Bass, San Francisco, CA, 2006.

Allen, Mary J. *CSU, Institute for Teaching & Learning: Student Learning Outcomes and Assessment, Using Scoring Rubrics.* http://www.calstate.edu/itl/sloa/links/using_rubrics.shtmlAngelo, Thomas A. and Cross, K. Bloom,

Benjamin S. Taxonomy of Educational Objectives. http://www.coun.uvic.ca/learn/program/hndouts/bloom.htmlPatricia. Classroom Assessment Techniques: A Handbook for College Teachers, 2nd Edition. Jossey-Bass, San Francisco, CA, 1993.

CSU, Student Learning Outcomes in the CSU, links to Examples of Scoring Rubrics http://www.calstate.edu/itl/sloa/links/rubrics.shtml(From: California State University, Sacramento: Student Affairs Assessment Plan *How to write An Effective Learning Outcome Statement, Oct. 8, 2008.* http://Vpaa.liu.edu/docs/sv.)

Driscoll, Amy and Wood, Swarup. *Developing Outcomes-Based Assessment for Learner-Centered Education: A Faculty Introduction.* Stylus Publishing, Inc., Sterling, Virginia, 2007.

Laney College, http://www.laney.peralta.edu/apps/comm.asp?$1=31028

Nash, Robert and Michelle Wild, Coastline Community College. *Writing Student Learning Outcomes with the Help of Bloom's Taxonomy.*

4. BLOOM'S TAXONOMY (Bloom's Classification of Cognitive Skills)

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. During the 1990's a new group of cognitive psychologist, lead by Lorin Anderson (a former student of Bloom's), updated

the taxonomy reflecting relevance to 21st century work. The graphic is a representation of the NEW verbiage associated with the long familiar Bloom's Taxonomy. Note the change from Nouns to Verbs to describe the different levels of the taxonomy. The previous version is found in Appendix D.

Note that the top two levels are essentially exchanged from the Old to the New version.
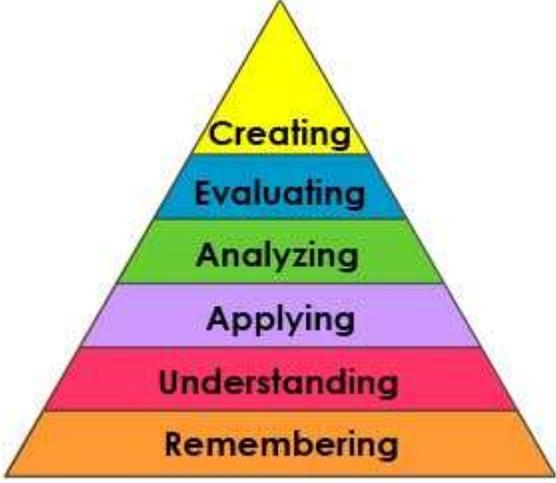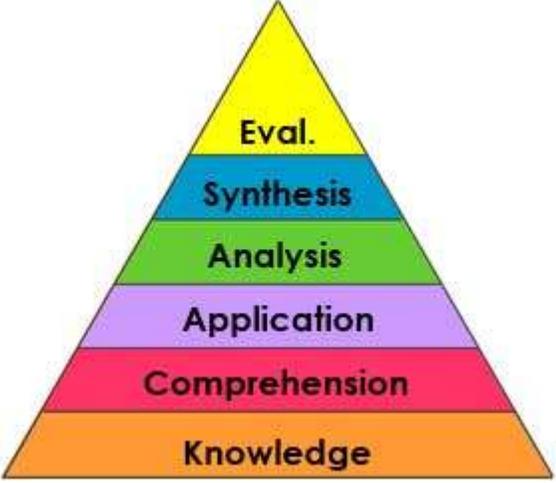
New Version	Old Version
Remembering: can the student recall or remember the information?	**Knowledge:** define, duplicate, list, memorize, recall, repeat, reproduce state
Understanding: can the student explain ideas or concepts?	**Comprehension:** classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase
Applying: can the student use the information in a new way?	**Application:** choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.
Analyzing: can the student distinguish between the different parts?	**Analysis:** appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
Evaluating: can the student justify a stand or decision?	**Evaluation:** appraise, argue, defend, judge, select, support, value, evaluate
Creating: can the student create new product or point of view?	**Synthesis:** assemble, construct, create, design, develop, formulate, write.

Bloom's Taxonomy Revised: A Taxonomy for Learning, Teaching, and Assessing

Benjamin Bloom and colleagues (1956) created the original taxonomy of the cognitive domain forcategorizing level of abstraction of questions that commonly occur in educational settings. That work has been revised to help teachers understand and implement a standards-based curriculum (Anderson & Krathwohl, 2001). For the instructional designer, the taxonomy provides a comprehensive set of classifications for learner cognitive processes that are included in instructional objectives. Classifying instructional objectives using this taxonomy helps to determine the levels of learning included in an instructional unit or lesson.

CATEGORIES COGNITIVE PROCESS
Remember **Retrieve relevant knowledge from long-term memory**
RECOGNIZING (identifying)
RECALLING (retrieving)

Understand **Construct meaning from instructional messages, including oral, written, and graphic communication**
INTERPRETING (clarifying, paraphrasing, representing, translating)
EXEMPLIFYING (illustrating, instantiating)
CLASSIFYING (categorizing, subsuming)
SUMMARIZING (abstracting, generalizing)
INFERRING (concluding, extrapolating, interpolating, predicting)
COMPARING (contrasting, mapping, matching)
EXPLAINING (constructing models)

Apply **Carry out or use a procedure in a given situation**
EXECUTING (carrying out)
IMPLEMENTING (using)

Analyze **Break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose**
DIFFERENTIATING (discriminating, distinguishing, focusing, selecting)
ORGANIZING (finding coherence, integrating, outlining, parsing, structuring)
ATTRIBUTING (deconstructing)

Evaluate **Make judgments based on criteria and standards**
CHECKING (coordinating, detecting, monitoring, testing
CRITIQUING (judging)

Create   **Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure**
GENERATING (hypothesizing)
PLANNING (designing)
PRODUCING (constructing)

References

Anderson, L.W. & Krathwohl, D.R. (Eds.) (2001). *A taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.* New York: Addison Wesley Longman.

Bloom, B.S. (Ed.), Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (1956). *Taxonomy of Educational Objectives: Handbook I: Cognitive Domain.* New York: David McKay.

Watch Out for Verbs that are not Measurable

In order for an objective to give maximum structure to instruction, it should be free of vague or ambiguous words or phrases. The following lists notoriously ambiguous words or phrases which should be avoided so that the intended outcome is concise and explicit.

WORDS TO AVOID
Believe Hear Realize
Capacity Intelligence Recognize
Comprehend Know See
Conceptualize Listen Self-Actualize
Depth Memorize Think
Experience Perceive Understand
Feel

PHRASES TO AVOID
Evidence a (n): To Become: To Reduce:
Appreciation for… Acquainted with… Anxiety
Attitude of… Adjusted to… Immaturity
Awareness of… Capable of… Insecurity
Comprehension of…. Cognizant of…
Enjoyment of… Conscious of…
Feeling for… Familiar with…
Interest in… Interested in….
Knowledge of… Knowledgeable about….
Understanding of… Self-Confident in.

References
http://www.llcc.edu/LinkClick.aspx?fileticket=%2F0BA4qlDaAE%3D&tabid=3938

C. Creating a Curriculum Map or Curriculum Alignment Matrix

A curriculum map is a graphic that shows how courses in the curriculum for a degree program contribute to meeting the learning outcomes of the program. AAC&U also states that a curriculum map is a pathway for learning. It is a tool for faculty to use in developing their assessment plan.

Some guidelines:

- o What is included in a Curriculum Map?
  - Which courses in the curriculum meet the certain learning outcomes'
  - At what level of proficiency does the course address the learning outcome.
- o How is a curriculum map created?
  Faculty members in the department or program begin with
  - The department or program's intended student learning outcomes
  - Recommended and required courses (including the General Education courses, if appropriate)
  - Other required events/experiences (for example: internships, department symposiums, advising sessions, national licensure exams)
  - Create the "map" in the form of a table, learning outcomes across the top, courses down the left side (see example on p. 24);
  - Mark the courses and events/experiences that currently address those outcomes with an X;
  - Indicate where evidence might be collected and evaluated for program-level assessment (collection might occur at the beginning and end of the program if comparisons across years are desired). Indicate by a circle to indicate that this is where assessment will occur.
- o Faculty members analyze the curriculum map. They discuss and revise so that each outcome is introduced, developed/reinforced, and then mastered.
- o Each outcome should have some indication (circled) where evidence can be collected for program-level assessment.
- o PLNU offers two formats for a curriculum map. Start with Format 1 and then move on to Format 2.
  - Format 1 is a Departmental Curriculum Map – this curriculum map is designed to assist the department to identify all the courses where the learning outcomes are developed.
  - Format 2 is an Assessment Curriculum Map – this curriculum map is designed to identify those courses in which assessment will take place. Each of the learning outcomes needs to be assessed but not every course will be included in the assessment process.

Format 1: Departmental Curriculum Map:

Row headings designate the courses in the program (i.e. ZZ 101, ZZ 215, ZZ 308, ZZ 413). Column headings designate the program's student learning outcomes. The letter "X" designates which courses develop the corresponding learning outcome for the "ZZ" academic program.

ZZ Department Curriculum Map

Student Learning Outcomes:

Students will . . .	LO 1	LO 2	LO 3	LO 4	LO 5
ZZ 101	X				
ZZ 102	X				
ZZ 215	X	X			
ZZ 217		X			
ZZ 308			X		
ZZ 311		X			
ZZ 404			X		
ZZ 405					
ZZ 413				X	
ZZ 414			X	X	

The Department Curriculum Map above reveals two problems in the curriculum identified by the shaded portions of this map:

1) Learning Outcome 5 is not developed in any of the courses (an "orphan outcome"). To correct this, a course could be redesigned to include the outcome, a new course that includes the outcome could be developed, or the outcome could be eliminated from the program.

2) The ZZ405 course does not develop any of the designated program learning outcomes. As stands, the course does not contribute to students reaching their program outcomes. The course could be eliminated or redesigned to develop a program outcome, or the program outcomes could be expanded to include an additional learning outcome that this course develops and assesses.

Format 2: Assessment Curriculum Map

1) Mark the courses and events/experiences that currently address your outcomes:
   ▪ The curriculum map indicates increasing levels of proficiency:
      o I = Introduced – when students are introduced to the outcome
      o D = Developed (some call it Reinforced) – where in the curriculum the outcome is developed or reinforced and students afforded opportunities to practice
      o M = Mastered – where in the curriculum the students have had sufficient practice and can now demonstrate mastery

- o P = Practiced – where in the curriculum the students experience internships and practicum to further their learning.

2) How do you know if you have a good assessment map:

The Assessment Curriculum Map below reveals two problems:
- o Learning Outcome 3 is not developed. It is introduced in two courses but not developed beyond the beginning level. Mastery is then expected in the third course. To correct this curriculum in ZZ 310 could be reviewed to determine whether the introduction of the learning outcome could be advanced to the Developed stage.
- o Learning Outcome 4 is Introduced but never Developed or Mastered. However, students are expected to demonstrate learning in two internship or practicum courses. To correct this curriculum in ZZ 210 or ZZ 310 could be redesigned and Developed and Mastered could be introduced into these courses or additional courses could be selected in which the learning outcome could be Developed and Mastered.

Example of an Assessment Curriculum Map:

Courses	Intended Student Learning Outcomes			
	LO 1	LO 2	LO 3	LO 4
ZZ 110	I	I		I
ZZ 210		D	I	
ZZ 310	D	M	I	
ZZ 480			M	P
Other: Exit interview				P

3) Assessing the Learning Outcomes:
- o **Keep in mind that not every outcome will be assessed in every course.** This would create an unnecessary burden on the faculty and students.
- o Determine in which course you want to assess the learning outcomes. Circle the indicator in that course. For example, an assignment in ZZ 101 LO 1 will be used for assessment.
- o Remember: one assignment could cover more than one learning outcome. For example: In ZZ 215 one assignment will cover LO 1 and LO 2.
- o Also, you do not need to create multiple assignments in the course(s) for assessment.

Curriculum Map					
Student Learning Outcomes:					
Students will . . .	LO 1	LO 2	LO 3	LO 4	LO 5
ZZ 101	I				
ZZ 102	I				
ZZ 215	D	I			
ZZ 217		D			
ZZ 308			I		
ZZ 311		M			
ZZ 404			D		
ZZ 405					
ZZ 413				M	
ZZ 414	M		M	M	

4) Introduce, Develop, Master: Throughout the curriculum in the course build in practice and multiple learning trials for students: Introduce, Develop, and Master. Students will perform best if they are introduced to the learning outcome early in the curriculum and then given sufficient practice and development/reinforcement before evaluation of their level of mastery takes place.

    a. Use a curriculum map to help you "see" the curriculum at a glance.

    b. Use the curriculum map to identify the learning opportunities (e.g., assignments, activities) that produce the program's outcomes.

    c. Allow faculty members to teach to their strengths (note: each person need not cover all outcomes in a single course). "Hand off" particular outcomes to those best suited for the task.

    d. Ask if the department/program is trying to do too much. Eliminate outcomes that are not highly-valued and then focus on highly-valued outcomes by including them in multiple courses. (The eliminated outcomes can still be course-level outcomes. They need not disappear completely from the curriculum.)

    e. Set priorities as a department/program. Everyone working together toward common outcomes can increase the likelihood that students will meet or exceed expectations.

    f. Communicate: Publish the curriculum map and distribute to students and faculty.

    g. Communicate: Each faculty member can make explicit connections across courses for the students. For example, at the beginning of the course or unit, a faculty member can remind students what they were introduced to in

another course and explain how the current course will have them practice or expand their knowledge. Do not expect students to be able to make those connections by themselves.

> The Office of Institutional Effectiveness can tailor a curriculum mapping workshop for your program. Call or e-mail the Director of Institutional Effectiveness or staff to schedule.

Sources consulted (2011)
http://manoa.hawaii.edu/assessment/howto/mapping.htm

http://www.iuk.edu/`koctla/assessment/curriculummap.shtml

Allen, Mary J. (2004). Assessing Academic Programs in Higher Education. Anker Publishing Co., Inc.

D. Develop a multi-year, sustainable assessment plan

- o This would include both a timeline for assessing the department/school and program learning outcomes as well as an action timeline for implementation of findings and obtaining approvals
- o Assessment Cycle:
  Develop a schedule for the interim years between Program Reviews that states which outcomes will be assessed and evaluated in which year. It is not likely to be sustainable to assess and evaluate every outcome, every year, so a phased approach is recommended.
- o Implementation of the Assessment Plan is the responsibility of all faculty and staff associated with the program, with the current department chair managing its development.
- o Consultation can take place among the faculty body as appropriate, and departments and programs can get assistance from the Office of Institutional Effectiveness, particularly the research staff in developing missions, goals, outcomes, tables, graphs, etc. and in the evaluation of assessment results.
- o The implementation process will differ from program to program but each component of the Assessment Plan should be addressed.
- o It would be advisable to develop an assignment chart that accounts for each component in the Assessment Plan. In this way all faculty in the department and program would be responsible for participation in the Assessment Plan.
  - ▪ Who will manage the data
  - ▪ Who will evaluate which outcomes
  - ▪ Who will call the meetings to review the evaluations
- o See Appendix E for the template of the Multi-Year Assessment Plan.

Writing an Assessment Plan: Assessment Activities

A. Methods of Assessment and Criteria for Success:

- Describe the tools that will be used (rubrics, e-portfolios, pre/post tests, course evaluations, analysis of assignments or exams, etc.)
- Describe the focus of the assessments (student learning outcomes, program learning outcomes, teaching effectiveness, relevance of course content, course learning outcome alignment, etc.)
- Describe the methods that will be used for assessment (will than one faculty member participate in the assessment, will an outside faculty member be consulted, will syllabi be collected and reviewed, etc.)
- E-Portfolios

Some tools to use for assessment:
- ❖ Direct and Indirect Measures
- ❖ Key Assignments
- ❖ Rubrics
- ❖ National Exams (ETS)

Direct and Indirect Measures of Assessment

The purpose of outcomes assessment is to improve student learning. There are many ways to collect evidence of student learning and a variety of assessment methods can be used to give feedback to a program in order to answer the question "How well does this program achieve its educational outcomes?" There are basically two types of assessment methods often categorized as direct and indirect measures.

Using a combination of direct and indirect measures is advisable, because they offer complementary information. However, assessment plans MUST include at least one direct measure for each PLO in order to supply credible information for decision-making (Palomba & Banta, 1999). Indirect methods, though helpful in interpreting the findings of direct methods, are not as useful in identifying specific knowledge and skills deficiencies.

Direct Measures Of Assessment:

- *reveal* WHAT student know and can do;
- require students to produce work so that reviewers can assess how well students meet expectations;
- directly observed demonstration of student's work.

Examples:

- Pre and posttests
- Course-embedded assessment (homework assignments [problem sets], essays, locally developed tests, term papers, oral presentations, multiple-choice test questions)
- External examiners or experts/peer review
- Comprehensive exams; exit exams
- National Major Field Achievement Tests
- GRE subject exams
- Certification exams, licensure exams
- Senior thesis or major project
- Portfolio evaluation
- Case studies and simulations
- Reflective journals
- Writing Assignments; technical reports and proposals
- Capstone projects
- Internal/external juried review of performances and exhibitions (poster presentations)
- Performance piece (e.g., musical recital)
- Class project (individual or group)
- Internship and clinical evaluation
- Laboratory Assignments
- Grading with criteria or rubrics
- Classroom Assessment techniques (minute papers)

Indirect Measures Of Assessment:

- are self-reported, self-measured, opinion-based;
- provide opportunities for students to reflect on their learning experiences and inform the reviewers their perceptions of their learning experience (Banta, 2004; Palomba & Banta, 1999);
- *suggest* **WHY** performance was above or below expectations and what might be done to improve the processes of education;
- not as useful in identifying specific knowledge and skills deficiencies.

Examples:

- Classroom Assessment Techniques, such as "muddiest point"
- Department survey, survey of current students
- Survey of faculty members
- Survey of internship supervisors
- Exit interviews
- Survey of alumni
- Survey of employers

- Survey of transfer institutions
- Focus groups
- Job placement statistics
- Graduation and retention rates
- Percentage of students who study abroad
- Student records

Key Assignments for Assessment

Faculty at PLNU collect evident of assessments linked to outcomes. Direct assessment data is shared, analyzed, and used to inform changes in curriculum. The faculty collects program data from student assignments that will provide direct evidence achieving the PLOs. Identification of one assignment in each course, known as a "key assignment", is commonly used to determine the achievement of identified learning outcomes. Faculty in the program determines the key assignment and how it will be assessed. These assignments address one or more learning outcomes of the program.

Resources:
http://www.Callutheran.edu/assessment/student_learning_outcomes/SignatureAssignments.php
http://www.csun.edu/coe/doctorate/docs/Rubric_SignatureAssignment.doc
http://www.aacu.org/aacu_news/aacunews11/april11/feature.cfm.

Rubrics

A rubric is a fairly simple measurement tool that is used to rate student performance against a set of criteria. The criteria are usually a basic rating scale, such as the three-point scale: Above Average—Average—Below Average or a four-point scale: Highly Developed, Developed, Emerging, Initial. We use rubrics to simplify the scoring of student performances for two basic reasons. First, a rubric is usually very easy to complete, which makes it more likely for a faculty member to use within an already busy course. Second, a rubric provides information about students at a fairly global level, which is an appropriate level of analysis for assessing broad goals.

There are two main types of rubrics—holistic and analytic.

Holistic rubrics are overall ratings of student ability within a goal area. In a holistic rubric the overall assignment or product is scored as a whole without reviewing the individual parts. Use holistic rubrics when some inaccuracies are acceptable. Problem-solving ability can be scored holistically using one rating to represent the student's overall achievement. In the example below, a student's assignment in problem solving could be assessed using the Holistic Rubric for Problem Solving. The student's assignment would be given a score of 0 to 5. If you scored the assignment as a 3, you would not know which of the requirements of the task had

not been included. You would only know that some element was missing. Holistic rubrics are summative, they give an overall score.

Example:

Holistic Rubric for Problem Solving	
Score	Description
5	Demonstrates complete understanding of the problem. All requirements of task are included in response.
4	Demonstrates considerable understanding of the problem. All requirements of task are included.
3	Demonstrates partial understanding of the problem. Most requirements of task are included.
2	Demonstrates little understanding of the problem. Many requirements of task are missing.
1	Demonstrates no understanding of the problem.
0	No response/task not attempted.
	Nitko (2001)

When to use a Holistic Rubric: Use a holistic rubric when you don't need to know the details of the task, only the degree to which the task was completed. Using a holistic rubric is very quick especially when you want to get a fast sense of what the student can do. This might be appropriate for placing students in selected sections of mathematics or writing course.

Analytic rubrics separate student performances into separate subcategories, each with its own rating. A writing sample could be rated for technical accuracy, creativity, organization, etc. Analytic rubrics provide a more fine-grained look at student performance, but they take more time. Holistic rubrics are quick but do not allow for further analysis of subcomponents within an achievement area.   Analytic rubrics allow for deeper analysis of the subcomponents of the elements. Using an analytic rubric within an electronic tool also gives you the possibility of determining the degree to which certain standards have been met. These standards can be externally imposed standards, such as standards for accreditation, or internal standards, such as standards for institutional learning outcomes.

Example: (See the Rubric for a Student-Centered Syllabus on page 36.)

Developing rubrics:

A basic rule of thumb for developing rubrics is to begin simply (using more holistic ratings) and allow the rubric to evolve into a more detailed, analytic rubric over time. Once a holistic rubric is in use, you can decide where you need finer-grained information to evaluate and strengthen your programs. Some basic steps for designing a rubric are given below.

Step 1—Consult the professional literature or the Office of Institutional Effectiveness to identify existing rubrics. Many rubrics are already in use in a variety of subject areas and some of these have been refined using professional standards and empirical research. It makes a lot of sense to use these, at least as models, in designing our own rubrics.

Step 2—Adapt an existing rubric to match our program. It would be a mistake to adopt an externally created rubric without comparing it against our specific program goals. The Modern Language Association may have a model statement on written communication, but this does not necessarily equate to our own program goals in this area.

Step 3—Determine rating scale and descriptors. The number of rating points within a scale is not a critical factor, particularly since these levels can be modified as the rubric evolves. It is a good idea to start with the end result in mind: What levels of information do we need to evaluate a program? It may be that a simple two-point scale is sufficient, as in "Does the student meet the competency in this area—Yes, No?" The descriptors should be clear and easy to understand. Generic descriptors like "Highly Developed," "Developed," and "Emerging," and "Initial" are clear and easy to differentiate.

Step 4—Calibrate the rubric. Before any "real" data are collected, the rubric should be calibrated in real-life situations. Calibration will help you to see if the rubric is formatted in a convenient way and whether there is confusion over how to use it. This feedback can be used to revise the rubric, which should now be ready for use. (See Glossary for definition of Calibration.)

Step 5—Refine the rubric, as needed. Even though calibration will correct preliminary problems with a rubric, the rubric should continue to evolve over time to suit the needs of the program. A holistic rubric may become more analytic as new levels of analysis are added. Generic descriptors may become more specifically tailored to a goal area if the program believes this would make the rubric more useful and meaningful.

Resources:
 North Carolina State University Assessment Resources

 Association of American Colleges and Universities

http://www.anokaramsey.edu/about/Information/Assessment/Intro.aspx

http://www.teachervision.fen.com/teaching-methods-and-management/rubrics/4524.html

Adapted from: Anoka-Ramsey Community College, Cambridge, MN.

The Office of Institutional Effectiveness has many rubrics on file. It is often easier to use rubrics which has been used and tested than to create your own rubric. It is also possible to tweak existing rubrics for your own use.

Rubric for a Student-Centered Syllabus

Syllabus Element	Emerging	Developed	Highly Developed
Course Goals/Objectives	Repeats course description in catalog.	Course description includes a description of the instructor's intentions (i.e. course goals). May not include brief reference to the course's larger program/department context.	Course description, prerequisites, themes & purpose of course in relation to department/program described. Clear list of goals matched to both the course outcomes & program/department outcomes & goals.
Student Learning Outcomes (SLOs)	Syllabus contains a category for SLOs. Instructor indicates generally what the students are expected to do. SLOs may not be measurable or connected with assignments.	Syllabus contains SLOs expressed in active verbs indicating precisely what is expected of students in measurable terms; some assignments/key course activities are connected to the outcomes.	Syllabus contains SLOs expressed in active verbs indicating precisely what is expected of students in measurable terms. Relevant skills & knowledge are specified, & assignments, assessments & key course activities (discussion or labs sections) are connected (aligned) to the outcomes. SLOs are related to program goals and learning outcomes.
Contact information	Basic contact information provided. Office hours may be indicated or in TBA form.	Multiple avenues for contact provided, including for TAs. Office hours indicated and students encouraged to attend or to make appointment.	Students encouraged to attend instructor & TA office hours to gain learning benefits. Office hours scheduled to reach maximum number of students, appointments encouraged. Multiple avenues for contact provided.
Class Policies	Includes brief description of course policies/expectations.	Policies/expectations described to communicate & clarify student responsibilities. May include rationale describing relationship to learning goals.	Course policies/expectations of central importance to creating effective learning environments are described as is their connection to student learning outcomes/success.
Academic Integrity Policy	Campus policy is referenced or outlined briefly.	Campus policy outlined & includes some description of its meaning with respect to learning or its application in this specific course.	Campus policy outlined & its importance to learning articulated. Specific descriptions of its application with respect to course work/ learning outcomes included.
Disability Services Information	The campus policy is provided.	The campus policy is provided. Students with needs are urged to contact disabilities services and the instructor.	Campus policy provided with language making clear that course is inclusive of all students & richer for this inclusion. Students with needs are urged to contact disabilities services & the instructor in order to support their achievement of learning outcomes.
Course schedule/ Assignments/Resources & Library Information	List of key topics &/or assignments/assessments by date.	Daily or weekly topics, assignments & assessments are articulated by date. Some but not all are clearly linked to learning outcomes. Library resources referenced.	Course calendar outlined. Includes key topics, assignments & assessments, and other important course work clearly linked to learning outcomes. Specific information about Library resources and access to databases provided.
Assessments/Grading Policy	Provides brief description of criteria for final grade.	Includes description of the relative contributions assignments, assessments, & other course activities to overall grade & policies governing final grade assignments.	Final grade is linked to achievement of learning outcomes and includes some description of what student success looks like (ex. rubric). Includes description of the relative contributions assignments, assessments, & other course activities to overall grade.

ADVANCING TEACHING & LEARNING

Karen Dunn-Haley & Laura E. Martin, WASC ARC 2009

B. Summary of Data Collected:

- Measure Learning Outcomes and Collect Assessment Data
- What measures did you use for assessing student academic outcomes in the department or program?
- In what setting or settings did this analysis and subsequent reflection on the information you received take place?
- What methods did you use to analyze the data you gained?
- In what setting or settings did this analysis and subsequent reflection on the information you received take place?
- What results did your analysis yield?
- What did you learn?
- In what ways do your students demonstrate in their culminating experiences the broad reach of a liberal arts education, keeping in mind that our goals are to:
    - Cultivate autonomous thinkers with the ability for creative/critical thinking;
    - Development of a set of competencies in writing, quantitative reasoning, and oral communication;
    - Develop an intellectual community, consisting of working, learning and supportive relationships with peers and professors.

C. Analyze the Assessment data, review results and conclusions

- Describe how assessment and evaluation results will be discussed with department and program faculty, staff, and students to determine if action is required.
- Summaries of the assessments and any actions taken should be presented in the Annual Assessment Report and unresolved issues should be revisited in future reports (as well as in the periodic Program Review.)
- Describe the system for managing the assessment data on a central computer or shared network and provide documentation on how to access the data.

D. Determine improvements, revisions, and planned changes to the curriculum and the program based on assessment information

- Describe any improvements your program has made in the past 12 months as a results of your assessment efforts;
- Describe how the results of the assessments were disseminated and to whom
- What is the program's process for reviewing the results? What is your process for discussing the implications of the results?

- o Based on your findings, what do you plan to do now?
- o If applicable – discuss program modifications, changes and timeline for implementation of changes.
- o Also, if applicable – discuss any budgetary implication(s) resulting from the program modifications or changes
- o How have you factored what you, as a department or program, have learned back into the curriculum? That is, what are your feedback mechanisms?
    - o Findings presented in the Assessment Report should be discussed with program faculty, staff and students to determine if action is required.
    - o Actions taken can be included in the following year reports and in the periodic Program Review.

E. Obtain Student Involvement in creating and using measurement tools

o Getting students involved in the assessment process allows the student to see the intentionality in your curricular design. Their participation is a valuable learning tool that continues with them throughout their lives.

F. Ensure that syllabi include course learning outcomes (CLOs)

- o Every syllabus will include the course learning outcomes. Some departments also include the program learning outcomes in order to provide the student with a structure for the place of the course in the overall curriculum.
- o These syllabi should be submitted to your department chair/school dean (or their assistant) at the beginning of every semester.

G. Ensure that all assignments in the course align to the course learning outcomes

- o Every assignment that you assign to students should correspond to a learning outcome for the course.
- o All materials required should also align to the CLOs for the course.

Resources:
Occidental College, 11/5/2010, Institutional Research & Assessment Group, *Assessment Packet*.

Glossary

Alignment: Alignment means that curriculum is coherent; it has a common framework that provides linkages to curriculum, instruction/learning experiences and assessment. An example of an alignment tool is a curriculum map.

Annual Assessment Report: see pp. 10 - 11 for description of the Annual Assessment Report.

Assessment: "Assessment is not an end in itself but always a means to one of two desirable ends: (a) improvement of individual or program performance or (b) confirmation of existing practice." (Mary Allen, Assessing General Education Programs, 2006, p. 122)

Authentic Assessment – "The concept of model, practice, or feedback in which students know what excellent performance is and are guided to practice an entire concept rather than bits and pieces in preparation for eventual understanding. . . . The goal of authentic assessment is to gather evidence that students can use knowledge effectively and be able to critique their own efforts."

Embedded Assessment – sometimes called curriculum-embedded or learning-embedded assessment – Assessment that occurs simultaneously with learning such as projects, portfolios and "exhibitions." Occurs in the classroom setting, and, if properly designed, students should not be able to tell whether they are being taught or assessed.

Formative Assessment – Evaluation of what students know or are able to do on a given task and which identifies the part of the task that the students does not know or is unable to do. Formative assessments are on-going assessments, reviews, and observations in a classroom. These assessments are used to improve instruction and give students feedback throughout the learning process. For example, to achieve an ILO to communicate effectively, PLNU requires a General Education course in writing. As the students learn in these courses they are given feedback on their writing in order for them to improve. Results from the formative assessment are used to modify or validate the instructional process.

Summative Assessment – Evaluation at the conclusion of a unit or units of instruction or an activity to determine or judge student skills and knowledge or effectiveness of a plan or activity. Summative assessments are used to determine the effectiveness of the instructional program or learning process. The goal is to make a judgment of the student's competency after instruction has taken place. For example, at the end of the student's time at the university they may be given a writing exam to determine to what degree they have achieved the ILO of communicating effectively. Results from the summative assessment are used to determine if the students have mastered specific learning outcomes and to identify areas in the curriculum that need additional attention.

Performance-based Assessment – Stiggins defines performance-based assessment as the use of performance criteria to determine the degree to which a student has met an achievement target. (from Richard J. Stiggins, *"The Key to Unlocking High-Quality Performance Assessment." Assessment: How do we know what they know?* ASCD, 1992.)

Calibration of the Rubric:

What is calibration of a rubric: Calibration of a rubric takes place in a training process where the rubric, samples of the work, and scoring sheets are available.

Process:

1. Describe the purpose of the activity, stressing how it fits into program assessment plans. Explain that the purpose is to assess the program, not individual students or faculty, and describe ethical guidelines, including respect for confidentiality and privacy.

2. Describe the nature of the products that will be reviewed, briefly summarizing how they were obtained.

3. Describe the scoring rubric and its categories. Explain how it was developed.

4. Analytic: Explain that readers should rate each dimension of an analytic rubric separately, and they should apply the criteria without concern for how often each score (level of mastery) is used. Holistic: Explain that readers should assign the score or level of mastery that best describes the whole piece; some aspects of the piece may not appear in that score and that is okay. They should apply the criteria without concern for how often each score is used.

5. Give each scorer a copy of several student products that are exemplars of different levels of performance. Ask each scorer to independently apply the rubric to each of these products, writing their ratings on a scrap sheet of paper.

6. Once everyone is done, collect everyone's ratings and display them so everyone can see the degree of agreement. This is often done on a whiteboard, with each person in turn announcing his/her ratings as they are entered on the board. Alternatively, the facilitator could ask raters to raise their hands when their rating category is announced, making the extent of agreement very clear to everyone and making it very easy to identify raters who routinely give unusually high or low ratings.

7. Guide the group in a discussion of their ratings. There will be differences. This discussion is important to establish standards. Attempt to reach consensus on the most appropriate rating for each of the products being examined by inviting people who gave different ratings to explain their judgments. Raters should be encouraged to explain by making explicit references to the rubric. Usually consensus is possible, but sometimes a split decision is developed, e.g., the group may agree that a product is a "3-4" split because it has elements of both categories. This is usually not a problem. You might allow the group to revise the rubric to clarify its use but avoid allowing the group to drift away from the rubric and learning outcome(s) being assessed.

8. Once the group is comfortable with how the rubric is applied, the rating begins. Explain how to record ratings using the score sheet and explain the procedures. Reviewers begin scoring.

9. If you can quickly summarize the scores, present a summary to the group at the end of the reading. You might end the meeting with a discussion of five questions:

   o Are results sufficiently reliable?

   o What do the results mean? Are we satisfied with the extent of students' learning?

   o Who needs to know the results?

   o What are the implications of the results for curriculum, pedagogy, or student support services?

   o How might the assessment process, itself, be improved?

(University of Hawaii, Manoa, http://manoa.hawaii.edu/assessment/howto/rubrics.htm)

Why calibrate a rubric: Calibrate a rubric to obtain reliable assessment data. The validity of the rubric and the resulting assessment depends in part on the validation of the rubric scores.

When do you calibrate a rubric: This should be done every time a new group of assessors will use the rubric to assess the work.

Direct vs. Indirect Measures of Assessment:

Direct Assessment reveals what students know and can do; requires students to produce work so that reviewers can assess how well students meet expectations; directly observed demonstration of student's work.

Indirect Assessment is self-reported, self-measured, opinion-based; provides opportunities for students to reflect on their learning experiences and inform the reviewers their perceptions of their learning experience (Banta, 2004; Palomba & Banta, 1999);Assessments that supplement and enrich what faculty learn from direct assessment studies, such as alumni surveys, employer surveys, satisfaction surveys and interviews. (Assessing Academic Programs in Higher Education by Mary J. Allen.) Indirect assessment is not as useful in identifying specific knowledge and skills deficiencies.

Goals, Objectives, Learning Outcomes:

o *Goals* state what you, your colleagues or your institution aim to achieve. They can describe aims outside the teaching and learning process as well as within it. The academic side of PLNU may have a goal to offer high-quality educational programs, PLNU may have a goal to encourage students to engage in community service, and you, personally, may have a goal to complete some research this year, your department may have a goal to sponsor a regional conference and the Advancement Department may

have a goal to raise $$$ this year (Suskie, 2009, p. 116.) (I won't commit them to a dollar amount.)

- o **_Objectives_**: Linda Suskie in _Assessing Student Learning_ describes objectives as detailed aspects of goals, like the tasks to be accomplished to achieve the goal – the <u>means to the end</u>, the process leading to the outcome (p. 117.) Objectives are used more in service and support units and often describe the quality of activities or services. Objectives are the assignments and activities that will ultimately align to the learning outcomes.

- o **_Learning outcomes:_** Learning outcomes are the <u>end rather than the means</u>. Learning outcomes describe what a student will be able to KNOW, UNDERSTAND or be able TO DO at the end of a course. "How will the student be different as a result of taking your course?" The learning outcomes are "the knowledge, skills, attitudes, and habits of mind that students will take with them from a learning experience" (Linda Suskie, **Assessing Student Learning**, 2009, p. 117.) They may be stated in terms of expected knowledge, skills or attitudes. These outcomes must be consistent with the mission of the department, college, and university. (**Assessing Academic Programs in Higher Education** by Mary J. Allen)

  - ▪ _Student Learning Outcomes_ – What students will know, understand or be able to do as a result of their educational experience. At PLNU we use the term "Student Learning Outcomes" in the broadest sense to describe the entire process of creating learning outcomes.
    Institutional Learning Outcomes (ILOs) – broad, over-arching learning outcomes that describe what our graduates will know, understand or be able to do.

  - ▪ _School or Department Learning Outcomes (DLOs)_ – broad learning outcomes that describe what our graduates will know, understand or be able to do as a result of their experience in your school or department.

  - ▪ _Program Learning Outcomes (PLOs)_ – learning outcomes at the program or major level. These outcomes are overarching learning outcomes that describe learning obtained across multiple courses in the curriculum. Program student learning outcomes are broad descriptions of what students will be able to know, what they will be able to do, or how they will think about the discipline or approach problem solving after they finish your program. Although these outcomes are broad and general, they must still be written in language that clearly implies a measurable behavior or quality of work.

  - ▪ _Course Learning Outcomes (CLOs)_ – statements of what students are expected to know, understand and be able to do by the time they complete the course. For CLOs it may be easier to communicate the learning outcomes to students in language like: _You will_ instead of the _student will_ – it personalizes the learning for the students. CLOs are more specific learning outcomes that identify learning in an individual course. Course CLOs will be more detailed and specific than program PLOs as they describe the unique skills and knowledge associated with a specific course. However, CLOs should be general enough to provide flexibility and accommodate

variation in specific content as the field evolves over time. For example, a CLO might state that student will be able to describe contemporary models and theories within a specialty area. Omission of the specific models and theories to be described allows an instructor to add newly-emerging theories and models without rewriting the CLOs for the course.

CLOs should be clearly related to course topics, assignments, exams, and other graded work.

Key assignment: The assignment in the course which will assess the particular learning outcome(s). These assignments may be formative and/or summative. Sometimes the key assignments are also called signature assignments.

Portfolio Assessment: A systematic and organized collection of a student's work that exhibits to others the direct evidence of a student's efforts, achievements, and progress over a period of time. Each part of the portfolio may be individually scored or the portfolio may be evaluated as a whole. Established criteria are often used by reviewers, often in the form of a rubric.

Program: A program is a major or major/minor within a department or school.

Rubric: A set of scoring criteria used to determine the value of a student's performance on assigned tasks. The criteria are written so students are able to learn what must be done to improve their performance in the future. They can be used to classify virtually any product or behavior, such as essays, research reports, portfolios, works of art, recitals, oral presentations, performances, and group activities. Rubrics can be used to provide formative feedback to students, to grade students, and/or to assess courses or programs. (Mary Allen, 2010). See also p. 31.

What is the difference between holistic and analytic rubrics?

- *Holistic rubrics* assess student work as a whole; one global, holistic score for a product or behavior. There is no scoring of the individual parts or components.
- *Analytic rubrics* assess components of the student work; separate scoring of the individual parts or components of a product or behavior.

Which one is better?
- **I**t depends:
    o Holistic Rubrics: Use a holistic rubric if errors in some part of the process are o.k. as long as the overall quality is good;
    o Analytic Rubrics: Use an analytic rubric
- How many faculty are scoring the product – the extra detail in an analytic rubric will help multiple graders emphasize the same criteria.

Triangulation of Evidence: Triangulation identifies multiple lines of evidence pointing to the same conclusion. It refers to the collection and comparison of data or information from three different sources or perspectives.

Value-added vs. Absolute Learning Outcomes:
- *Value-added Learning Outcomes* – State that students will improve. Value-added learning outcomes describe the increase in learning that occurs during a course, program, or undergraduate education. These learning outcomes require a baseline measurement for comparison, such as a pre-test/post-test or a similar mechanism.
- *Absolute Learning Outcomes*- Absolute Learning Outcomes state that students will be competent, so pre/post test data analysis is not necessary.

Validity and Reliability:
- *Reliability* – relates to the consistency of your measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. In short, it is the repeatability of your measurement. A measure is considered reliable if a person's score on the same test given twice is similar. It is important to remember that reliability is not measured, it is estimated.
  There are two ways that reliability is usually estimated: test/retest and internal consistency.
- *Validity* – is the strength of our conclusions, inferences or propositions. Does the test measure what it purports to measure? In short, were we right? The extent to which certain inferences can be made from test scores or other measurement. The degree to which they accomplish the purpose for which they are being used.

  Example: For a test to be valid, or truthful, it must first be reliable. If we cannot get a bathroom scale to give us a consistent weight measure, we certainly cannot expect it to be accurate.

The definitions in this Basic Vocabulary were derived from several sources, including:

Allen, Mary J. *Assessing Academic Programs in Higher Education.* Anker Publishing Co., Inc., 2004.

Assessment Terminology: A Glossary of Useful Terms from New Horizons for Learning. New Horizons, 6/09/09. (http://www.newhorizons.org/strategies/assess/terminology.htm)

http://course1.winona.edu/lgray/el626/MandEtext3.html

http://psychology..georgetown.edu/resources/researchmethods/research/8304.html

http://www.socialresearchmkethods.net/tutorial/Colosi/lcolsi2.htm

Selected Assessment Terms and Definitions. California State University, Northridge, 6/09/09. http://www.csun.edu/assessment/aalc.html

Stiggins, *"The Key to Unlocking High-Quality Performance Assessment." Assessment: How do we know what they know?* ASCD, 1992.

Suskie, Linda. Assessing Student Learning, 2nd edition. Jossey-Bass, 2009.

Appendices

Appendix A: The Nichols Model

This attachment is from institutional effectiveness consultant, Jim Nichols', visit to PLNU during the spring semester, 2000.

The Nichols Model of Assessment was adopted by PLNU in 2001 as the framework that would guide the assessment activity of the university. This model includes an Expanded Institutional Purpose, the vision, mission, core values and institutional learning outcomes as adopted by PLNU. The Expanded Institutional Purpose is reviewed from time to time, generally on an as-needed basis. Then each school/department and support unit develops their intended learning outcomes, aligned with the institutional learning outcomes. Assessment activity of the learning outcomes takes place in each unit and the school/department and support unit will collect feedback from these assessment activities. A critical component of the Nichols Model of Assessment is the use of results. These results will inform institutional adjustments, to program activities, budgets, personnel, etc. Each school/department or support unit then continues with program assessment, following the model again.
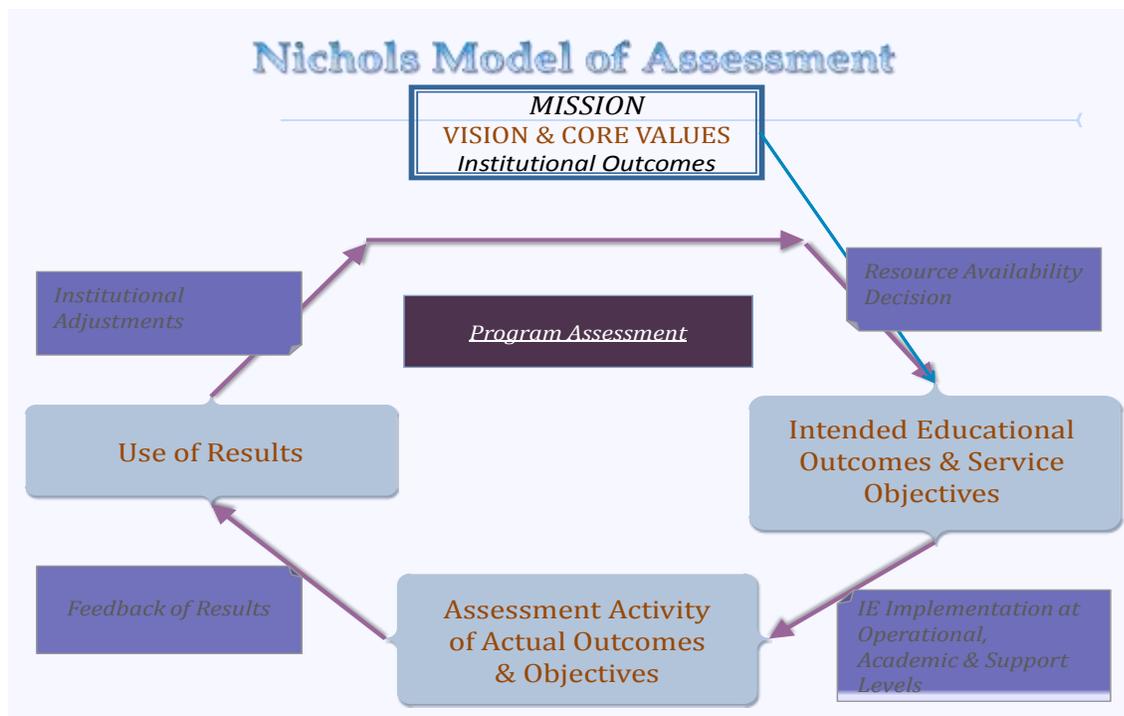
Appendix B: Annual Assessment Report Filing Guidelines (Adopted in 2004)

Annual Assessment Report

Every department and school must submit an Annual Assessment Report to its Dean each year by June 1. A copy of the report is also submitted to the Office of Institutional Effectiveness. This report summarizes progress in carrying out the Department/School assessment plan, analyzing key findings, and making program improvements.

The Annual Assessment Report should use the following format:

(Name of Program)

Annual Assessment Report

Department/School:

Assessment period: (academic year)

Assessment Plan Description:

1. **Expanded Statement of Purpose or Program Mission Statement:** *This section includes the program mission statement or expanded statement of purpose.*

2. **Program Learning Outcomes (PLOs):** *In this section list all the learning outcomes for the program. Keep in mind that these are the PLOs that will be submitted for catalog copy. (Where possible, show alignment to PLNU Institutional Learning Outcomes [ILOS]).*

3. **Curriculum Map:** *This section identifies where the learning outcomes align with the curriculum (where students encounter opportunities in the curriculum to gain knowledge and skills pertinent to the designated outcomes, I= Introduce, D=Developed, M=Mastered).*
Please include supporting documentation.

4. **Multi-Year Assessment Plan:** *This section identifies the learning outcomes and the years in which they will be assessed. Please attach appropriate documents(s). If you have not yet created this Multi-Year Assessment Plan, please let the Office of Institutional Effectiveness know – we can schedule a session for you at the beginning of the Fall, 2011 semester. This is not a long process and will be completed very quickly.*

Assessment Activities: *This section will be completed annually for each PLO measured during*

this Academic Year (as described in your Multi-Year Assessment Plan).

5. **Methods of Assessment and Criteria for Success:** *This section describes how student*

    learning was assessed for each PLO during this Academic Year (AY) according to your

    Multi-Year Assessment Plan.

    How do you know students are learning and to what degree you have been successful.
    What measures were used, direct and/or indirect? Also attach copies of any rubrics that
    were used.
    When was the assessment conducted and by whom?
    What were the criteria for success, the performance targets selected for each learning
    outcome assessed this Academic Year.

    Please attach any necessary documents.

6. **Summary of Data collected:** *This section should discuss the results of the assessment*

    process for the designated SLO.

    - *What information/data was collected?*
    - *How was it data analyzed?*

7. **Use of Results:** How did you use what you learned from assessment of your PLO? *If*

    everything went as planned – have a party! If it didn't go as planned, then ***Close the***

    Loop*. This section should include the following information:*

    - *Describe any improvements your program has made in the past 12 months as*
      a results of your assessment efforts;

    - *Describe how the results of the assessments were disseminated and to whom*

    - *What is the program's process for reviewing the results? What is your*
      process for discussing the implications of the results?

    - *Based on your findings, what do you plan to do now?*

    - *If applicable – discuss program modifications, changes and timeline for*
      implementation of changes.

    - *Also, if applicable – discuss any budgetary implication(s) resulting from the*
      program modifications or changes.

Appendix C: Rubric to Assess the Annual Assessment Reports (2011)

Annual Assessment Report Rubric

	Initial (1 pt)	Emerging (2 pts)	Developed (3 pts)	Highly Developed (4 pts)
Intent of Program in Mission Statement (15, 15%)	Statement of program purpose is missing.	Statement of program purpose is too general to distinguish the unit and could apply to any program.	There is a clear statement of program purpose but lacks disciplinary uniqueness.	There is a clear and concise statement of program purpose. Identifies what program does that separates it from other units.
Definition of PLOs (15, 15%)	PLOs do not identify what students will know, understand or do to demonstrate learning.	One or two of the PLOs identify what students will know, understand or be able to do to demonstrate learning at the completion of the program.	Most PLOs developed and reflect what students will know, understand or be able to do to demonstrate learning at the completion of the program.	All PLOs are developed and reflect what students will know, understand or be able to do to demonstrate learning at the completion of the program.
Alignment of PLOs to Mission Statement (10, 10%)	PLOs fail to align to the department mission statement.			The program outcomes align to the department mission statement.
Development of PLOs (20, 20%)	Learning outcomes are primarily at the lowest cognitive level on Bloom's Taxonomy (e.g. knowledge or remembering).	Learning outcomes are at lower levels of mastery (understanding or applying)	Learning outcomes cover several levels of mastery (applying and analyzing) but do not include the higher cognitive levels	Program learning outcomes cover multiple levels of mastery which lead to the highest cognitive level (evaluating and creating)
Alignment of courses to PLOs on a curriculum map (20, 20%)	No curriculum map presented.	All PLOs are not aligned to courses in a curriculum map. The curriculum map does not present a cohesive curriculum.	PLOs aligned to courses, but levels of mastery (I, D, M) of each outcome do not lead to a cohesive curriculum.	Mastery levels (I, D, M) of each outcome presented in a curriculum map and progression throughout the curriculum is described leading to a cohesive curriculum.
Multi-Year, sustainable assessment plan (20, 20%)	The report does not include a multi-year, sustainable assessment plan.	Included with the report is a yearly plan that is not sustainable, without a timetable for implementation.	A multi-year assessment plan is included, but is too difficult to sustain.	A multi-year, sustainable assessment plan has been developed.

Assessment Activities

	Initial (1 pt)	Emerging (2 pts)	Developed (3 pts)	Highly Developed (4 pts)
Methods of Assessment (10, 10%)	Program has not identified instruments or measurement tools to assess student learning outcomes	Identification of measurement tools are incomplete, vague, or in early stages of development	Assessment methods are articulated, and may need further development to be more meaningfully and consistently applied.	Assessment methods are clearly articulated and identify instruments to be used to assess the PLOs.
Criteria for Success (10, 10%)	Performance targets or other expectations missing.	Descriptions of performance targets unclear or not developed at varying levels.	Several performance targets developed at varying levels.	Targets of student performance included at varying levels (entry, during, and at program completion.)
Direct of Indirect Measures (10, 10%)	Program does not collect either direct or indirect measures of student learning	Program collects indirect measures of student learning (i.e. surveys, focus groups.)	Several direct and indirect measures are used but each learning outcome does not have at least one direct measure	Both direct and indirect measures are used. There is at least one direct measure for each learning outcome.
Collection of Evidence (15, 15%)	It is not clear that faculty collect potentially valid evidence for the learning outcomes examined this year.	Faculty have reached general agreement on the types of evidence to collect for the learning outcomes.	Faculty collect relevant and sufficient evidence for each outcome.	Faculty pilot-test and refine the relevant evidence for each outcome and share them with students.
Analysis of results (15, 15%)	Results (data tables or other means) are not included in the report	Results (data tables or other means) are included but unclear or missing key data. Analysis not included in this report.	Results clearly described for each line of evidence in summary formats and quantitative or qualitative measures defined at a beginning level. Analysis weak or incomplete.	Results clearly analyze each line of evidence and refer to the measures of success. Analysis is developed and leads to conclusions.
Conclusions, Implications and Recommendat (15, 15%)	Report identifies implications but no recommendations for improvement of curriculum or assessment practices.	Report identifies some conclusions, implications, recommendations for improvements in curriculum or assessment, but the claims are vague or questionably related to results	Report clearly articulates conclusions, implications and recommendations for improvement regarding student learning and assessment which may be drawn from results.	Report articulates a well-reasoned critique of conclusions, implications, and recommendations that could be drawn from the results for student learning and assessment.
Planning Change "Closing the Loop" (15, 15%)	The department makes no use of data collected to evaluate its courses or programs.	Results may be discussed by limited number of faculty, recommendations may be difficult to implement due to lack of convincing results and/or limited faculty involvement or support.	Results have been discussed by relevant faculty and recommendations likely to be implemented due to faculty involvement and support and quality of assessment work.	The department faculty provides ideas for redesigning learning outcomes, instruction, or assessment and explains why these modifications would improve student learning.
Activities or Resources Needed (10, 10%)	Requests for additional resources not tied to achievement of program learning outcomes.			Department faculty explicitly offer rationale for additional activities or resources, staffing, needed to achieve program learning outcomes.

Appendix D: BLOOM'S TAXONOMY (Bloom's Classification of Cognitive Skills)

 "The Taxonomy of Educational Objectives, created by Benjamin Bloom and David Krathwohl in the 1950s, is a means of expressing qualitatively different kinds of thinking" (Bloom, 1956.) This taxonomy has been updated by Anderson and Krathwohl in 2001. They describe "four types of knowledge: factual, conceptual, procedural, and metacognitive" (Gahagan, et al, 2010, p. 13.) The model was designed to assist educators in identifying the type of knowledge most appropriate for the course. For example, should the students be able to recall, understand or use the knowledge that they have gained (Gahagan, et al, p. 13-14.) As you create your learning outcomes Bloom's Taxonomy can be helpful in moving students from recall to synthesis, guiding them through different levels of learning.

Bloom's Classification of Cognitive Skills

- Student learning outcomes for a degree program will encompass several levels of learning, from the acquisition of facts to the ability to think critically and solve problems. Each statement of a student learning outcome should include a **VERB** that represents the level of learning that is expected.
- Bloom's levels of cognitive skills are provided in the table below, along with definitions for each skills, and related behaviors. The terms can be used to create student learning outcomes that tap into each of the ability levels.

Category	Definition	Related Behaviors
Knowledge	recalling or remembering something without necessarily understanding, using, or changing it	define, describe, identify, label, list, match, memorize, point to, recall, select, state
Comprehension	understanding something that has been communicated without necessarily relating it to anything else	alter, account for, annotate, calculate, change, convert, group, explain, generalize, give examples, infer, interpret, paraphrase, predict, review, summarize, translate
Application	using a general concept to solve problems in a particular situation; using learned material in new and concrete situations	apply, adopt, collect, construct, demonstrate, discover, illustrate, interview, make use of, manipulate, relate, show, solve, use
Analysis	breaking something down into its parts; may focus on identification of parts or analysis of relationships between parts, or recognition of organizational principles	analyze, compare, contrast, diagram, differentiate, dissect, distinguish, identify, illustrate, infer, outline, point out, select, separate, sort, subdivide
Synthesis	relating something new by putting parts of different ideas together to make a whole.	blend, build, change, combine, compile, compose, conceive, create, design, formulate, generate, hypothesize, plan, predict, produce, reorder, revise, tell, write
Evaluation	judging the value of material or methods as they might be applied in a particular situation; judging with the use of definite criteria	accept, appraise, assess, arbitrate, award, choose, conclude, criticize, defend, evaluate, grade, judge, prioritize, recommend, referee, reject, select, support

Additional Links Related to Bloom's Taxonomy
http://www.coun.uvic.ca/learn/program/hndouts/bloom.html

http://faculty.washington.edu/krumme/guides/bloom.html

http://www.utexas.edu/student/utlc/handouts/1414.html

http://www.apa.org/ed/new_blooms.html

Verb List for Student Learning Outcomes – Six Levels of Learning

According to Bloom's taxonomy, there are six levels of learning: knowledge, comprehension, application, analysis, synthesis, and evaluation. The following is a list of verbs for use when creating student learning outcome statements:

> To measure **knowledge** (common terms, facts, principles, procedures), ask these kinds of questions: Define, Describe, Identify, Label, List, Match, Name, Outline, Reproduce, Select, State. Example: "List the steps involved in titration."

> To measure **comprehension** (understanding of facts and principles, interpretation of material), ask these kinds of questions: Convert, Defend, Distinguish, Estimate, Explain, Extend, Generalize, Give examples, Infer, Predict, Summarize. Example: "Summarize the basic tenets of deconstructionism."

> To measure **application** (solving problems, applying concepts and principles to new situations), ask these kinds of questions: Demonstrate, Modify, Operate, Prepare, Produce, Relate, Show, Solve, Use. Example: "Calculate the deflection of a beam under uniform loading."

> To measure **analysis** (recognition of unstated assumptions or logical fallacies, ability to distinguish between facts and inferences), ask these kinds of questions: Diagram, Differentiate, Distinguish, Illustrate, Infer, Point out, Relate, Select, Separate, Subdivide. Example: "In the president's State of the Union Address, which statements are based on facts and which are based on assumptions?"

> To measure **synthesis** (integrate learning from different areas or solve problems by creative thinking), ask these kinds of questions: Categorize, Combine, Compile, Devise, Design, Explain, Generate, Organize, Plan, Rearrange, Reconstruct, Revise, Tell. Example: "How would you restructure the school day to reflect children's developmental needs?"

> To measure **evaluation** (judging and assessing), ask these kinds of questions: Appraise, Compare, Conclude, Contrast, Criticize, Describe, Discriminate, Explain, Justify, Interpret, Support. Example: "Why is Bach's Mass in B Minor acknowledged as a classic?"

Recommendation: Write questions that test skills other than recall. Research shows that most tests administered by faculty rely too heavily on students' recall of information (Milton, Pollio, and Eison, 1986). Bloom (1956) argues that it is important for tests to measure higher-learning as well. Fuhrmann and Grasha (1983, p. 170) have adapted **Bloom's taxonomy** for test development.

Many faculty members have found it difficult to apply this six-level taxonomy, and some educators have simplified and collapsed the taxonomy into three general levels (Crooks, 1988): The first category is knowledge (recall or recognition of specific information). The second category combines comprehension and application. The third category is described as "problem solving," transferring existing knowledge and skills to new situations.

Action Verb List – Suggested Verbs to Use in Each Level of Thinking Skills
- Below are terms (verbs) that can be used when creating student learning outcomes for a course or degree program.

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Count	Associate	Add	Analyze	Categorize	Appraise
Define	Compute	Apply	Arrange	Combine	Assess
Describe	Convert	Calculate	Breakdown	Compile	Compare
Draw	Defend	Change	Combine	Compose	Conclude
Identify	Discuss	Classify	Design	Create	Contrast
Labels	Distinguish	Complete	Detect	Drive	Criticize
List	Estimate	Compute	Develop	Design	Critique
Match	Explain	Demonstrate	Diagram	Devise	Determine
Name	Extend	Discover	Differentiate	Explain	Grade
Outlines	Extrapolate	Divide	Discriminate	Generate	Interpret
Point	Generalize	Examine	Illustrate	Group	Judge
Quote	Give examples	Graph	Infer	Integrate	Justify
Read	Infer	Interpolate	Outline	Modify	Measure
Recall	Paraphrase	Manipulate	Point out	Order	Rank
Recite	Predict	Modify	Relate	Organize	Rate
Recognize	Rewrite	Operate	Select	Plan	Support
Record	Summarize	Prepare	Separate	Prescribe	Test
Repeat		Produce	Subdivide	Propose	
Reproduces		Show	Utilize	Rearrange	
Selects		Solve		Reconstruct	
State		Subtract		Related	
Write		Translate		Reorganize	
		Use		Revise	
				Rewrite	
				Summarize	
				Transform	
				Specify	

See also Gahagan, Jimmie, J. Dingfelder, and Pei, K., 2010. *A Faculty and Staff Guide to Creating Learning Outcomes*. University of South Carolina, National Resource Center for the First-Year Experience & Students in Transition, pp. 13 – 18.