

THE ADMINISTRATIVE UNIT ASSESSMENT HANDBOOK

GUIDELINES FOR PLANNING AND IMPLEMENTING

MEASURING STUDENT SUPPORT SERVICES & ADMINISTRATIVE OUTCOMES

“Within institutional effectiveness, departments (academic and nonacademic) are free to stretch themselves to the limit and to attempt innovative approaches to provide services without fear of failure. Within institutional effectiveness, departments are not held accountable for failure or success, only for having in place a process for stating outcomes, measuring accomplishments, and using the results to improve programming.”

James O. Nichols

2023 Edition

The purpose of this handbook is to provide department heads and staff with a framework for developing an assessment plan, with the purpose of improving the administrative unit. Chapter 1 provides an overview of assessment, specifically administrative unit assessment. Guidelines and suggestions for planning for assessment are provided in Chapter 2. Methods that can be used to assist the department in developing its goals are included in Chapter 3. Chapter 4 is devoted to the development of student and operational outcomes and includes a checklist and a preparation form to aid those involved in the assessment process. An inventory of assessment tools, methods, and techniques are detailed in Chapter 5.

Handbook Contents

What is assessment and why should you assess?

Chapter 1 is intended to provide you with an overview of the assessment efforts at UCF and to define the concept of assessment. Also, this chapter will introduce you to the purposes and characteristics of assessment to help you when you are thinking about how assessment can benefit your administrative unit.

How should you plan for the assessment of administrative units?

Chapter 2 is intended to provide you with suggestions for developing a plan for administrative unit assessment. Developing a useful assessment plan is not an easy task; therefore, the primary purpose of this chapter is to provide you with guidelines for designing and tailoring an assessment plan that matches the needs and purposes of your administrative unit.

How do you define administrative unit goals?

Chapter 3 is intended to provide you with several strategies to assist you in clearly defining the administrative unit's mission, goals, functions, and outcomes. Understanding and clearly stating what your administrative unit is trying to accomplish serves as a foundation for a successful assessment plan. It is important, but not required, to have agreed upon goals (i.e., goals that are shared by all of the unit personnel). There are guidelines that your administrative unit can follow to help you identify and define unit goals.

How do you define Outcomes?

Chapter 4 is intended to provide you with an overview and definition of administrative unit outcomes. The importance of explicitly defining expectations and standards is stressed. Also included is an extensive discussion on how to write clear and precise outcomes for your administrative unit. Having clearly defined outcomes is an integral part of assessment. Your department should focus on defining and measuring critical processes that can be refined into stated outcomes.

How do you select and develop assessment methods?

Chapter 5 is intended to provide you with a discussion on guidelines and criteria for selecting the appropriate assessment method. Additionally, Chapter 5 includes an inventory of assessment methods and techniques that are a) currently available to you; b) can be developed for your use; or c) can be adapted to your administrative unit. Each assessment method is described, and appropriate uses are indicated.

TABLE OF CONTENTS

Handbook Contents	2
Table of Contents	3
1.0 OVERVIEW OF ASSESSMENT.....	4
Purpose of this Chapter	4
Background on Assessment at UCF	4
Introduction to Assessment.....	5
Purposes of Assessment	6
Characteristics of Effective Assessment	6
Sources	7
2.0 DEVELOPING AN ASSESSMENT PLAN	8
Purpose of this Chapter.....	8
Introduction to Developing an Assessment Plan	8
Developing the Administrative Unit Assessment Plan	9
Assessment Process.....	11
Appendix 2A: Preliminary checklist for Administrative Unit Assessment Needs.....	12
3.0 DEFINING UNIT GOALS	14
Purposes of this Chapter	14
Defining the Administrative Unit Mission	14
Defining the Administrative Unit Goals	15
Getting Started	16
Writing Unit Goals	16
Appendix 3A: Worksheet for Identifying and Defining Service Oriented Goals	17
4.0 DEFINING OUTCOMES.....	19
Purpose of this Chapter.....	19
Definition of Outcome	19
Developing Operational Outcomes and Student Learning Outcomes	20
Benefits of Developing Outcomes	22
Examples of Outcomes	22
Sources.....	24
Appendix 4A: Worksheet for Identifying and Defining Intended Student Outcomes with Unit Goals and Outcomes.....	25
5.0 INVENTORY OF ASSESSMENT METHODS	27
Purpose of this Chapter.....	27
Taxonomy of Assessment Methods	28
Selecting Assessment Methods	29
Before You Start.....	33
Challenging to Selecting Assessment Methods.....	34
Inventory of Assessment Methods	35
Sources.....	38

Chapter 1

Overview of Assessment

Purpose of this Chapter

The purpose of this chapter is to provide you with an overview of the assessment efforts at UCF as well as to define the concept of assessment. Also, this chapter will introduce you to the purposes and characteristics of assessment to help you when you are thinking about how assessment can benefit your administrative unit.

KEY TOPICS	The key topics presented in this section are: <ul style="list-style-type: none">• Background on assessment at UCF• Introduction to assessment• Purpose of assessment• Characteristics of effective assessment• Nine principles of assessment• Sources
-------------------	---

Background on Assessment at UCF

Institutions of higher learning are becoming increasingly involved in conducting assessment within their academic administrative units and administrative support organizations. The desire to know how well the unit is doing and to improve in strategic planning efforts, decision support, resource allocation, and operational excellence are all motivators for conducting assessment.

Institutions are facing internal and external pressure to increase quality while funding resources are dwindling. Because of the current climate, institutional effectiveness and Continuous Quality Improvement (CQI) have emerged as two key initiatives in the postsecondary education arena. CQI has become a fundamental driving force for recent assessment and evaluation of administrative units in primary, secondary, and postsecondary education.

In an effort to continually improve critical processes and teaching strategies, it is becoming increasingly popular to use meaningful measurement results to establish "best practices" in the field of education. A commitment to continuous quality improvement requires a shared devotion to quality that surpasses other personal and short-term concerns. In order for this process to be sustained, it is imperative that the commitment has longevity and is strategic in nature.

The drive should not be the number, but whether or not the chosen indicators address the mission, key functions, and stakeholder needs. In addition, criteria for operational outcomes (demand, quality, efficiency, and effectiveness) and student learning outcomes should be set at a reasonable stretch level. Targets that indicate reasonable levels of improvement when

compared to the baseline performance (when available) are what administrative units should strive for.

In 1994, UCF established a goal that all academic and administrative units would develop mission statements, Outcomes and outcomes with at least two measures per outcome, to assess and improve administrative units, operations, and services. Today, all academic programs and a significant number of administrative units at UCF are formally engaged in an assessment process. Assessment is conducted in response to many external drivers (e.g., Southern Association of Colleges and Schools [SACS], International Association of Counseling Services [IACS], and Council for Advancement of Standards in Higher Education [CAS]) and most importantly the internal drive for continuous improvement.

Introduction to Assessment

Why do administrative units need to conduct assessment?

Administrative student support units should define their mission, establish goals and determine how to measure outcomes associated with those goals so that key processes that meet the needs and expectations of students, parents, employers, faculty and other stakeholders can be improved on a continuous basis.

Assessment can be defined as the systematic and ongoing method of gathering, analyzing and using information from various sources about an administrative unit, using measured outcomes, in order to improve student support services and student learning. Assessment, as it is addressed in this manual, relates to measuring critical administrative processes in order to gather data that provides information about how the institution is meeting stakeholders' needs and expectations.

A benefit of measuring performance among administrative support services is that it provides the basis by which the institution's employees can gain a sense of what is going wrong and what is going right within the organization. This process ultimately establishes direction for improving quality and constituent satisfaction.

(Adapted from The "Why," "What," and "How" of Performance Measurement, Terrell, J. D. 1999)

Costs of Not Measuring Performance in Administrative Units

- Decisions based on assumption rather than fact
- Failure to meet customer expectations
 - Reliability
 - Efficiency
 - Quality
 - Cost
 - Delivery
- Failure to identify potential improvement areas
- Lack of optimum progress toward organizational vision

Purposes of Assessment

The four main purposes of assessment should be:

1. **To improve** – The assessment process should provide feedback to determine how the administrative unit can be improved.
2. **To inform** – The assessment process should inform department heads and other decision-makers of the contributions and impact of the administrative unit to the development and growth of students.
3. **To prove** – The assessment process should encapsulate and demonstrate what the administrative unit is accomplishing to students, faculty, staff and outsiders. (*Adapted from WEAVE and Wisconsin*).
4. **To support** – The assessment process should provide support for campus decision-making activities such as unit review and strategic planning, as well as external accountability activities such as accreditation.

Of Note

When developing the assessment plan for your unit, always refer back to the four main functions of assessment.

Characteristics of Effective Assessment

Effective administrative unit assessment should answer these questions:

1. What are you trying to do?
2. How well are you doing it?
3. Using the answers to the first two questions, how can you improve what you are doing?
4. What and how does an administrative unit contribute to the development and growth of students?
5. How can the student learning experience be improved?

(Adapted from Hutchings and Marchese, 1990)

Additionally, assessment is effective when:

1. Assessment is viewed as a comprehensive, systematic and continuous activity.
2. Assessment is viewed as a means for self-improvement.
3. Assessment measures are meaningful.
4. Assessment utilizes multiple measures and multiple sources.
5. Assessment is used as a management tool.
6. Assessment results are valued, and are genuinely used to improve administrative units' structure, services, and processes.
7. Assessment is coordinated by one person or a team and reviewed by a committee.
8. Assessment should involve the participation and input of all faculty and staff.
9. Assessment includes student involvement.

Sources

Administrative unit-Based Review and Assessment. Retrieved May 29, 2008, from <http://www.umass.edu/oapa/oapa/publications/>

Auburn University Office of Assessment and Administrative unit Improvement website. Retrieved May 29, 2008, from www.auburn.edu/academic/provost/assessment/page2.html

Hutchings, P., & Marchese, T. (1990). Watching assessment: questions, stories, prospects. *Change: The Magazine of Higher Learning*, 22(5), 12-38.

Palomba, C., & Banta, T. (1999). *Assessment Essentials: Planning Implementing and Improving Assessment in Higher Education*. San Francisco, CA: Jossey-Bass.

Pet-Armacost, J., Armacost, R., & Young, D. (2003). *Transforming the Assessment Culture: One University's Story*. Paper presented at the 2003 AAHE Assessment Forum.

Chapter 2

Developing an Assessment Plan

Purpose of this Chapter

The purpose of this chapter is to provide you with suggestions for developing a plan for administrative unit assessment. Developing a useful assessment plan is not an easy task. Therefore, the primary purpose of this chapter is to provide you with guidelines for designing and tailoring an assessment plan that matches the needs and purposes of your administrative unit or department.

KEY TOPICS

The key topics presented in this section are:

- Introduction to developing an assessment plan
- Developing the assessment plan
- Flowchart of assessment planning process
- Appendix: Preliminary Checklist

Introduction to Developing an Assessment Plan

A crucial part of developing an assessment plan is to clarify the focus and content of your plan, which should be based on the needs of your administrative unit. The assessment approach will depend on your unit's mission.

Remember that the purpose of assessment can be to improve, inform, prove and/or support your unit (refer to Chapter 1 for an explanation). Thinking of assessment in these terms will help you identify your need, which is the first phase, as well as help you in devising the assessment plan.

Depending on the purpose of assessment, the plan can be an informal document to be internally distributed, or it can be a formal document with an external audience (UMass).

Additionally, remember to continually ask the following five questions during the design phase (refer to Chapter 1 for more suggestions on an effective assessment plan):

1. What are you trying to do?
2. How well are you doing it?
3. Using the answers to the first two questions, how can you improve what you are doing?
4. What and how does an administrative unit contribute to the development and growth of students?
5. How can the student learning experience be improved?

Of Note

Identifying the needs of the administrative unit should be the first task when you begin to think about the design of the assessment plan of your unit. Using a checklist will help you determine what those needs are. Refer to Appendix 2A for the checklist.

(Adapted from Ball Sate)

Developing the Administrative Unit Assessment Plan

Using a systematic approach will help you in devising an effective assessment plan that matches the needs of your administrative unit. The following is a six step approach to aid in developing an effective plan.

Step 1: Organize for assessment.

Before assessment can begin, the key players, committees and structures must be identified. One or more people may lead the unit assessment process, but it is crucial for all staff to assume the responsibility for designing, implementing, and carrying out the assessment process.

Of Note

Staff participation and ownership is essential for the success of administrative unit assessment.

Step 2: Define the mission of the administrative unit.

The mission is a broad statement of the administrative unit's direction. The mission statement should reflect each administrative unit's contribution to the educational and career paths of students who encounter the administrative unit specifically.

Step 3: Define the goals of the administrative unit.

The goals of an administrative unit align with the goals of the institution. Goals provide the basis for assessment and therefore should be defined adequately and clearly. Chapter 3 focuses on providing guidelines for defining goals.

Step 4: Define the Outcomes of the administrative unit.

Goals tend to be general statements. Outcomes are more specific statements and reflect the broader goals. The Outcomes of an administrative unit, because of being more of a student support entity, usually focuses more on process and student development than on learning. The outcomes will primarily describe what the department is going to do and what its impact will be on students and other key stakeholders (alumni, parents, employers, etc.).

Of Note

The difference between goals and outcomes is in their scope (i.e., to direct improvement or development). While both are related to intended outcomes, goals describe broad concepts and objectives describe specific aspects of processor, student abilities, knowledge, values and attitudes.

Step 5: Identify performance criteria for each outcome.

Determine what standards are expected from services provided by your administrative unit. For some outcomes, you may want to achieve a satisfaction level of “excellent” from the students who utilize the administrative unit’s services. However, for other outcomes, this expectation may be unrealistic because other factors may affect student perception (e.g., students’ satisfaction rating of the financial assistance office).

Step 6: Inventory existing and needed assessment methods.

Identify, list and describe all available approaches that can be used to conduct assessment. Referring back to the needs of the administrative unit, identify what additional methods need to be used to provide you with the necessary information needed for assessing what is going on within your unit.

Step 7: Determine how assessment results will be used for administrative unit improvement.

No matter how well assessment activities are planned and conducted, they are worthless to an administrative unit unless the plan incorporates a timely feedback mechanism. The results and information gained should be distributed to the appropriate parties to achieve continuous improvement.

Step 8: Establish a schedule for the above steps.

Step 9: Submit assessment plan for review to your respective divisional review committee.

Step 10: Implement the assessment plan, collect data, review data at appropriate intervals and continue to update where needed.

Step 11: Provide feedback to key members of the administrative unit so that data driven improvements can be made on a continuous basis.

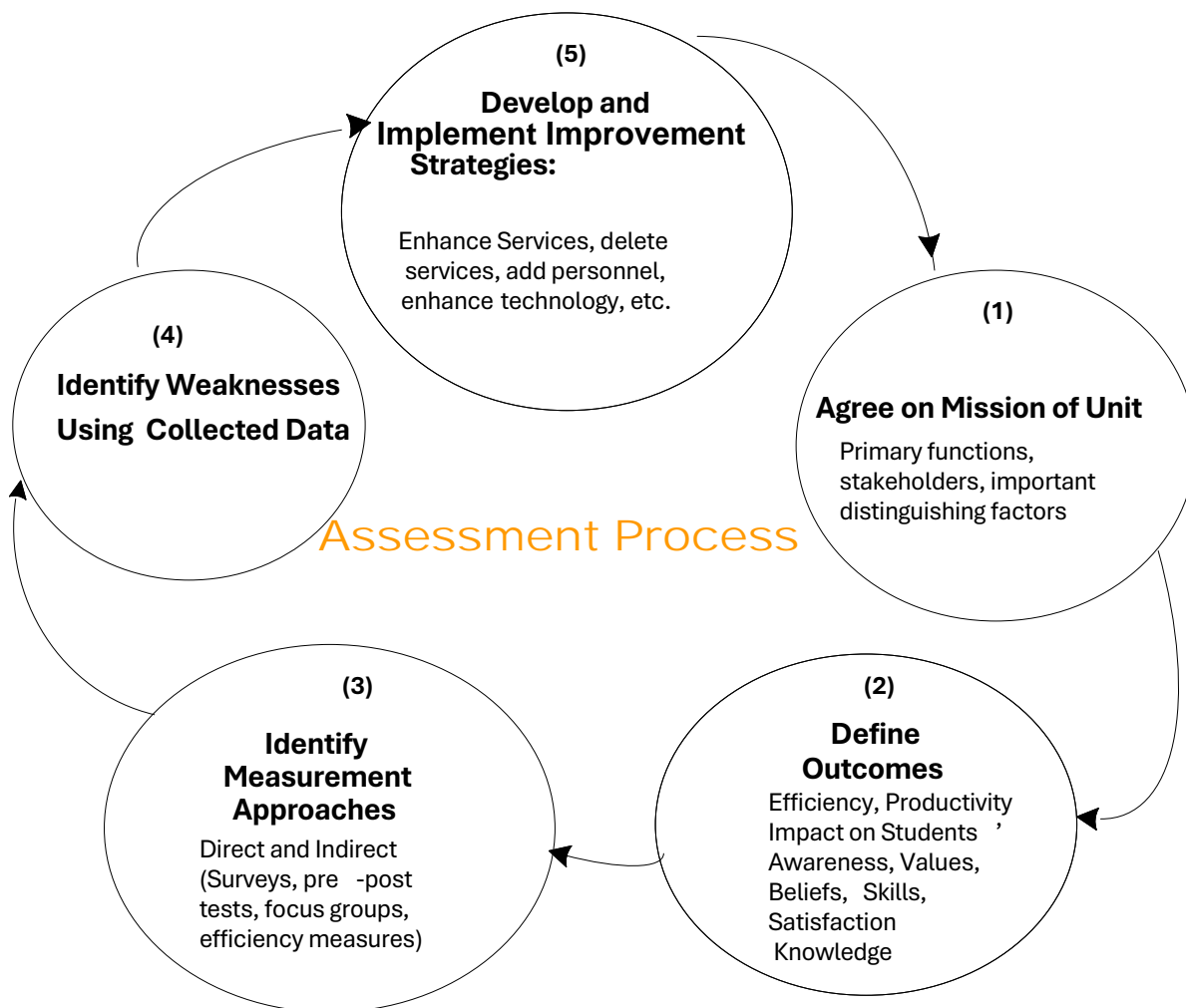
(Adapted from Guide to Outcomes Assessment of Student Learning, California State University, Fresno, and University of Wisconsin – Madison Assessment Manual)

Of Note

Assessment should NOT:

- be viewed as an evaluation or accountability process.
- be accepted as being optional.
- be used to compare units.
- be used to evaluate staff.

(Adapted from UMass Administrative Unit-Based Review and Assessment *Manual, Chico*)



Appendix 2A

Preliminary Checklist for Administrative Unit Assessment Needs

Division: _____

Unit: _____

☐

The purpose of this checklist is to help you identify and determine your assessment needs.

What are you assessing?

- ☐ Students' Level of Satisfaction with Services
- ☐ Efficiency of Process
- ☐ Productivity of Process

Why are you assessing?

- ☐ For internal purposes (e.g. unit review, etc.)
 - ☐ Good management
 - ☐ Quality motivation
 - ☐ To know where you are
 - ☐ To know where you have been
 - ☐ To know what is possible and how to get there
- ☐ For external purposes
 - ☐ Regional Accreditation
 - ☐ Organizational Level Accreditation

From whom will you collect the data?

- ☐ Incoming students
- ☐ Current students
- ☐ Graduating students
- ☐ Alumni
- ☐ Faculty
- ☐ Staff
- ☐ Parents
- ☐ Other Institutions
- ☐ Employers of graduates

How will you use the data?

- ☐ To make improvements
- ☐ For accreditation review
- ☐ To fulfill a request by a committee
- ☐ To support a proposal
- ☐ To recruit new students

How often will you collect the data?

- ☐ Weekly
- ☐ Monthly
- ☐ Each semester
- ☐ Each assessment cycle

(Adapted from Ball State's University Assessment Workbook – Chapter1)

Chapter 3

Defining Unit Goals

Purpose of this Chapter

The purpose of this chapter is to provide you with several strategies to assist you in clearly defining the administrative unit's mission, goals, and functions. Understanding and clearly stating what your administrative unit is trying to accomplish serves as a foundation for a successful assessment plan. It is important, but not a requirement, to have agreed upon defined goals. There are some guidelines that your administrative unit can follow to help you identify and define unit goals.

KEY TOPICS

The key topics presented in this section are:

- Defining the unit mission
- Defining unit goals
- Getting started
- Writing unit goals
- Appendix: Worksheet for unit goal development

Defining the Administrative Unit Mission

Stating the mission of the administrative unit is a required element of assessment plans at UCF. The mission statement is a broad statement of the direction and values of the administrative unit. For each administrative unit the mission statement should reflect how the unit contributes to the education, development, and experiences of students at the institution. The mission statement also should describe the services provided by the unit.

This chapter details the various elements of a well-defined mission statement. It is important that the administrative unit's mission supports and endorses UCF's institutional mission. Refer to the [Mission and Goals](#) web page to view UCF's official mission statement.

- **Briefly state the purpose of the administrative unit.**
 - State the primary purpose of your administrative unit—the reason(s) why you perform your major activities or operations. Explain why you do what you do. For example, the main focus may be helping students to be prepared for employment after graduation.
- **Indicate who the stakeholders are.**

- Include the primary groups of individuals to whom you are providing your services and/or those who will benefit from the services (e.g., students, faculty, staff, parents, employers, etc.).
- **Indicate the primary functions or activities of the administrative unit.**
 - Highlight the most important functions, operations, services, and/or offerings of your administrative unit or operation.
- **Ensure that the mission statement clearly supports the institution's mission.**
 - Make sure that your mission is aligned with the mission of the University.
- **The mission should be distinctive.**
 - Does your statement distinguish you from other administrative units? If the name was removed, it should not be applicable to another administrative unit.

Of Note

UCF Policy does not require that you define the goals of your administrative unit. However, it is strongly recommended that you do so after stating your mission. Think about and articulate what your administrative unit is trying to accomplish in broad terms.

Defining Administrative Unit Goals

Definition

Goals are broad statements that describe the overarching long-range intended outcomes of an administrative unit. These goals are usually not measurable and need to be further developed as separate distinguishable outcomes, that when measured appropriately, provide evidence of how well you are accomplishing your goals. They are primarily used for general planning and are used as the starting point to the development and refinement of outcomes.

In order for administrative unit assessment to be successful, the personnel must reach a consensus on the goals and have an understanding of what the unit is trying to accomplish, as well as how the goals align with the institution's mission and goals.

Getting Started

Outlined below are some activities that you can do before writing the unit goals that can help you articulate and shape goal statements.

Collect and review current administrative unit goals

Review any existing goal statements such as those from:

- Catalog descriptions
- Unit review reports
- Mission statements
- External agencies (e.g. SACS)
- Studies done at other universities

List five to seven of the most important goals identified in the literature listed above. Prioritize the goals depending on their importance to your organization. Conduct open discussions and brainstorming sessions with the staff.

(Texas A&M Assessment Manual, UMass, Ball State, and California State University, Fresno)

Review other administrative units' goals

- Review unit goals of other departments at your university.
- Review unit goals of similar departments at other universities.

(Adapted from California State University Assessment Workbook and Ball State University Assessment Workbook).

Writing Unit Goals

Once you have reached an understanding of the mission of the administrative unit and the division heads and staff agree on what the administrative unit is trying to accomplish, you can start writing the administrative unit goals. These goals can focus on the key functions of the unit (e.g., application process, orientation service, facility maintenance, educational support, etc.)

(Adapted from UMass)

Appendix 3A

Worksheet for Identifying and Defining Service Oriented Unit Goals

After each staff member has completed this worksheet, arrange a meeting to compare notes and discuss the results. The reason for this exercise is to summarize and articulate primary goals upon which the staff can agree.

Division: _____

Unit: _____

Identify and list all appropriate department goals. Refer to catalog descriptions, administrative unit review reports, mission statements, and external agencies (e.g., SACS).

Describe the most important services your unit provides.

Identify key functions or services within your unit that contribute to supporting the university's mission and/or strategic plan.

For each key function or service, ask how the university:

- a. operates more efficiently as a result of your service**
- b. can support students because of your service**
- c. benefits from utilizing your service**

In what ways should your unit make a difference in successful outcomes for students, other clients, or other administrative units?

What are some of the results you do not want to happen?

Page 2

Chapter 4

Defining Outcomes

Purpose of this Chapter

The purpose of this chapter is to provide you with an overview and definition of administrative unit outcomes. The importance of explicitly defining expectations and standards is stressed. Also included is an extensive discussion on how to write clear and precise outcomes for your administrative unit. Having clearly defined outcomes is an integral part of assessment. Your department should focus on defining and measuring critical processes that can be refined into stated outcomes.

KEY TOPICS	<p>The key topics presented in this section are:</p> <ul style="list-style-type: none">• Defining outcomes• Benefits of using outcomes• Types of outcomes• Developing outcomes• Writing outcomes• Keywords in writing outcomes• Examples of outcomes for various administrative units• Outcomes checklist• Outcomes preparation form• Sources
-------------------	---

Definition of Outcomes

Outcomes can be defined as statements that describe the desired quality (timeliness, accuracy, responsiveness, etc.) of key functions and services within the administrative unit. Operational outcomes define exactly what the services should promote (understanding, knowledge, awareness, appreciation, etc.). Outcomes also can be stated in terms of student learning outcomes. This is most appropriate for services that aim to increase students' knowledge or understanding of specific concepts.

When agreed upon goals have been stated, outcomes can then be defined. Outcomes are specific statements that describe desired performance of a service or function of an administrative unit. The outcome statements should be derived from the goal statements, which in turn should be aligned to the university's mission. Goals are broad statements, while outcomes are precise, specific and clear statements about the intended accomplishments of an administrative unit. To demonstrate that a goal is related to and derived from an administrative unit's goal, the following format can be used:

Goal 1	Goal 2	Goal 3
Outcome 1	Outcome 1	Outcome 1
Outcome 2	Outcome 2	Outcome 2
	Outcome 3	Outcome 3
	Outcome 4	
	Outcome 5	

(Adapted from California State University, Fresno)

Outcomes state expected accomplishments or improvements that the unit has identified, after careful consideration of the critical processes and functions. They can relate to the operations and processes of the unit, and may include a consideration of demand, quality, and efficiency and effectiveness. Outcomes may also relate to intended behaviors that a student having used services provided by the administrative unit should demonstrate. Outcome statements can also be student learning outcomes (SLOs); they can focus on the intended abilities, knowledge, values and attitudes a student should demonstrate after having used certain services or having participated in an activity. Additional detail will be provided in this chapter on how to write good, clear outcomes.

Developing Operational Outcomes and Student Learning Outcomes *(from Drucker, 1954)*

Use the acronym SMART when developing your operational outcomes and student learning outcomes:

Specific

- The outcome is associated with key processes and services provided to students, parents, employers and faculty members. The outcomes should be distinctive to the unit that is conducting assessment.

Measurable

- The intended outcome should be one for which it is feasible to collect accurate and reliable data. Refer to Chapter 5 for a detailed list of direct and indirect assessment measures.
- Consider your available resources (e.g., staff, technology, assessment support, institutional level surveys, etc., in determining whether the collection of data is a reasonable expectation).

Aggressive but Attainable

- The following is a collection of questions that might help you to formulate and define aggressive but attainable outcomes for your administrative unit.
 - What types of things are you striving for?
 - What types of directions do you want to move in?
 - What would you like to accomplish over the next __year(s) and why?
 - In terms of Outcomes, what would the "perfect" unit or administrative unit look like?
 - Does the outcome allow for variation in services provided? For example, if the outcome states "UCF students will recognize the importance of obtaining career-related experience," you need to identify an instrument that will measure what students think about "obtaining career-related experience."

Results-oriented

- The outcome should aid in identifying where program improvements are needed. For example, if a standardized exam is used the "sub-scores" on the exam should be used to determine what needs to be improved.
- Describe where you would like to be within a specified time period (e.g., 10% increase in funding within one year, 90% satisfaction rating for next year, 10% improvement in student performance within two years). If you have previously measured an outcome, it is helpful to use this as the baseline for setting your target for next year.

Time-bound

- The outcome should indicate the timeframe for assessment, e.g., every spring term.

Of Note

There is a clear distinction between intended and actual objectives and outcomes.
Intended outcomes are statements of expectations.
Actual outcomes indicate the results of the assessment process.

(Adapted from Texas A & M, Palomba and Banta)

Remember: The purpose of assessment is not to compare administrative units, but to use what is learned from the assessment activities to improve your unit's performance.

Benefits of Developing Outcomes

- **Common language**

Outcomes can help departments develop a common language that can be shared with staff, faculty, and students. A common language should facilitate communication between various departments.

- **Critical Processes**

Defining outcomes affords the unit an opportunity to publish the important functions upon which the operation intends to focus.

- **Advising tools**

Defining outcomes can assist in the advising process because advisors can communicate to the students the expectations of a course or administrative unit by referring to the stated Outcomes.

- **Improving promotional materials**

Defined outcomes can be presented in promotional materials to attract students and promote an administrative unit's services.

- **Assessment and Accreditation**

Defining outcome statements is an integral part of the assessment process and necessary for the accreditation process of accredited units.

Examples of Outcomes

Administrative units should focus on critical functions, services, and processes that impact customer satisfaction. The outcomes may include the specification of expectations of demand, quality, efficiency and effectiveness, and other gauges of productivity.

Academic Services for Student Athletes

- Measure the impact of regular study sessions by generating baseline data on attendance, mean term GPA's and number of semester hours earned in the sports of football, baseball, softball, men's basketball and women's basketball during the spring semester.

Assessment Support Office

- Operational Excellence and Assessment Support will demonstrate knowledge and expertise to meet the needs of the customers. Knowledge and expertise will be examined from five dimensions (technical skills and knowledge, teaching and training skills, consulting skills, report writing, and presentation) for each of the three support function areas (assessment support, process analysis and special studies support, and survey and statistical studies support).

Graduate Studies

- Graduate Studies will increase the number of students who apply online so that the percentage of online degree program applications per term increases from 75% (in spring 2003) to 90% by the end of spring 2004.

Of Note

Key Words

You should use explicit verbs such as *increase, enhance, minimize, provide, reduce, promote*, rather than vague verbs such as *understand, know*.

Of Note

Refer to Appendix 4A for a worksheet on identifying and defining intended student outcomes with Unit goals and objectives.

Sources

Administrative unit-Based Review and Assessment University of Massachusetts Amherst. Retrieved May 29, 2008:
<http://www.umass.edu/oapa/oapa/publications/>

Auburn University Office of Assessment and Administrative Unit Improvement. Retrieved May 29, 2008, from
www.auburn.edu/academic/provost/assessment/page2.html

Auburn University Office of Assessment and Administrative unit Improvement website. Retrieved May 29, 2008:
www.auburn.edu/academic/provost/assessment/page2.html

Nichols, J. O. (1995). *Assessment Case Studies: Common Issues in Implementation with Various Campus Approaches to Resolution*. New York: Agathon Press.

Pet-Armacost, J., Armacost, R., & Young, D. (2003). *Transforming the Assessment Culture: One University's Story*. Paper presented at the 2003 AAHE Assessment Forum.

Terrell, J. D. (1999). "Why," "What," and "How" of Performance Measurement.

University of Central Florida Operational Excellence and Assessment Support website. Retrieved May 30, 2008, from <http://oeas.ucf.edu>

University of Central Florida, Operational Excellence and Assessment Support website. Retrieved May 29, 2008, from <http://oeas.ucf.edu>

Appendix 4A

Worksheet for Identifying and Defining Intended Student Outcomes within Unit Goals and Outcomes

After each staff member has completed this worksheet, arrange a meeting where you can all compare notes and discuss the results. The reason for this exercise is to summarize and articulate primary goals that the staff can agree on.

Division: _____

Unit: _____

Identify and list all appropriate department goals. Refer to catalog descriptions, administrative unit review reports, mission statements, and external agencies (e.g., SACS).

Describe an ideal student in your administrative unit in terms of abilities, knowledge, values and attitudes. Which of these characteristics do you think can be directly attributed to the administrative unit experience?

Identify key services within in your unit that contribute to producing and supporting the “ideal” student.

Ask what this “ideal” student:

- a. knows as a result of utilizing your service**

- b. can do as a result of utilizing your service**

- c. values as a result of utilizing your service**

In what ways should your unit make a difference in students’ experiences?

What are some of the things you do not want to happen?

(Adapted from Ball state University Workbook and University of Massachusetts Manual for Administrative unit-based Review and Assessment)

Chapter 5

Inventory of Assessment Methods

Purpose of this Chapter

At this point, you will have developed a strong assessment plan with clearly defined goals and outcomes. The purpose of this chapter is to present you with a discussion on guidelines and criteria for selecting the appropriate assessment methods. Additionally, an inventory of assessment methods and techniques that are currently available to you or that can be developed or adapted to your administrative unit is presented. Each assessment method is described with examples, as appropriate.

KEY TOPICS

The key topics presented in this Chapter are:

- Taxonomy of Assessment Methods
- Selecting Assessment Methods
- Challenges of Selecting Assessment Methods
- Inventory and Definitions of Assessment Methods
- Sources

Of Note

OEAS supports the survey and statistical analysis needs of administrative and academic units and programs in the continuous quality improvement, program review, strategic planning and accreditation processes. Statistical support is also provided to support other projects. Kinds of support provided include:

- Review, reformat, revise survey instruments administrative units have in place
- consult on the design of measurement strategies
- coordinate data collection for UCF Institutional Surveys
- assist with the design of unit specific questions for the Graduating Senior Survey or the UCF Graduating Graduate Student Survey
- design and implement specialized surveys
- analyze results of UCF institutional surveys and specialized surveys
- prepare reports
- disseminate survey results
- assist in the interpretation of results
- conduct workshops on assessment and measurement topics

For further information and support please contact Dr. Uday Nair, Operational Excellence and Assessment Support (OEAS).

Taxonomy of Assessment Methods

Traditionally, assessment methods have been categorized as being either direct or indirect based on whether you want to assess student learning or student experience. Direct assessors of learning specifically evaluate the competence of students in what they have learned as a result of the provided support service. Indirect assessors differ in that they measure the student's, parent's and employer's experience rather than their knowledge and skills. These methods include feedback from internships, supervisors, student self-reports, etc.

(Adapted from Concordia College)

A modified categorization scheme is proposed in this handbook with the purpose of providing a more clearly defined system for selecting appropriate assessment methods that address what you are trying to assess. Assessment methods have been classified based on what you are trying to assess. Two categories have been identified and are described briefly below.

1. Student or client learning

1.1. Direct assessors of student or client learning. This category includes methods that evaluate the learning of students in terms of:

- a. Cognitive: What does the student know?
- b. Performance / skills: What can the student do?
- c. Affective: What does the student care about?

1.2. Indirect assessors of student learning. This category consists of assessment methods that allow students or others (such as employer) to report on what students have learned. In other words, the methods are used to evaluate the "perception" of student learning. As with the direct method there are three learning types that we are concerned with:

- a. Cognitive: What is reported (perceived) that the student knows?
- b. Performance and skills: What is reported (perceived) that the student can do?
- c. Affective: What is reported (perceived) as important to the student?

2. Administrative functions and critical processes

2.1. Direct assessors of unit processes: This category includes methods that assess demand, quality, efficiency and effectiveness. For example, efficiency may address completion of service, productivity of service and efficiency of individual points of service (e.g., academic and career advising, computer assistance, tutoring).

2.2. Student or client perception of functions and critical processes: This category includes methods that assess perception of support activities and services (e.g., orientation, financial aid, admissions, and international student services).

(Adapted from PACT and UMass handbooks)

Selecting Assessment Methods

The acronym MATURE is used when selecting or developing measures for your outcomes

MATURE stands for the following terms when choosing assessment methods:

Match
Appropriate
Target
Useful
Reliable
Effective and Efficient

Match

- Match the Outcome with the appropriate assessment method. Successful and useful assessment cannot be achieved if you do not align the assessment method with the Outcome that you are trying to assess.

Outcome: Students will demonstrate an understanding of the services provided by offices that are involved in the intent to graduate process.

- Example of an assessment method that does not match the Outcome you are assessing:

Assessment method: Students will successfully download the intent to graduate form.

- Example of an assessment method that matches the Outcome you are assessing:

Assessment method: After the workshop session, students will achieve a 90% or higher on the set of questions related to the services provided by offices that assist in the intent to graduate process.

Note: When assessing students using your services or completing your program, it is possible to use a locally developed test as the assessment method. However, if there is a nationally normed instrument, you will be able to compare your services to those at other universities.

Appropriate

- Choose methods that are appropriate. They can be direct or indirect. Direct measures include assessments that evaluate a quality indicator, or student ability or achievement in one of the areas noted. Indirect measures can be survey responses to targeted questions or ancillary parts of a direct measure. There are times when one measurement instrument could measure more than one Outcome. (For example, a survey may target several Outcomes.)
- Select assessment methods prudently and make sure that they are good assessors of effectiveness of the service or unit. A primary goal of assessment is to uncover issues that, when addressed, will lead to improvements in your operation. Complex measures are not necessarily the key to successful assessment. Consider measures that provide you with information that is easily interpreted and unambiguous and that can be used to improve where necessary.
- Determine beforehand if there are available resources to assist in the collection of data on the chosen measure. Do the data exist or is the collection of data going to be required. If so, determine whether the data are difficult or easy to obtain. Consider assessment methods for which data might already exist. The Office of Institutional Research may have information that could be useful for your assessment plan. Avoid selecting assessment methods that require complicated data collection techniques, when possible. In some cases, it might be highly constructive to start with a pilot test and collect data from a small sample. This will help you determine if the scope of the data collection is feasible in terms of resources and time.
- Select methods that provide information that can be directly controlled by the department or program. An assessment method that is influenced by external factors beyond the control of the program will yield results that are meaningless to you since you will not be able to manipulate or direct the student service or administrative process.

Target

- Each measure should be directed. It should specify, when possible, the desired level of performance (level of satisfaction, productivity, efficiency, performance).

Useful

- Choose assessment methods that will provide you with useful and useable information. The measure that you are trying to assess should not only be interesting but one that would allow you to make inferences about the progress toward the Outcome. Assessing state requirements or the achievement of a goal or the completion of an activity does not provide evidence about your operations or about student achievement. That is, do not assess a curricular requirement since it is unlikely that you will learn anything additional than the percentage of students meeting the requirement.

Outcome: Hypothetical Administrative Unit will demonstrate increased timeliness in terms of processing student requests.

- Example of assessment that will not provide useful, useable information:

Assessment: Number of students served by Hypothetical Administrative Unit will be tracked for three semesters.

- Example of assessment that will provide useful, useable information:

Assessment: A computerized log will track the date and time of each student request and the date and time that it is resolved. The time between request and resolution will be compared for two semesters.

Note: The first example assessment shows that data are being collected, but not useful data. The second example assessment provides information that can be used to determine if the administrative unit is increasing its timeliness.

Reliable

- The measure is based on tested, known methods.
 - A reliable assessment method is one that yields consistent responses over time. The three sources of measurement error described by Cherry and Meyer (1993) include the respondents, the instrument (assessment method) and the administration of the instrument. The method selected should be one that provides dependable, consistent results time after time. The instrument should be clearly worded and not ambiguous. The time available to complete the instrument should be consistent with its length.

Effective and Efficient

- Each approach accurately and concisely measures the Outcome.
 - Two assessment methods are required for each Outcome. (One exception would be when a measure yields all of the possible information about that Outcome.) The benefits of using more than one method include: different components of one Outcome can be assessed, and a high level of accuracy and authority can be achieved.
 - Attempt to identify subcomponents of a measurement approach so that you will be able to conduct a deeper analysis. This will provide an opportunity to identify an increased number of areas to improve. For example, multiple questions on a survey may be relevant to one Outcome (e.g., quality of advising). However, one question on an evaluation tool or questionnaire may provide data about a subcomponent.

When possible, utilize a combination of qualitative and quantitative assessment methods to effectively assess outcomes. The selection of assessment methods should reflect the culture of the unit and should be methods that provide those making changes to the operation or programs of the unit with useful information. Examples of qualitative assessment methods include open-ended questions on surveys, focus groups, and structured interviews.

- Utilize a combination of direct and indirect assessment methods. Some assessment methods require direct interaction with the students in an evaluative or instructional setting, while others do not (such as information from the student database or employer surveys).

Of Note

- When using a survey, it is desirable to target all of the stakeholders versus a sample of the population when the population is small. If you are unsure, contact OEAS for assistance.
- Use accreditation criteria as a basis for designing your assessment plan and selecting assessment methods. Build on methods and techniques that you already use for accreditation.
- Determine beforehand if there are available resources to assist in the collection of data on the chosen measure. Determine whether the data are difficult or easy to obtain.
- If a nationally normed measure or standardized test or survey is used a second measure may not be required.
- Attempt to identify subcomponents of a measurement approach so that you will be able to conduct a deeper analysis. This will provide an opportunity to identify an increased number of areas to improve. For example, multiple questions on a survey may be relevant to one objective (e.g., quality of advising). However, one question on a questionnaire or one criterion on an evaluation tool may provide data about one subcomponent.

Before You Start

Before investing time and resources devising and developing new assessment instruments or methods, identify any assessment-related information that you are already collecting and assessment processes already in place. It is very helpful to match the available information and processes to the unit's goals and outcomes identified in chapters 3 and 4.

A useful tool that will help you link your current assessment efforts to your unit's mission, goals and outcomes is an assessment matrix. You may already be using various assessment methods to assess critical processes but have not connected them to the assessment process.

Matrices can be used to link various configurations to link what you are doing with unit goals and outcomes that you have identified as being important. For example, the matrix can link outcomes to specific services or outputs.

In the assessment matrix below, each assessment tool is categorized as being either direct or indirect depending on whether the instrument provides direct evidence of accomplishments via services (direct methods) or reflect student, parent, faculty, staff and employer perceptions (indirect methods).

Outcomes	Graduating Senior Survey	Locally Developed Test	Input/Output	Output/Input
Satisfaction with advising	Direct			
Efficiency of services provided by the Career Resources Center	Indirect		Direct	
Productivity of the Admissions Office in processing admissions application	Indirect			Direct

(Adapted from Diamond, 1998; Palomba and Banta, 1999; and UMass Handbook)

Of Note

Considerations

There are other considerations that are pertinent to selecting the appropriate assessment method. Consider these questions:

- Will the instrument provide results that are easy to understand and interpret?
- Are the changes in the results representative of changes in the program or something else?

Challenges to Selecting Assessment Methods

There are a variety of challenges that you may encounter while identifying or designing assessment methods that would achieve the Outcome of measuring identified unit goals and Outcomes.

Realize differences between units within a division

Although several programs fall under one division, each unit has a unique and distinct mission, goals, and Outcomes. Acknowledge these differences. Some assessment methods may work well for one unit and not so well for another. When selecting assessment methods, be sure that they are appropriate for the specific Outcome that you are assessing.

Start small

When developing and using a new assessment method, start small and test it. That way if it turns out that it is not an effective assessment instrument you will have not wasted valuable time and resources. For help with identifying and developing assessment methods, contact OEAS.

Allow for continuous feedback

Encourage feedback by discussing assessment methods with key staff members. Incorporating all of the key staff members ensures the success of assessment.

Match the assessment method to the outcome and not the reverse.

Develop and write your unit goals and outcome statements before selecting assessment methods. Do not develop an assessment instrument and then fit an Outcome to it.

(Adapted from UMass handbook).

Of Note

Although many assessment methods have been included in the inventory, there are other methods that you may already be using, or you may be considering other measures that have not been listed here. This chapter provides you with some available methods, but you are not limited to using only these techniques. If you are currently utilizing or considering an assessment method not included in this chapter, please email OEAS (oeas.ucf.edu) as we are interested in compiling a list of assessment instruments being used at UCF.

Following is an inventory of assessment methods. Although we have identified the major or most frequently used methods, there may be others that you are using. A description of each method is presented in this section.

Inventory of Assessment Methods

Direct Measurement Approaches

Locally Developed tests

- Example: **Pre/Post Test.** Administered before and after a specified learning experience to measure participants' level of knowledge, skills, behaviors and attitudes. (The learning experience can be a program that meets several times or one event.) Post-test scores are compared to pretest scores to determine if the students have learned specific information or concepts.

Embedded questions. Specific questions designed to see if students or clients learned something you expected them to learn.

Rubrics are designed to address specific skills or behaviors.

- A product or performance of some kind is completed by participants and the criteria for evaluating the product have been determined ahead of time and listed with guidelines for evaluating the quality of each aspect listed.

Behavioral observations

- An expert observer (often a supervisor) observes a practical application of a student learning outcome (e.g., within an internship or apprenticeship) and rates student performance.
- An observer counts specific occurrences of a behavior that is one of the targets for a group involved in a particular experience.

Indirect Measurement Approaches

UCF's Graduating student surveys. The graduating student surveys (seniors and graduate students) is administered by the office of Operational Excellence and Assessment Support and includes specific questions about most administrative areas. Unit level data from the surveys are provided to each administrative area via a website to allow identification of service and academic issues of concern.

Other surveys that assess students at various points in their undergraduate life:

- 1.1.1.1. Cooperative Institutional Research Program (CIRP)
- 1.1.1.2. College Student Expectations Questionnaire (CSXQ)
- 1.1.1.3. Institutional Priorities Survey
- 1.1.1.4. National Survey of Student Engagement (NSSE)
- 1.1.1.5. Student Satisfaction Inventory (SSI)
- 1.1.1.6. Your First College Year (YFCY)

Alumni survey. The alumni survey that is administered by the Office of Operational Excellence and Assessment Support or locally-developed (i.e., by the academic department) alumni questionnaires can be useful in assessing levels of satisfaction with a program or service and students' perception of preparedness upon entering graduate school or the workforce.

Relevant Publications :

Converse, J. M., & Pressler, S. (1986). *Survey Questions: Handcrafting the Standardized Questionnaire*. Newbury Park: SAGE Publications.

Dyke, J. V., & Williams, G. W. (1996). Involving Graduates and Employers in Assessment of a Technology Program. In T. W. Banta, J. P. Lund, K. E. Black & F. W. Oblander (Eds.), *Assessment in Practice* (pp. 99-101). San Francisco: Jossey-Bass Publishers.

Ewell, P. T. (1983). *Student-Outcomes Questionnaires: An Implementation Handbook* (2 ed.). Boulder, CO: National Center for Higher Education Management Systems, and New York: The College Board.

McKenna, B. *Surveying Your Alumni: Guideline and 22 sample questionnaires*. Washington, DC: Council for Advancement and Support of Education. Contains 22 documented examples of alumni surveys successfully employed at private colleges.

Other locally developed surveys. Point-of-service surveys, advisory board surveys and other questionnaires can be developed by an academic program or administrative unit that ask students or customers about satisfaction with services or programs.

Relevant Publications :

Converse, J. M., & Pressler, S. (1986). *Survey Questions: Handcrafting the Standardized Questionnaire*. Newbury Park: SAGE Publications.

Dyke, J. V., & Williams, G. W. (1996). Involving Graduates and Employers in Assessment of a Technology Program. In T. W. Banta, J. P. Lund, K. E. Black & F. W. Oblander (Eds.), *Assessment in Practice* (pp. 99-101). San Francisco: Jossey-Bass Publishers.

National surveys. Surveys that are available nationally can be used to identify where improvements are needed.

Examples: National Survey of Student Engagement (NSSE), Student Satisfaction Inventory (SSI), Cooperative Institutional Research Program (CIRP), College Student Expectations Questionnaire (CSXQ). Institutional Priorities Survey, National Survey of

Student Engagement (NSSE), Student Satisfaction Inventory (SSI), Your First College Year (YFCY).

Other Indirect Measurement Approaches:

Case Study. Cases studies are focused, systematic examination of one instance of a phenomenon such as an event, program, process or person. Typically, they involve collection of qualitative and quantitative data such as observations, surveys, and interviews for an in depth study of the phenomenon. A report on the case stuffy can help integrate the evidence into one response.

Focus Group. Individuals who are users of the support service or whom benefit from the academic preparation made it possible as a result of completing the program (e.g., employers, alumni, faculty, parents, etc.) can provide important qualitative data that can be used to identify strengths and weaknesses within the program.

Interview. One-on-one structured interviews with students, faculty, employers and alumni conducted by a trained interviewer can provide useful information, which can be used to identify strengths and weaknesses within the program.

Retention Rate. Retention data for a given program can provide useful information relative to the strength of a program.

Graduation Rate. Data that indicates graduation rates for students over a period of time can be provide useful information regarding the strengths and weaknesses of the program.

Sources

Administrative Unit Guide for Outcomes Assessment at Geneva College (2000). Retrieved May 29, 2008, from www.geneva.edu/academics/assessment/oaguide.pdf

Administrative unit-Based Review and Assessment, University of Massachusetts Amherst. Retrieved May 29, 2008, from www.umass.edu/oapa/assessment/administrative_unit_based.pdf

Assessment: An Institution-Wide Process to Improve and Support Student Learning, College of DuPage. Retrieved May 29, 2008, from www.cod.edu/Dept/Outcomes/AssessmentBook.pdf

Auburn University Office of Assessment and Administrative unit Improvement website. Retrieved May 29, 2008, from www.auburn.edu/academic/provost/assessment/page2.html

Ball State University Assessment Workbook (2000). Retrieved May 29, 2008, from <http://web.bsu.edu/IRAA/AA/WB/contents.htm>

Guidelines for Assessment, California State University, Chico (1993). Retrieved May 29, 2008, from www.csuchico.edu/community/assessment.html

Guidelines for Departmental Assessment Plans, Concordia College. Retrieved May 29, 2008, from www.cord.edu/dept/assessment/guidelines.htm

Hutchings, P., & Marchese, T. (1999). Watching Assessment: Questions, Stories, Prospects. *Change: The Magazine of Higher Learning*, 22, 12-37.

Kubiszyn, T., & Borich, G. (1984). *Educational Testing and Measurement: A Guide for Writing and Evaluating Test Items*. Minneapolis, MN: Burgess Publishing Co.

Lenning, O. (1984). Use of Cognitive Measures in Assessment. In T. W. Banta (Ed.), *Implementing Outcomes Assessment: Promise and Perils*. *New Directions for Institutional Research*, no. 59 (pp. 41-52). San Francisco: Jossey-Bass.

Muffo, J. A., & Bunda, M. A. (1993). Attitude and Opinion Data. In Banta, Trudy & Associates (Eds.), *Making a Difference: Outcomes of a Decade of Assessment in Higher Education* (pp. 139-150). San Francisco: Jossey-Bass Publishers.

Nichols, J. O. (1995). *Assessment Case Studies: Common Issues in Implementation with Various Campus Approaches to Resolution*. New York: Agathon Press.

Osterlind, S. (1989). *Constructing Test Items*. Boston: Kluwer Academic Press.

Palomba, C., & Banta, T. (1999). *Assessment essentials: Planning, implementing and improving assessment in higher education*. San Francisco: Jossey-Bass.

Pascarella, E. T., & Terenzini, P. T. (2005). *How College Affects Students* (Vol. 2). San Francisco: Jossey-Bass.

Pet-Armacost, J., & Armacost, R. (2003). *Challenges in Communicating Innovative Assessment Approaches*. Paper presented at the 2003 AAHE Assessment Forum.

Pet-Armacost, J., Armacost, R., & Young, D. (2003). *Transforming the Assessment Culture: One University's Story*. Paper presented at the 2003 AAHE Assessment Forum.

Popham, W. J. (1974). *Selecting Objectives and Generating Test Items for Objectives-based Tests*. In C. Harris, M. Alkins & W. J. Popham (Eds.), *Problems in Criterion-Referenced Measurement*. Los Angeles: University of California, Los Angeles: Center for the Study of Evaluation.

Riess, R. D., & Muffo, J. A. (1996). *Exit Interviews in Mathematics*. In T. W. Banta, J. P. Lund, K. E. Black & F. W. Oblander (Eds.), *Assessment in Practice* (pp. 129-131). San Francisco: Jossey-Bass Publishers.

Schuh, J. H., Upcraft, M. L., & Associates. (2001). *Assessment practice in student affairs: An applications manual*. San Francisco: Jossey-Bass.

Staik, I. M., & Rogers, J. S. (1996). *Listening to Your Students*. In T. W. Banta, J. P. Lund, K. E. Black & F. W. Oblander (Eds.), *Assessment in Practice* (pp. 132-134). San Francisco: Jossey-Bass.

Texas A&M University Assessment Manual. Retrieved May 30, 2008, from Texas A&M University: <http://www.tamu.edu/marshome/assess/Purpose%20of%20Assessment>

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures for student attrition* (2 ed.). Chicago: University of Chicago Press.

University of Central Florida Operational Excellence and Assessment Support website. Retrieved May 29, 2008, from <http://oeas.ucf.edu>

University of Wisconsin Madison Assessment Manual. (2000). (Publication. Retrieved May 29, 2008, from University of Wisconsin: <http://www.provost.wisc.edu/assessment/manual/>

[WEAVE A Quality Enhancement Guide for Academic Administrative units and Administrative and Educational Support Units](http://www.vcu.edu/quality/pdfs/WEAVEManual2002.pdf), Virginia Commonwealth University, April 2002; www.vcu.edu/quality/pdfs/WEAVEManual2002.pdf

Authors/Editors:

Dr. Paula S. Krist, Operational Excellence and Assessment Support

Dr. Angela Albert, Operational Excellence and Assessment Support

Dr. Mia Alexander-Snow, Operational Excellence and Assessment Support

Contributors:

Dr. Basma R. Selim, Information, Analysis, and Assessment

Dr. Julia Pet-Armacost, Information, Analysis, and Assessment

2023 Editors:

Dr. Patrice Lancey, Operational Excellence and Assessment Support

Dr. Uday Nair, Operational Excellence and Assessment Support