

# *Western Carolina University*

## Handbook For Program Assessment in Administrative/Educational Support Units

September 2007 edition

Created by:  
Melissa Canady Wargo, Director  
Office of Assessment  
[wargo@wcu.edu](mailto:wargo@wcu.edu)  
828.227.3084

# **Handbook for Program Assessment**

## **Guidelines and Procedures for Development and Implementation**

The purpose of this handbook is to provide administrative and educational support units a resource for developing and implementing effective program assessment plans. The handbook provides an overview of the assessment process at Western Carolina University and basic reference materials for program staff in developing meaningful and manageable missions, goals, outcomes, and assessment measures. Any feedback on this handbook and its contents is welcome and should be directed to the Office of Assessment at [assessment@wcu.edu](mailto:assessment@wcu.edu) or 828.227.3084.

# Table of Contents

Chapter 1: Introduction to Program Assessment	
Purpose of Program Assessment.....	2
Best Practices in Program Assessment .....	3
Common Language of Assessment.....	5
Additional References.....	7
Chapter 2: Assessment at Western Carolina University	
Role of the Office of Assessment .....	9
WCU Assessment Processes.....	11
Chapter 3: Preparing for Program Assessment	
Staff Involvement.....	14
Creating effective processes .....	15
Additional Reference .....	16
Chapter 4: Mission and Goal Statements	
Formulating Mission/Purpose Statements .....	18
Defining Program Goals .....	20
Additional References.....	21
Chapter 5: Program Outcomes	
Formulating Outcomes.....	23
Domains of Learning .....	25
Action Verbs Associated with Domains of Learning .....	27
Taxonomy of Issues for Program/Process Outcomes .....	29
Additional References.....	31
Chapter 6: Assessment Methods	
Types of Measures .....	33
Developing and Using Rubrics .....	35
Developing and Using Surveys.....	37
Developing and Using Portfolios.....	39
Additional References.....	41
Appendices:	
Appendix A: Assessment Plan Template.....	43
Appendix B: Outcomes Delivery Matrix .....	45
Appendix C: Assessment Report Template .....	47
Appendix D: Assessment Plan Feedback Rubric.....	49
Appendix E: Assessment Report Feedback Rubric .....	52
Appendix F: Assessment Library Holdings.....	54

# Chapter 1

## Introduction to Program Assessment

## **Purpose of Program Assessment**

The purpose of program assessment is to **improve** programs or services. In an administrative and/or educational support context, program assessment involves the continuous, systematic process of collecting and analyzing data and using that information to improve **program services and/or business processes**. In other words, **what will students, faculty, staff, community, etc. gain from our services or processes and how do we know that we have accomplished those aims.**

### *Benefits of a Systematic Program Assessment Process*

- Identify program strengths/weaknesses
- Inform financial decisions based on unit priorities
- Provide information to constituents on the quality of the services provided
- Ensure continuous improvement of services and processes

### *What program assessment is NOT intended to be*

- A tool for personnel evaluation
- Strategic planning
- Optional
- The job of one staff member
- A meaningless bureaucratic exercise
- A waste of time

## **Best Practices in Program Assessment<sup>1</sup>**

### **1. The assessment of unit services or business processes begins with institutional values and priorities**

Assessment is not an end in itself but a vehicle for improvement. Its effective practice, then, begins with and enacts a vision of the kind of institution we hope to be and what we most value for our constituents (students, faculty, staff, community, etc.). Institutional mission and priorities should drive not only what we choose to assess but also how we do so. Where questions about institutional mission and priorities are skipped over, assessment threatens to be an exercise in measuring what is easy, rather than a process of improving what we really care about.

### **2. Assessment works best when the units it seeks to improve have clear, explicitly stated purposes.**

Assessment is a goal-oriented process. It entails comparing performance with institutional purposes and expectations--these derived from the institution's mission, from strategic priorities, and from external mandates. Where unit purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how unit goals will be delivered and used. Clear, shared, implementable goals are the cornerstone for assessment that is focused and useful.

### **3. Assessment works best when it is ongoing, not episodic. Assessment is a process whose power is cumulative.**

Though isolated, "one-shot" assessment can be better than none, improvement over time is best fostered when assessment entails monitoring progress toward intended goals in a spirit of continuous improvement. Along

---

<sup>1</sup> Adapted from *Principles of Good Practice for Assessing Student Learning* by Alexander W. Astin; Trudy W. Banta; K. Patricia Cross; Elaine El-Khawas; Peter T. Ewell; Pat Hutchings; Theodore J. Marchese; Kay M. McClenney; Marcia Mentkowski; Margaret A. Miller; E. Thomas Moran; Barbara D. Wright.

the way, the assessment process itself should be evaluated and refined in light of emerging insights.

**4. Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.**

Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about. This implies assessment approaches that produce evidence that relevant parties will find credible, suggestive, and applicable to decisions that need to be made. It means thinking in advance about how the information will be used, and by whom. The point of assessment is not to gather data and return "results"; it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.

**6. Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.**

Assessment alone changes little. Its greatest contribution comes on campuses where the quality of services is visibly valued and worked at. On such campuses, the push to improve services and processes is a visible and primary goal of leadership; improving unit services and processes is central to the institution's planning, budgeting, and personnel decisions. On such campuses, assessment of outcomes is seen as an integral part of decision making, and avidly sought.

**7. Through assessment, unit directors meet responsibilities to campus constituents and to the public.**

There is a compelling public stake in institutions of higher education. To that end, we have a responsibility to the publics that support or depend on us to provide information about the ways in which we meet our goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation--to ourselves, our students, and society--is to improve. Those to whom we are accountable have a corresponding obligation to support such attempts at improvement.

## Language of Assessment

Like many professional activities, the practice and scholarship of assessment has a terminology specific to its aims and shared by its practitioners. It is important that all involved in assessment activities have a common understanding of what different terms mean in an assessment context. Below is a list of terms and definitions that allows us to ‘speak the same language’ when discussing program assessment activities.

<u>Assessment Instrument:</u>	A tool designed to measure the extent to which an outcome has been achieved.
<u>Assessment Method:</u>	A systematically designed process to gather information related to a specified outcome.
<u>Assessment Plan:</u>	Document that outlines what will be assessed and how and when the assessment will occur. Assessment plans contain the program mission, goals, expected outcomes, and assessment methods.
<u>Assessment Report:</u>	Document that summarizes the results of assessments during a specified period and outlines what actions will be taken as a result of those assessments. An assessment report contains the outcomes assessed, a summary of assessment results, a summary of how the results were disseminated and the proposed improvements for program services or processes.
<u>Data:</u>	A series of facts or indicators that provide information about program services or processes.
<u>Goals/Objectives:</u>	General, overarching statements about what a program hopes to accomplish.

<u>Matrix:</u>	A template within which assessment information can be framed and developed.
<u>Mission/Purpose:</u>	A brief, concise statement that articulates the purpose of the program.
<u>Outcome:</u>	<b>Observable/Measurable</b> statement of the desired output of a program
<u>Student Learning Outcome</u>	Statement of what students should know, think, or be able to do upon completion of the program
<u>Program/Process Outcome</u>	Statement of what a program intends to do, achieve, or accomplish through certain activities or experiences; i.e., what a program provides or accomplishes for its students, faculty/staff or institution.
<u>Rubric:</u>	A rating guide used in assessment to provide an explicit description of the service or process being measured. A rubric defines the expected qualities of service on a pre-determined rating scale.

## **Additional References:**

Banta, Trudy W., & Palomba, C. (1999). *Assessment Essentials*. San Francisco: Jossey-Bass.

Banta, Trudy W. (2004). *Hallmarks of Effective Outcomes Assessment*. San Francisco: John Wiley and Sons.

Bender, B., & Schuh, J. (2002). *Using Benchmarking to Inform Practice in Higher Education*. San Francisco, CA: Jossey-Bass.

Boulmetis, J., & Dutwin, P. (2005). *The ABCs of Evaluation Timeless Techniques for Program and Project Managers*. (2nd. ed.). San Francisco, CA: Jossey-Bass.

Bresciani, M. (2006). *Outcomes-Based Academic and Co-Curricular Program Review*. Sterling, VA: Stylus Publishing, LLC.

Driscoll, A. & Wood, S. (2007). *Developing Outcomes-based Assessment for Learner-centered Education*, (1<sup>st</sup>. ed.). Sterling, VA: Stylus Publishing, LLC.

Kezar, A., Hirsch, D., & Burack, C. (Eds.). (2002). *Understanding the Role of Academic and Student Affairs Collaboration in Creating a Successful Learning Environment* (No. 116). San Francisco, CA: Jossey-Bass.

Kuh, G. Kinzie, J., Schuh, J., & Whitt, E. (2005). *Assessing Conditions to Enhance Educational Effectiveness: The Inventory for Student Engagement and Success*. San Francisco, CA: Jossey-Bass.

Kuh, G. Kinzie, J., Schuh, J., Whitt, E. & Associates (2005). *Student Success in College: Creating Conditions that Matter*. San Francisco, CA: Jossey-Bass.

Schuh, J., Lee, M., & Associates (2001). *Assessment Practice in Student Affairs: An Applications Manual*. San Francisco, CA: Jossey-Bass.

Schwartz, P., & Webb, G. (2002). *Assessment: Case Studies, Experience and Practice fro Higher Education*. Sterling, VA: Stylus Publishing Inc.

# Chapter 2

## Assessment at Western Carolina University

## **Role of the Office of Assessment**

### **Overview:**

The Office of Assessment at Western Carolina University was established in spring of 2006 as part of an overall campus commitment to continuous quality improvement of institutional programs and curricula. In an effort to expand the campus focus on assessment activities and to reinforce the importance of the assessment function as an academic priority the office was separated from University Planning and situated within the Office of the Provost and Vice Chancellor for Academic Affairs. Both offices, however, will continue to complement and support the other in promoting overall issues related to planning and institutional effectiveness. The Office of Assessment, specifically, will be responsible for providing support services to all campus units in their program assessment efforts.

Currently, the Office of Assessment consists of a director and an administrative assistant. In addition, the Office of Assessment staff will be supported by a planning and assessment analyst located in the Office of University Planning. This individual will be responsible for providing technical and analytical support related to campus assessment activities, as necessary. The director, Melissa Canady Wargo, has over twelve years of experience in institutional assessment, research, and planning. Most recently, she was Director of Assessment at Texas Christian University in Fort Worth, TX where she was responsible for the establishment of an institutional Office of Assessment. In that position, she provided oversight for all academic assessment activities, program review, and was a key staff person in the University's SACS reaffirmation process. Prior to TCU, Melissa was Coordinator of Assessment at the University of Texas at Arlington and Coordinator of Institutional Research and Assessment at Oklahoma State University in Oklahoma City. In her position as Director of Assessment here at Western Carolina University, Melissa will establish an accessible, client-based office whose key role will be to support to all campus units in their assessment efforts.

## **Office of Assessment Mission Statement:**

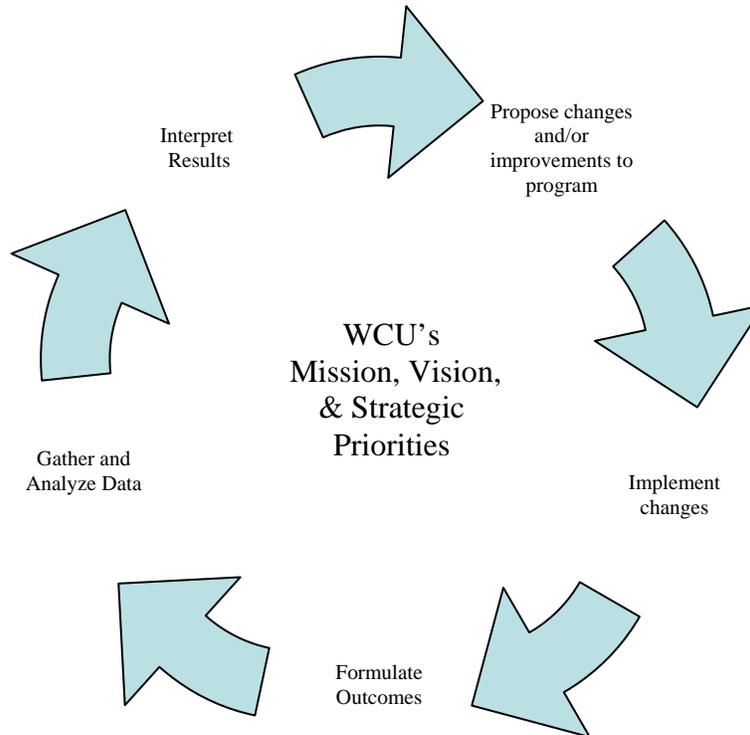
*The Office of Assessment at Western Carolina University serves to promote excellence in student learning, educational practices and quality of service by establishing and maintaining a campus culture of self evaluation and improvement all levels of the institution. The Office provides leadership and support to the campus community in efforts to demonstrate that the University is fulfilling its institutional mission and to enhance Western Carolina University as a community of scholarship.*

## **Primary Functions of the Office of Assessment:**

- To coordinate and support an ongoing, systematic program of institutional evaluation and assessment of student achievement, and facilitate the incorporation of the findings into the planning and accreditation processes;
- To work with academic and administrative programs to develop and implement outcomes assessment plans in order to improve programs and services at all institutional levels;
- To engage the campus community in a dialogue about assessment through a variety of avenues, including workshops, presentations, development and maintenance of an assessment website, and service on campus committees; and
- To publish assessment research and maintain an active role in professional organizations.

## WCU Assessment Processes

Program assessment at WCU is situated in an iterative 5-year cycle that is integrated with program review and other institutional processes related to planning and budgeting. This type of iterative cycle is graphically represented below.



At the beginning of the cycle, programs are required to produce a comprehensive program assessment plan (see Appendix A) that includes the following components:

- Program mission/purpose statement
- Articulation of how the program mission/purpose aligns with the college and institutional mission and vision
- Overarching program goals/objectives
- Intended outcomes (student learning and process/performance outcomes, if applicable).

- For each outcome, identification of courses/activities/experiences associated with outcome delivery. A separate template can be used (see Appendix B).
- For each outcome, articulation of intended method of assessment. If a learning outcome, must include at least one direct measure of student learning. Programs will be strongly encouraged to utilize multiple measures, both direct and indirect, that incorporate evaluation of student work products, attitudes, behaviors, satisfaction and/or perceptions.

On an annual basis, programs are required to identify and assess at least one intended outcome. The annual assessment report (see Appendix C) will contain the following components:

- Intended outcome statement identified for assessment
- Summary of assessment methods/measures to include brief explanation of methodology, persons responsible for data collection and analysis, and a summary of assessment results.
- A description of the process used to disseminate assessment results to key stakeholders and summary of changes or improvements proposed based on assessment results.
- A brief description of the plan and timeline for implementing the proposed change(s) and any resources needed to implement the proposed change(s), using existing resources already in place, reallocating existing resources from other areas, or allocation of new funds.

Deans/Directors are required to collect all assessment plans and annual reports and provide initial feedback prior to submission to the Office of Assessment. Dean feedback is submitted to the Office of Assessment with all completed plans or reports. The Office of Assessment provides substantive feedback (see Appendix D and E) after receipt of assessment plans or reports, requesting revisions as necessary. Office of Assessment also provides an annual report to the Office of the Provost summarizing institutional assessment activities and an evaluation of institutional assessment processes.

# Chapter 3

## Preparing for Program Assessment

## **Staff Involvement**

Program assessment at its most effective requires the participation of ALL staff. It is recommended that each program appoint an assessment committee, designate an existing committee to assume the assessment responsibilities, or use the entire program staff as a committee-of-the-whole. If a committee assumes the planning and assessment responsibilities, it should report the recommendations to the entire unit. There are two primary requirements to ensure that program assessment is effective, manageable, and meaningful.

1. A commitment to initiate and support the process
2. A willingness by staff to use assessment results for decision making and, ultimately, program improvement

The Office of Assessment works with program staff to provide resources to assist with assessment efforts. The Assessment office provides consultation in developing outcome statements and assessment methods as well as facilitating the supply of information such as University statistics and survey research. The Office of Assessment also maintains an extensive assessment library available to the University community (see Appendix F). Publications on assessment are available in the Assessment Library located in H.F.R. Administration Bldg., Room 450.

## Creating Effective Processes

Planning for program assessment is imperative in order to ensure that the critical needs of the program are being met and that assessment activities provide meaningful data for the least cost in terms of staff time/effort and program resources. Program assessment must incorporate the following inclusive processes in order to be effective and meaningful in the long term:

- A process for developing program goals and objectives
- A process for developing intended outcomes and assessment measures
- A process for implementation of the assessment measures (who, what, when, and where)
- A process for sharing assessment results and ensuring those data are incorporated in other programmatic activities such as planning and budgeting.

## Additional References:

Banta, Trudy W., & Palomba, C. (1999). *Assessment Essentials*. San Francisco: Jossey-Bass.

Banta, Trudy W. (2004). *Hallmarks of Effective Outcomes Assessment*. San Francisco: John Wiley and Sons.

Huba, Mary E. & Freed, Jann E. (2001). *Learner-Centered Assessment on College Campuses: Shifting the focus from teaching to learning*. Needham Heights, MA: Allyn Bacon Publishers.

Maki, Peggy L. (2004). *Assessing for Learning: Building a sustainable commitment across the institution*. Sterling, VA: Stylus.

Voorhees, Richard A. (Ed.) (2001). *New Directions for Institutional Research: Measuring what matters, competency based learning models in higher education*. San Francisco: Jossey-Bass.

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

# Chapter 4

## Mission and Goal Statements

## Formulating Mission/Purpose Statements

### *Why do we need a mission/purpose statement?*

Mission/purpose statements are often derided as trite, coffee-cup slogans with little or no value in programmatic or curricular activities. This is a common misconception about the role of mission/purpose statements in the assessment process. Mission/purpose statements should be the guiding philosophy of ALL programmatic activities. Such statements, if thoughtfully developed, provide the foundation which supports all other aspects of program assessment.

Mission/purpose statements clarify the *raison d'être* of the program to all stakeholders (faculty, staff, students, alumni, employers, potential donors, etc.), allowing programs to focus their resources and efforts on issues that are critical to the mission.

### *What is a mission/purpose statement?*

All programs at WCU must have a clearly articulated mission/purpose statement. The mission/purpose statement must be a distinctive description of the program that identifies what the program is, what it does, and for whom it does it.

### *Characteristics of a Well-Defined Mission/Purpose Statement:*

- Brief, concise, distinctive
- Clearly identifies the program's purpose
- Clearly aligns with the mission of the division and the University
- Explicitly articulates the essential functions/activities of the program
- Clearly identifies the primary stakeholders of the program; i.e., students, faculty, parents, etc.

### *General Format of Program Mission/Purpose Statement:*

“The mission (purpose) of the [insert name of program] is to [insert primary purpose] by providing [insert essential functions/activities of the program].”

***Examples of Well-Defined Program Mission/Purpose Statements:***

*“University Career Services, an integral part of the educational process, assists students and alumni in assessing their career possibilities, setting their personal goals and achieving their objectives toward becoming productive citizens in the global community. While assisting its clients in identifying professional employment opportunities, University Career Services also provides the university community with insights into the ever-changing world of work to help develop realistic ways to better educate tomorrow’s leaders.” (Texas Christian University)*

*“The primary purpose of the Office of Academic Advising is to assist students in the development and implementation of their educational plans. To this end the Office of Academic Advising subscribes to the philosophy of developmental advising; advising is a cooperative effort between advisor and student that consists not only of course planning and selection, but the development of the person as a whole. This includes the selection of career and life-long goals.” (University of La Verne)*

## Defining Program Goals

In a few brief, succinct statements state the overarching goals of the program, particularly as they relate to student learning or the desired results of programming or services. Program goals are generally broadly stated and focus on the long-term objectives of the program.

### *Characteristics of Well-Defined Program Goals*

- Clearly related to the program's mission/purpose
- Reflective of program priorities in the long-term
- Represent a consensus of staff aspirations for the program
- Focus on the core characteristics of program participants
- Widely disseminated to all program stakeholders

### *Writing Program Goals*

- Focus on a handful of goal statements; less than 5 is best
- Describe the actions of the program in facilitating the acquisition of certain skills, knowledge or attitudes
- Use a general format for the goal statement such as “to [insert action verb] [insert object] [insert modifiers]”

### *Examples of Program Goals*

“To provide accurate academic and career information.”

“To serve our constituents - faculty, staff, and students –by disseminating, sharing and applying knowledge.”

“To help students develop college-appropriate studying techniques and habits.”

## Additional References:

Banta, Trudy W., & Palomba, C. (1999). *Assessment Essentials*. San Francisco: Jossey-Bass.

Banta, Trudy W. (2004). *Hallmarks of Effective Outcomes Assessment*. San Francisco: John Wiley and Sons.

Huba, Mary E. & Freed, Jann E. (2001). *Learner-Centered Assessment on College Campuses: Shifting the focus from teaching to learning*. Needham Heights, MA: Allyn Bacon Publishers.

Voorhees, Richard A. (Ed.) (2001). *New Directions for Institutional Research: Measuring what matters, competency based learning models in higher education*. San Francisco: Jossey-Bass.

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

# Chapter 5

## Student Learning/Program Outcomes

## Formulating Outcomes

### *What is an outcome?*

A student learning outcome (SLO) is a specific, measurable statement of **what a student should know, be able to do, or value** when they complete a program, course or sequence of courses/experiences/activities. A SLO focuses on **specific behaviors, attitudes, abilities**, etc. that a student will demonstrate or possess as a result of instruction or other programmatic activity. All academic support programs at WCU are required to include SLOs in their program assessment plans.

A program/process outcome is focused on what the **program intends to do, accomplish or achieve**. A program/process outcome focuses on reporting issues common to academic support units such as **access, climate, productivity, accountability, affordability, technology, student preparation**, etc.

### *Characteristics of a Well-Defined Outcome (think SMART<sup>2</sup>)*

- **Specific**; outcomes should be specific to your program and should be stated in clear, definitive terms.
- **Measurable**; outcomes must be stated in terms that are clearly measurable either quantitatively or qualitatively. The use of action verbs in outcome statements can maintain a focus on measurability. Sample action verbs can be found below. In addition, programs should consider whether data collection for a particular outcome is reasonable and feasible given program resources.
- **Attainable**; programs should consider the reality of what they hope to achieve. outcomes should be a reasonable statement of what the program can contribute in terms of student skills, knowledge and abilities. Know **your** students and **your** program!
- **Results-oriented**; Outcomes should focus on the end result rather than an action to be implemented or provided by the program. Outcomes should be clearly stated in terms of what exactly a student should know, be able to do, or value or the desired result of the programming or service.

---

<sup>2</sup> Adapted from University of Central Florida Program Assessment Handbook (2004)

- **Time-bound;** outcomes should be framed in such a way that they can be measured within a time period over which the program has some control.

### *Anatomy of a Outcome Statement*

In an outcome statement the focus must be on the student and what s/he will know, do, or value or on what the desired or intended result of the program or service. Possible formats of outcome statements are as follows:

1. Students (participants) will [insert action verb] [describe expected skill, knowledge or value].
2. Graduates (participants) are able to [insert action verb] [describe expected skill, knowledge or value].
3. Students (participants) will demonstrate the ability to (or knowledge of) [insert action verb] [describe expected skill, knowledge or value].
4. To [insert action verb] and [describe the activity and desired result of the program/project/service].

### *Examples of Student Learning Outcome Statements*

1. Students receiving advising services will be able to identify and utilize campus communication resources.
2. Students participating in a coop or internship opportunity will value the importance of work-related experience prior to graduation.
3. Students who participate in career counseling will be able to define the next step(s) in their career development process.

## Domains of Learning

### *What types of skills/knowledge are appropriate for SLOs?*

The most effective way to develop specific learning outcomes is to use a taxonomy of learning domains. These types of matrices provide a standardized framework on which to structure your SLOs. By far, the most well-known and utilized of these taxonomies is Bloom's Taxonomy of Educational Objectives<sup>3</sup> which was first developed in 1956. Bloom's taxonomy recognizes three domains of educational objectives: cognitive, skills, and affective.

### *Cognitive Learning:*

<u>Cognitive Domain</u>	<u>Description</u>
Knowledge	Mastery of subject material; includes observation and recall of information; knowledge of dates, events, places; knowledge of major ideas
Comprehension	Ability to predict consequences and future trends; includes understanding information; grasp of meaning; translating knowledge into new contexts; interpreting, comparing and contrasting material; ordering, grouping and inferring causes
Application	Ability to solve problems using required knowledge/skills; includes using information material, methods, concepts, theories, etc. in new situations
Analysis	Ability to break down material and recognize structure of organization; includes seeing patterns; organization of parts, recognition of hidden meanings, identification of components
Synthesis	Ability to use old ideas to create new ones; includes generalizing from given facts, relating knowledge from several areas, predicting and drawing conclusions
Evaluation	Ability to judge and assess value of material; includes comparing and discriminating between ideas; assessing value of theories, presentations, etc., making choices based on reasoned argument; verifying value of evidence, recognizing subjectivity

<sup>3</sup> Bloom, B., Englehart, M., Furst, E., Hill, W., and Krathwohl, D. (1956). *Taxonomy of Educational Objectives: Cognitive Domain*. New York: David McKay.

***Affective Learning:***

<u>Affective Domain</u>	<u>Description</u>
Receiving	Awareness; willingness to participate
Responding	Actual participation in learning activity; demonstrates interest
Valuing	Attaching value or worth to object, person, activity, phenomenon
Organization	Prioritizing values; comparing and contrasting values to build new value system
Characterization by value	Modifies behavior based on new value system

***Skill-based Learning:***

<u>Skill Domain</u>	<u>Description</u>
Perception	Use of sensory organs to guide actions
Set	Readiness to act
Guided Response	Imitation; knowledge of steps required to complete task
Mechanism	Ability to repeat complex motor skill
Complex Overt Response	Display complex movement with skilled performance
Adaptation	Modifies motor skill to address changed situation
Origination	Creates new movement pattern in changed situations

## Action Verbs Associated with Types of Learning

It is helpful to use specific actions verbs associated with the various learning domains in the construction of meaningful learning outcomes. Use of these verbs helps to explicitly articulate what you expect a student to demonstrate in the course of learning outcomes assessment.

<b><u>Learning Domain</u></b>	<b><u>Examples of Action Verbs</u></b>
Knowledge	Articulate, describe, define, name, indicate, order, recognize, know, repeat, memorize, label, tabulate, quote, etc.
Comprehension	Discuss, explain, interpret, distinguish, suggest, summarize, understand, translate, classify, contrast, etc.
Application	Apply, investigate, experiment, solve, practice, predict, utilize, develop, illustrate, etc.
Analysis	Analyze, categorize, correlate, inform, infer, prioritize, criticize, differentiate, examine, interpret, etc.
Synthesis	Arrange, collect, compose, assemble, compile, create, design, formulate, organize, manage, propose, validate, etc.
Evaluation	Rate, conclude, appraise, evaluate, judge, defend, grade, assess, etc.
Receiving	Identify, select, choose, describe, etc.
Responding	Recite, discuss, present, answer, etc.
Valuing	Describe, explain, differentiate, join, share, etc.
Organization	Order, arrange, combine, integrate, synthesize, generalize, etc.
Characterization by Value	Qualify, practice, listen, influence, share, propose, etc.

<b><u>Learning Domain</u></b>	<b><u>Examples of Action Verbs</u></b>
Perception	Identify, detect, describe, isolate, etc.
Set	Respond, show, react, display, etc.
Guided Response	Construct, manipulate, assemble, etc.
Mechanism	Build, fix, organize, work, calibrate, etc.
Complex Overt Response	Manipulate, measure, mix, dismantle, etc.
Adaptation	Alter, revise, change, vary, etc.
Origination	Compose, construct, design, etc.

## Taxonomy of Issues for Program/Process Outcomes<sup>4</sup>

**Access:** Broadly defined, reporting on participation (student, faculty, staff), affirmative action, immigration, program/resource availability, accessibility.

**Accountability:** Overall institutional and program specific quality, assessment policies, performance indicators (e.g., persistence, time-to-degree, degree completion, job placement rates), governance activities, and system/process reform strategies.

**Affordability:** Costs to students/family, sources, adequacy of financial aid, family income and ability to pay, students education-related indebtedness, loan default rates.

**Climate:** Racial/Ethnic and gender relations, sexual harassment, crime, speech code.

**Educational Effectiveness/Quality:** Review of the relationship of instructional content to College-School-Department Goals, place of instruction, time of instruction, workforce-preparedness, and who teaches, sponsors, or credentials, and assesses.

**Facilities and Equipment:** Condition of space, capital investment, tech upgrades, deferred maintenance.

**Faculty:** Workloads (volume and nature), reward systems, tenure, compensation, relations of faculty research to state and local needs, distribution of full/part time, diversity, faculty development.

**Financial Support:** Trends in sources and amounts of revenues, cost of instruction, privatization, total-costs of programs/curriculum/instruction, level and composition of private/state/federal funding for research, indirect-cost recovery, performance-based funding.

**Student Preparation:** Remediation needs and intervention efficacy, admissions standards, secondary-postsecondary linkages, teacher preparation.

---

<sup>4</sup> Adapted from Michael Patton Quinn: *Utilization Focused Evaluation*, Sage, 1997.

**Productivity:** Program/activity duplication, cost savings, efficiency studies, academic & administrative program reviews/cost-benefit analysis, incentive program outcomes.

**Technology:** Learner access and productivity, investment costs, impact on current policies review, organizational structure impacts, financing and accounting procedures/mechanisms, instructional support services review, personnel, curriculum and credentialing relationships, impacts on course content, instructional methods accounting, role of faculty, employment skills.

## Additional References:

Banta, Trudy W., & Palomba, C. (1999). *Assessment Essentials*. San Francisco: Jossey-Bass.

Banta, Trudy W. (2004). *Hallmarks of Effective Outcomes Assessment*. San Francisco: John Wiley and Sons.

Bloom, B., Englehart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of Educational Objectives: Cognitive Domain*. New York: David McKay.

Gronlund, N. (2000). *How to Write and Use Instructional Objectives, 6<sup>th</sup> ed.* New Jersey: Prentice Hall.

Harrow, A. (1972). *A Taxonomy of the Psychomotor Domain*. New York: David McKay.

Huba, Mary E. & Freed, Jann E. (2001). *Learner-Centered Assessment on College Campuses: Shifting the focus from teaching to learning*. Needham Heights, MA: Allyn Bacon Publishers.

Krathwohl, D. & Masia, B. (1964). *Taxonomy of Educational Objectives: Handbook II, Affective Domain*. New York: David McKay.

Maki, Peggy L. (2004). *Assessing for Learning: Building a sustainable commitment across the institution*. Sterling, VA: Stylus.

Voorhees, Richard A. (Ed.) (2001). *New Directions for Institutional Research: Measuring what matters, competency based learning models in higher education*. San Francisco: Jossey-Bass.

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

Dalton, J., Russell, T., & Kline, S. (Eds.). (2004). *New Directions for Institutional Research: Assessing Character Outcomes in College* (No. 122). San Francisco, CA: Jossey-Bass.

# Chapter 6

## Assessment Methods

## Types of Assessment Methods

Programs should develop assessment methods that are appropriate to the outcome being assessed. Best practice is to utilize a variety of methods in order to expand the pool of information available for use in the decision-making process. Methods can be considered direct or indirect, quantitative or qualitative. **Assessment of SLOs must incorporate at least one direct measure of actual student learning.** Below are some guidelines and examples of the types of assessment methods that can be used. Following that are some guidelines to developing and using rubrics, surveys, and portfolios.

### *Direct Measures*

Direct measures are those designed to directly measure what a targeted subject knows or is able to do (i.e., requires a subject to actually demonstrate the skill or knowledge) or the effect of programming or intervention. Direct measures utilize actual work products impact data as the basis for evaluation as opposed to indicators of perception or satisfaction. Common direct measures include evaluation of:

- Participation data
- Observation of expressed behavior
- Culminating experiences (e.g. presentation, project, internships, etc.)
- Juried review of projects or performances
- Work samples (e.g., case study responses, research papers, essay responses, etc.)
- Collection of work samples (portfolios)
- Pre- and post-measures
- Surveys (if they are structured to measure learning or impact)

## *Indirect Measures*

Indirect measures are those designed to indirectly discern what a target subject knows or is able to do (i.e., what a subject perceives about his/her skills or knowledge) or the effect or impact of a program or intervention. Indirect measures focus on how a participant perceives their level of learning and/or their satisfaction with some aspect of the program or service. Some examples of indirect measures include:

- Surveys (satisfaction, perception, etc.)
- Exit interviews
- Retention/graduation data
- Demographics
- Focus groups

## Developing and Using Rubrics in Outcomes Assessment

One of the most effective ways to evaluate learning is to use a standardized rubric. A rubric is simply a scoring guide used in assessment to provide an explicit description of the learning or performance being measured. Some of the benefits of using rubrics in outcomes assessment include the following:

- Expected levels of learning or qualities of performance are clearly defined on a pre-determined rating scale.
- Allows program staff to explicitly articulate their criteria to all constituents.
- Facilitates discussion of the results and their ultimate incorporation into decision-making processes regarding programmatic changes.

### *Best Practices for Developing (see template below) and Using Rubrics in Outcomes Assessment*

- Identify the skill/knowledge you are assessing.
- Break down the skill/knowledge into its characteristic parts (e.g., if you are assessing the ability to problem solve determine the ideal steps a student would take to successfully demonstrate their ability to solve a problem).
- Develop a scale that would describe low, intermediate and high levels of performance for each characteristic of the skill/knowledge you are assessing (e.g., Beginning, Developing, Accomplished, Exemplary or Beginning, Competent, Outstanding, etc.).
- Pilot the rubric on with several reviewers and participants and obtain feedback.
- Make assessment rubrics available to participants before completion of project or participation in program services.
- Allow participants to use rubrics in peer and self-assessment exercises.
- Develop process to aggregate results of assessments using standard rubrics; disseminate results to staff and incorporate results into program decision making processes.

## Rubric Template<sup>5</sup>

(Describe here the skill/knowledge this rubric is designed to evaluate)

	Beginning	Developing	Accomplished	Exemplary	Score
	1	2	3	4	
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	
Stated Objective or Performance	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.	

<sup>5</sup> This template was developed by the College of Education at San Diego State University available at [http://edweb.sdsu.edu/triton/july/rubrics/Rubric\\_Template.html](http://edweb.sdsu.edu/triton/july/rubrics/Rubric_Template.html).

## **Developing and Using Surveys in Outcomes Assessment**

Surveys are often employed in the assessment of program or process outcomes. These types of instruments, if appropriately designed and administered, can provide a rich data set to inform programs about the effectiveness of their services and programming. Most instances of survey use in outcomes assessment, however, reflect more of a concern with convenience than with developing a tool to ascertain thoughtful student responses about their learning or their satisfaction with the educational process. Below are some tips and strategies for developing and using surveys in outcomes assessment.

### ***Survey Development***

There are six primary elements of design programs should consider when developing a survey for assessment purposes:

1. Target population (e.g., current students, graduating seniors, alumni, employers, etc.)
2. Sampling (e.g., entire population, portion of population that is either randomly or selectively chosen, etc.)
3. Administration (e.g., paper-based, web-based, combination, etc.)
4. Instrument Design (e.g., what to include, type of response options/scale, etc.)
5. Analysis of Data (e.g., application used, who, when, etc.)
6. Management of Responses (e.g., use of results, dissemination of results, confidentiality, etc.)

### ***Best Practices for Survey Use in Outcomes Assessment***

- Survey items should be explicitly derived from the program's goals and intended outcomes.
- Response scales should provoke participants to thoughtfully reflect on the extent of their learning or the effectiveness of the program's services (e.g., avoid items that can be answered in a yes/no format).

- Responsibility for administration and tabulation of survey should be clearly defined and a timeline agreed upon in advance.
- Ensure that your survey instrument and methodology meet all University and IRB requirements for research protocol; for WCU requirements see Policy #51 at:  
<http://www.wcu.edu/chancellor/index/universitypolicy/policy51.html>

## Developing and Using Portfolios in Outcomes Assessment

A portfolio is a longitudinal collection of work samples that demonstrates the extent to which a student/participant has fulfilled the intended outcome. The evaluation of portfolios has become a commonly employed assessment tool in higher education. Portfolios have the advantage of compiling samples of work in a convenient package which can then be evaluated using standardized criteria derived from program goals and outcomes. Moreover, portfolios have the added advantage of providing participants a collection of materials that demonstrate their skills and knowledge to others. Below are some general guidelines for developing and using portfolios in program assessment. Additional resources are included at the end of this chapter.

### *Characteristics of Portfolios Designed to Promote and Assess Learning<sup>6</sup>*

- Participant involvement in the selection of entries
- Participant preparation of written reflections about learning
- Continuing discussion with program staff regarding written reflections

### *Best Practices for Use of Portfolios in Program Assessment*

- Carefully select what you choose to require in a portfolio; be sure that included materials can be used to assess the intended outcomes.
- Communicate clearly to participants what you expect to see in the portfolio in terms of work products and specify the format(s) that are acceptable (e.g., paper, electronic, etc.).
- Develop a standard rubric to use in evaluation of the portfolios and have at least two reviewers for each portfolio.
- Clearly articulate the methodology of collecting and evaluating the portfolios. Address questions of when the portfolio is due, what the consequences are for failing to provide a portfolio, is the portfolio retained

---

<sup>6</sup> Palomba, Catherine and Banta, Trudy W. *Assessment Essentials: Planning, Implementing, and Improving Assessment in Higher Education*. Jossey-Bass Publishers San Francisco: 1999.

in the program office or returned to the participant, and whether the evaluation is for program assessment purposes only or will it be used as part of a program requirement.

- Develop a process for communicating the results of the assessment to the program staff.

## **Additional Resources on Developing and Using Rubrics, Surveys and Portfolios in Learning Outcomes Assessment**

Banta, Trudy W. (Ed.). (2003). *Portfolio Assessment Uses, Cases, Scoring, and Impact: Assessment Update collections*. San Francisco: Jossey-Bass.

Biemer, Paul P. & Lyberg, Lars E. (2003). *Introduction to Survey Quality*. San Francisco: Jossey-Bass.

*Developing Rubrics*. (2003, September 5). Retrieved on March 10, 2006 from Pennsylvania State University Office of Teaching and Learning with Technology website: [http://tlt.psu.edu/suggestions/research/Measure\\_dev.shtml](http://tlt.psu.edu/suggestions/research/Measure_dev.shtml).

Groves, Robert M., Fowler, Floyd J., Couper, Mick P., Lepkowski, James M., Singer, Eleanor, & Tourangeau, Roger. (2004). *Survey Methodology*. San Francisco: Jossey-Bass.

*Guidelines to Rubric Development*. (1999, March 31). Retrieved on March 10, 2006 from San Diego State University College of Education website: [http://edweb.sdsu.edu/triton/july/rubrics/Rubric\\_Guidelines.html](http://edweb.sdsu.edu/triton/july/rubrics/Rubric_Guidelines.html).

Mertler, Craig A. (2001). Designing scoring rubrics for your classroom. *Practical Assessment, Research & Evaluation*, 7(25).

Michelson, E., Mandell, A., et al. (2004). *Portfolio Development and the Assessment of Prior Learning*. Sterling, VA: Stylus Publishing LLC.

Moskal, Barbara M. (2000). *Scoring rubrics: what, when and how?* *Practical Assessment, Research & Evaluation*, 7(3).

Rea, Louis M. & Parker, Richard A. (2005). *Designing and Conducting Survey Research: A comprehensive guide*. San Francisco: Jossey-Bass.

Stevens, Dannelle D. & Levi, Antonia J. (2004). *Introduction To Rubrics: An assessment tool to save grading time, convey effective feedback and promote student learning*. Sterling, VA: Stylus Publishing.

# Appendix A

## Assessment Plan Template

*Western Carolina University*  
*Program Assessment Plan*  
*(Program Name)*  
*Assessment Plan for 200\_ - 20\_\_*

**Primary Contact Name/Info:**

Provide name and contact info for person responsible for submitting program assessment plan.

**Program Mission Statement:**

Brief, concise statement of the department's purpose

**Statement on Alignment of Program Mission w/ University and/or Division Mission:**

Briefly articulate how the program's purpose aligns with the mission and strategic vision of the University and Division.

**Program Goals/Objectives:**

Several brief statements of the overarching goals or long-term objectives of the program.

Intended Outcome	Curricular and/or Co-Curricular Experiences	Method(s) of Assessment
<p>What is the intended or desired effect of your programming or services?</p> <p>What will students know or be able to do upon completion of the program?</p> <p><i>Measurable</i> statement of the desired output or effect upon completion of the program.</p>	<p>How and where will the intended effect of your programming or services be manifested?</p> <p>Where will participants/students acquire the skills and/or knowledge identified in the outcome?</p> <p>If desired, use attached Outcome Delivery Matrix Template.</p>	<p>How will you determine that the programming or services have resulted in the desired effect?</p> <p>How will you know that students know or can do what you expect or that the programming or services you provide are having the intended effect?</p> <p>Methods of assessment must address the outcome directly and identify who will be responsible for implementing the assessment measure, what data will be collected, and when the data will be collected and analyzed.</p>

# Appendix B

## Outcomes Delivery Matrix



# Appendix C

## Assessment Report Template

*Western Carolina University*  
 (Program Name)  
 (College Name)  
 Annual Assessment Report for 200\_-200\_

**Primary Contact Name/Info:**

Provide name and contact info for person responsible for submitting program assessment plan.

<b>Intended Learning Outcome to be Assessed this Cycle</b>	<b>Method(s) of Assessment</b>	<b>Results of Assessment</b>	<b>Implementation Plan</b>
State the outcome(s) that the program has chosen to assess this annual cycle.	Provide a summary of the methods of assessment used to assess the chosen outcome. Note any changes in the assessment measures from the program's official assessment plan.	Results must include a summary of major findings, interpretation of the results, and a description of how the results were disseminated to key stakeholders for discussion.	Identify what programmatic or curricular changes, if any, you will make as a result of the assessment results.  Each recommended action must be specific and relate directly to the outcome and results of assessment. A description of the timeline for action and the person(s) responsible must be included. In addition, please include a brief description of resources that will be critical to implementation of the actions proposed, if applicable.

# Appendix D

## Assessment Plan Feedback Rubric

**Western Carolina University**  
**Program Assessment Plan Feedback Rubric**  
**Plan Years 20\_\_ - 2\_\_**

<b>Assessment Plan Contents</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the plan contain primary contact person and information?			
2. Does the plan clearly indicate the name of the program, the college to which it reports, and the years covered by the plan?			
3. Does the plan provide a concise mission/purpose statement for the program?			
4. Does the plan provide a brief statement of how the program mission aligns with the division and university mission?			
5. Does the plan list the primary program goals/objectives?			
6. Does the plan contain at least 5-7 intended outcomes?			
7. Does the plan provide an outcome delivery narrative or matrix for each outcome statement?			
8. Does the plan contain a summary of the assessment method(s) for each outcome statement?			

<b>Substantive Feedback on Plan Contents:</b>	<b>Comments:</b>
<i>Program Mission Statement:</i>	
1. Is the mission statement clearly written and appropriate for the program?	
2. Is the mission statement reflective of the institutional values/priorities outlined in the division and institutional missions?	
3. Is the statement of alignment between program mission and college/university mission clearly articulated and convincing?	
<i>Program Goals/Objectives:</i>	
1. Does the plan articulate several overarching goals/objectives for the program?	
2. Are those goals/objectives reflective of the program's mission/purpose?	

**Western Carolina University**  
**Program Assessment Plan Feedback Rubric**  
**Plan Years 20\_\_ - 2\_\_**

<b><u>Substantive Feedback on Plan Contents:</u></b>	<b><u>Comments:</u></b>
<i>Each Intended Outcome Statements:</i>	
1. Is the outcome specific, detailed, and, most importantly, stated in measurable terms using appropriate action verbs?	
2. If a learning outcome, does the outcome clearly state what a student should know or be able to do?	
3. If a process/program outcome, does the outcome clearly articulate the intended result or action?	
4. Is the outcome clearly reflective of the program's overarching goals/objectives?	
5. Is the outcome within the capability of the unit to achieve without significant participation at a broader level?	
<i>Assessment Methods:</i>	
1. Does the assessment method(s) emphasize the use of a variety of measures (e.g., quantitative, qualitative, direct, indirect, etc.)?	
2. If tied to a learning outcome, does the method include at least one direct measure of student learning?	
3. Is the method(s) accurately designed for the intended outcome (i.e., will it measure what it is meant to measure)?	
4. Is the "who, what and when" clearly specified for each assessment method? That is, can you tell what data will be collected, from what sources, using what methods, by whom, in what approximate timeframe?	
5. Are the proposed assessments likely to yield relevant information that can be used to make curricular or programmatic changes?	

# Appendix E

## Assessment Report Feedback Rubric

**Western Carolina University**  
**Annual Assessment Report Feedback Rubric**  
**Years 20\_\_ - 20\_\_**

<b>Report Contents:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the report contain primary contact person and information?			
2. Does the report clearly indicate the name of the program, the college to which it reports, and the year covered by the report?			
3. Does the report contain a summary of the assessment method(s) for the outcome assessed?			
4. Does the report contain a summary of the assessment results?			
5. Does the report identify the group(s) who participated in the discussion of the assessment results and proposed changes?			
6. Does the report provide specific recommendations for changes or improvements based on the assessment results?			
7. Does the report specify who will be responsible for implementing the proposed change(s)?			
8. Does the report identify the resources needed to implement the proposed change(s)?			

<b>Substantive Feedback on Report Contents:</b>	<b>Comments:</b>
<i>Assessment Methods/Results:</i>	
1. Does the summary indicate any modifications from the method(s) outlined in the Program Assessment Plan?	
2. Does the summary clearly identify the persons responsible and the procedures employed for data collection and analysis?	
3. Does the summary provide specific details of the results of assessment?	
4. Does the summary identify the extent to which the outcome was achieved?	
5. Does the summary provide a description of the process used to disseminate the results and with whom they were shared?	

**Western Carolina University**  
**Annual Assessment Report Feedback Rubric**  
**Years 20\_\_ - 20\_\_**

<b><u>Substantive Feedback on Report Contents:</u></b>	<b><u>Comments:</u></b>
<i>Proposed Changes or Improvements:</i>	
1. Does the report specifically detail the changes or recommendations proposed in response to the assessment results?	
2. Does the report identify who will be responsible for implementing the proposed change(s)?	
3. Does the report provide a timeline for implementation of the proposed change(s)?	
3. Does the report summarize the assistance needed, if applicable, from other campus divisions to implement the proposed change(s)?	
4. Does the report identify any resources needed to implement the proposed change(s) and from what source those resources might come (i.e., existing resources, reallocation of existing resources, or allocation of new funds)? Are the resources identified directly tied to implementation of the proposed change(s)?	
5. Does the report include a timeline for reevaluation of the outcome assessed?	

# Appendix F

## Assessment Library Holdings

## Assessment Library

Anderson, R., & Speck, B. (Eds.). (1998). *New Direction for Reaching and Learning: Changing the Way We Grade Student Performance: Classroom Assessment and the New Learning Paradigm*. San Francisco, CA: Jossey-Bass.

Angelo, T., (Ed.). (1998). *Classroom Assessment and Research: An Update on Uses, Approaches, and Research Findings*. San Francisco, CA: Jossey-Bass.

Angelo, T., & Cross, P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers* (2<sup>nd</sup> ed.). San Francisco, CA: Jossey-Bass.

Astin, A. (1993). *What Matters in College?*. San Francisco, CA: Jossey-Bass.

Banta, T., & Associates (2002). *Building a Scholarship of Assessment*. San Francisco, CA: Jossey-Bass.

Banta, T. (Ed.). (2004). *Hallmarks of Effective Outcomes Assessment*. San Francisco, CA: Jossey-Bass.

Banta, T., Lund, J., Black, K. & Oblander, F. (1996). *Assessment in Practice: Putting Principles to Work on College Campuses*. San Francisco, CA: Jossey-Bass.

Bender, B., & Schuh, J. (2002). *Using Benchmarking to Inform Practice in Higher Education*. San Francisco, CA: Jossey-Bass.

Berk, R. (2006). *Thirteen Strategies to Measure College Teaching*. (1<sup>st</sup> ed.). Sterling, VA: Stylus Publishing, LLC.

Boulmetis, J., & Dutwin, P. (2005). *The ABCs of Evaluation Timeless Techniques for Program and Project Managers*. (2nd. ed.). San Francisco, CA: Jossey-Bass.

Braskamp, L., & Ory, J. (1994). *Assessing Faculty Work: Enhancing Individual and Institutional Performance*. San Francisco, CA: Jossey-Bass.

Bresciani, M. (2006). *Outcomes-Based Academic and Co-Curricular Program Review*. Sterling, VA: Stylus Publishing, LLC.

Butler, S. & McMunn, N. (2006). *A Teacher's Guide to Classroom Assessment Understanding and Using Assessment to Improve Student Learning*. San Francisco, CA: Jossey-Bass.

Cambridge, B. (2001). *Electronic Portfolios: Emerging Practices in Student, Faculty, and Institutional Learning*. Sterling, VA: AAHE.

- Dalton, J., Russell, T., & Kline, S. (Eds.). (2004). *New Directions for Institutional Research: Assessing Character Outcomes in College* (No. 122). San Francisco, CA: Jossey-Bass.
- Diamond, R. (1998). *Designing & Assessment Courses & Curricula: A Practical Guide*, (2<sup>nd</sup> ed.). San Francisco, CA: Jossey-Bass.
- Driscoll, A. & Cordero, D. (2006). *Taking Ownership of Accreditation*, (1<sup>st</sup>. ed.). Sterling, VA: Stylus Publishing, LLC.
- Driscoll, A. & Wood, S. (2007). *Developing Outcomes-based Assessment for Learner-centered Education*, (1<sup>st</sup>. ed.). Sterling, VA: Stylus Publishing, LLC.
- Grant, J. (Ed.). (1996). *Assessing Graduate and Professional Education: Current Realities, Future Prospects* (No. 92). San Francisco, CA: Jossey-Bass.
- Haswell, R. (Ed.). (2001). *Beyond Outcomes: Assessment and Instruction within a University Writing Program* (Vol. 5). Westport, CT: Ablex Publishing.
- Howard, R., & Borland, K. (Eds.). (2001). *New Directions for Institutional Research: Balancing Qualitative and Quantitative Information for Effective Decision Support* (No. 112). San Francisco, CA: Jossey-Bass.
- Howard, R. (Ed). (2007) *Using Mixed Methods in Institutional Research*. Tallahassee, FL: Association for Institutional Research.
- Huba, M., & Freed, J. (2000). *Learner-Centered Assessment on College Campuses: Shifting the Focus from Teaching to Learning*. Needham Heights, MA: Allyn and Bacon.
- Kezar, A., Hirsch, D., & Burack, C. (Eds.). (2002). *Understanding the Role of Academic and Student Affairs Collaboration in Creating a Successful Learning Environment* (No. 116). San Francisco, CA: Jossey-Bass.
- Knox, A. (2002). *Evaluation for Continuing Education: A Comprehensive Guide to Success*. San Francisco, CA: Jossey-Bass.
- Krueger, R., & Casey, M. (2000). *Focus Groups: A Practical Guide for Applied Research*. (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Kuh, G. Kinzie, J., Schuh, J., & Whitt, E. (2005). *Assessing Conditions to Enhance Educational Effectiveness: The Inventory for Student Engagement and Success*. San Francisco, CA: Jossey-Bass.
- Kuh, G. Kinzie, J., Schuh, J., Whitt, E. & Associates (2005). *Student Success in College: Creating Conditions that Matter*. San Francisco, CA: Jossey-Bass.

- Leigh, B. MacGregor, J., Matthews, R., & Gabelnick, F., (2004). *Learning Communities: Performing Undergraduate Education*. San Francisco, CA: Jossey-Bass.
- Light, R. (2001). *Making the Most in College: Students Speak their Minds*. Cambridge, MA & London, England: Harvard University Press.
- Litten, L., & Terkla, D. (Eds.). (2007). *Advancing Sustainability in Higher Education*. San Francisco, CA: Jossey-Bass.
- Maki, P. (2004). *Assessing for Learning: Building A Sustainable Commitment Across The Institution*. Sterling, VA: Stylus Publishing LLC.
- Martell, K., & Calderon, T., (2005). *Assessment of Student Learning in Business Schools: Best Practices Each Step of the Way*. Tallahassee, FL: Association for Institutional Research and AACSB International.
- Mentkowski, M., & Associates (2000). *Learning That Lasts*. San Francisco, CA: Jossey-Bass.
- Merriam, S & Associates (2002). *Qualitative Research in Practice: Examples for Discussion and Analysis*. San Francisco, CA: Jossey-Bass.
- Michelson, E., Mandell, A., & Contributors (2004). *Portfolio Development and the Assessment of Prior Learning*. Sterling, VA: Stylus Publishing LLC.
- Miller, B. (2007). *Assessing Organizational Performance in Higher Education*. San Francisco, CA: Jossey-Bass.
- Narum, J., & Conover, K. (Eds.). (2002). *New Directions for Higher Education: Building Robust Learning Environments in Undergraduate Science, Technology, Engineering, and Mathematics*. (No. 119) San Francisco, CA: Jossey-Bass.
- Palomba, C., & Banta, T. (1999). *Assessment Essentials: Planning Implementing and Improving Assessment in Higher Education*. San Francisco, CA: Jossey-Bass.
- Pascarella, E., & Terenzini, P. (2005). *How College Affects Students*, (Vol. 2). San Francisco, CA: Jossey-Bass.
- Ratcliff, J., Lubinescu, E., & Gaffney, M. (Eds.,) (2001). *New Collection for Higher Education: How Accreditation Influences Assessment*, (No. 113). San Francisco, CA: Jossey-Bass.
- Riordan, T., & Roth, J. (Eds.,) (2005). *Disciplines as Frameworks for Student Learning: Teaching the Practice of the Disciplines*. Sterling, VA: Stylus Publishing LLC.

Schuh, J., Lee, M., & Associates (2001). *Assessment Practice in Student Affairs: An Applications Manual*. San Francisco, CA: Jossey-Bass.

Schwartz, P., & Webb, G. (2002). *Assessment: Case Studies, Experience and Practice from Higher Education*. Sterling, VA: Stylus Publishing Inc.

Sedlacek, W. (2004). *Beyond the Big Test*. San Francisco, CA: Jossey-Bass.

Serban, A., & Friedlander, J. (Eds.). (2004). *Developing and Implementing Assessment of Student Learning Outcomes*. San Francisco, CA: Jossey-Bass.

Stevens, D., & Levi, A. (2005). *Introduction to Rubrics: An Assessment Tool To Save Grading Time, Convey Effective Feedback and Promote Student Learning*. Sterling, VA: Stylus Publishing, LLC. (2 units).

Stufflebeam, D., & Shinkfield, A. (2007). *Evaluation Theory, Models, & Applications*. San Francisco, CA: Jossey-Bass.

Theall, M., Abrami, P., & Mets, L. (2001). *New Directions for Institutional Research: The Student Ratings Debate: Are They Valid? How Can We Best Use Them?* (No. 109). San Francisco, CA: Jossey-Bass.

Voorhees, R. (Ed) (2001). *New Directions for Institutional Research: Measuring What Matters Competency-Based Learning Models in Higher Education*. (No. 110). ). San Francisco, CA: Jossey-Bass.

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

Walvoord, B., & Johnson, V. (1998). *Effective Grading: A Tool for Learning and Assessment*. San Francisco, CA: Jossey-Bass.

Wiggins, G. (1998). *Educative Assessment: Designing Assessments to Inform and Improve Student Performance*. San Francisco, CA: Jossey-Bass.