

# Academic Outcomes Assessment

Designing and implementing assessment of student learning outcomes in degree programs.

Presented by:

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# Workshop Objectives

- Understand outcomes assessment concept and process
- Begin creating a program assessment plan
- Become aware of UNR's assessment needs and resources

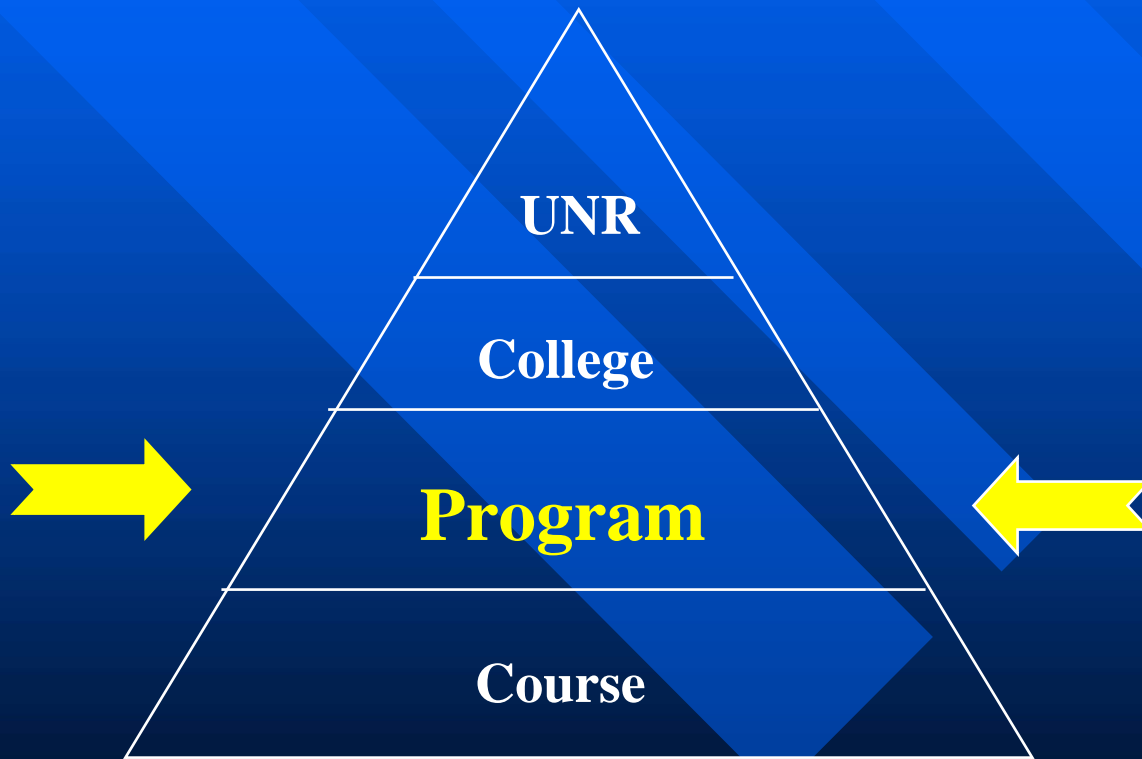
# What is Outcomes Assessment?

The systematic collection, review and use of information about educational programs undertaken for the purpose of improving student learning and development.”

Palomba and Banta

# Assessment Focus

*Don't we already assess students?*



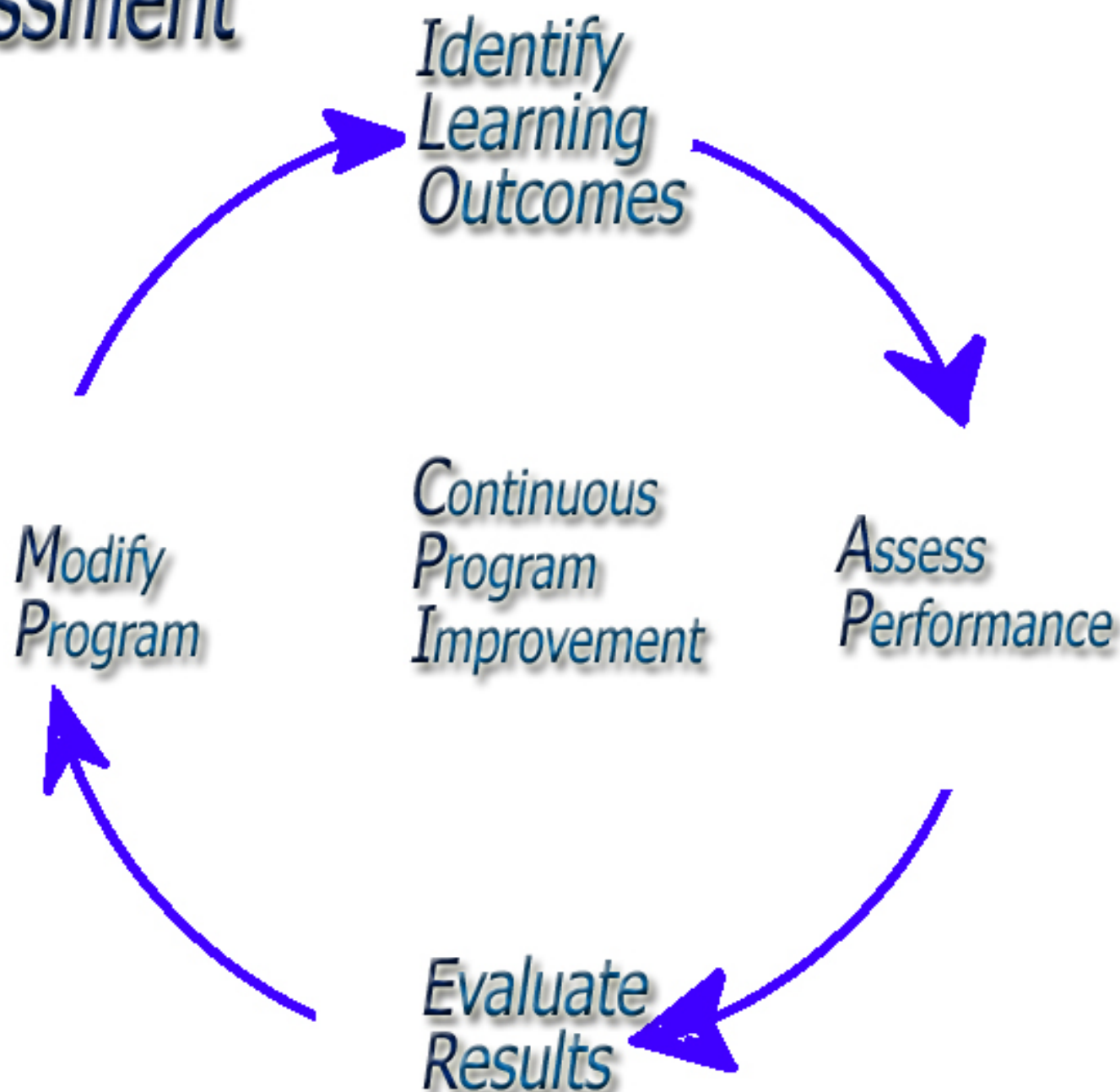
# Outcomes Assessment at UNR

- UNR programs developing and implementing ongoing program-level assessment plans;
- Developing and implementing an assessment plan for the core curriculum;
- Collecting and disseminating information from UNR alumni and employers;
- Identifying and researching questions related to how well UNR is fulfilling its mission.

# Why is Assessment Important?

- An integral part of education that leads to program improvement;
- University and specialized accreditations;
- Accountability to different constituents;
- Student and faculty satisfaction.

# Assessment Cycle



# Describe Your Program

Write one sentence that describes the **goal** or **mission** of your program.

# Specify Learning Outcomes

- Clear statements of what the program (the faculty) expect students (majors) to know and be able to do at certain points in the curriculum.
- Derived from:
  - University, college and department missions
  - Program goals and objectives
  - Professional/association standards
  - Faculty consensus

# Learning Outcomes

- List 3-5 things your students (majors) must know or are able to do by graduation if your goal or mission is to be achieved.

# Learning Outcomes Examples

- a) Students will have a thorough understanding of key architectural principles.
- b) Students will be able to competently use laboratory procedures commonly used in chemical testing and analysis, including (list).
- c) Students will be able to work effectively in teams to solve problems in mechanical engineering.
- d) Students will be able to compose a thesis that demonstrates understanding of a literary genre in a specific historical period.

# Outcomes For Your Program

- After reviewing the 3-5 outcomes you listed for your program
  - Decide if they accurately represent your program's mission, goals and objectives
  - Decide if they are stated with enough clarity and specificity
  - Rewrite them or propose new ones according to what you think they should be

# Performance Indicators

- The actual student performance (actions or products) that you will measure as indicators of achieving the outcome.

# Demonstrating Learning

- For each of the 3-5 learning outcomes, write one thing students must do to demonstrate competence.

# Examples

## ■ Outcome

- Students will have a thorough understanding of key architectural principles..

## ■ Performance Indicator

- Students will develop and deliver a presentation to a real or simulated lay audience on an assigned architectural topic without the use of technical jargon.

# Examples

## ■ Outcome

- Students will be able to competently use laboratory procedures commonly used in chemical testing and analysis, including (list).

## ■ Performance Indicator

- In a laboratory, students will perform, in its entirety, each laboratory procedure on a prescribed list.

# Examples

## ■ Outcome

- Students will be able to work effectively in teams to solve problems in mechanical engineering.

## ■ Performance Indicator

- As a team, students will develop and deliver a paper and/or presentation describing their problem-solving approach, process, results and conclusions.

# Examples

- Outcome
  - Students will be able to compose a thesis that demonstrates understanding of a literary genre in a specific historical period.
- Performance Indicator
  - Students will research, write and submit a written thesis on a literary genre of their choice. The thesis will address the historical and social/political context, significant authors, analyses of major works, and influences on subsequent authors, literature and culture.

# Your Performance Indicators

- Review the performance indicators you listed for each learning outcome
  - Revise or propose a new performance indicator for each of your new or revised learning outcomes.

# What Now?

- Look over everything you have done so far and think about how it fits together
- Engage your colleagues in this discussion
  - Program mission
  - Learning outcomes and performance indicators

# Assessment Methods

- Validity of each method to the performance indicator
- Advantages (& disadvantages) of each method
- Use multiple methods for each outcome
- Pilot test assessment methods
- Re-evaluate! Assessment plans are dynamic
- Sustainability! (e.g. time, effort, & money)

# Assessment of Student Learning Outcomes

- Programs may have cognitive, performance, & attitudinal student learning outcomes
  - » What do students *know*?
  - » What can students *do*?
  - » What do students *care about*?
- Different assessment methods may be associated with different student learning outcomes?

# Assessing Cognitive Outcomes

- **Exams** are a good choice when the goal of assessment is to:
  - Review student achievement
  - Demonstrate an ability to process or use knowledge
  - Determine acquisition of knowledge
  - Obtain multiple observations of content-related knowledge
  - Assess large numbers of students efficiently

# Assessing Performance Outcomes

- Activities may be used to assess skill outcomes:
  - Activities invite students to do his/her best work
  - Activities may be used in conjunction with knowledge-based assessment methods
  - Embed assessment into existing classroom activities to gather program level data when possible
  - Activities build on daily work so assessment is less intrusive

# Assessing Attitudes & Perceptions

- Accrediting bodies frequently ask programs to include feedback from students, alumni, &/or employers:
  - Surveys
  - Focus groups
  - Interviews
  - Advisory Committees
- These methods may provide external data for the Program Assessment Plan

# Institutional Data

- Routinely collected university level data may enhance or explain program level data
  - Demographic data
  - Admission data
  - Academic performance data
  - Retention & completion data
  - Transcript data

# Assessment Method Types

- *DIRECT* assessments require students to demonstrate knowledge &/or skill by responding to some measure
- *INDIRECT* assessments ask students to reflect on their learning experiences rather than demonstrate them specifically

# Direct

- Exams
- Performance-based
  - Portfolios, projects, papers, exhibitions, recitals, presentations, capstone courses, internships
- Simulations
- Publications

# Indirect

- Surveys
- Interviews (exit)
- Focus groups
- Retention & completion rates, cohort tracking
- Employment & education
- Transcript analysis
- Institutional data

# Each Assessment Method Has . . .

## ■ Advantages

- Implement quickly
- Inexpensive
- Efficient &/or timely
- Embedded
- Staff expertise
- Scoring & reporting available
- Comparisons
- Broad content range
- Student Motivation???

## ■ Disadvantages

- Validity/reliability ??
- Expensive
- Staff & student time
- Response rates
- Relevance to outcome
- Scoring, reporting, & data management issues
- Cross program comparison is difficult
- Broad content range
- Student Motivation???

# Example:

## Standardized Test

### ■ Advantage

- Off the shelf
- Efficient to administer
- Easy to score
- Sample broad content range
- Multiple versions
- Normative
  - » Group comparisons
  - » Program comparisons

### ■ Disadvantage

- Not tailored to local needs
- May lack analysis or reporting flexibility
- Measures recall or test taking skills
- Content limitations
- Force choice responses
- Student motivation
- Assumes uniformity

# Identifying & Evaluating Assessment Methods

- Based upon your Outcome Statements:
  - Examine Assessment Methods that could be used to collect data for Performance Indicators
  - Write **1** Assessment Method for each SLO & Performance Indicator you have already written
  - For the SLO & Performance Indicator you shared with the group, add the Assessment Method you selected

# Recap

- Focus on outcomes and indicators, they will point you to the Assessment Methods
- Look at data you already have, use or modify if possible and appropriate
- In the beginning:
  - Limit the methods you use
  - Limit how much assessment you do
  - Do what you plan to do well, and make it count

# Data Analysis

- A clear picture of your results
  - Current results compared to outcomes/standards
    - » Number and percent of students performing at various proficiency levels
    - » Performance differences for different student categories (e.g., transfer students, scores on standardized exams, GPAs, etc.)
  - Outcome results over time
    - » Trend lines (is student performance changing)
    - » Correlations with curriculum/instruction changes

# Using Assessment Results

- Important principles
  - All program faculty engaged
  - Someone to coordinate/facilitate the process
  - Approach discussion with an open mind
  - Have results portrayed clearly
  - Have your curriculum map ready – **our what?**

# Aligning Learning Outcomes with Curriculum

- Important principles
  - Document where knowledge and skills needed to demonstrate outcomes are taught
  - Identify points in the curriculum where outcomes are currently assessed

# Mapping the Curriculum

- Where do course objectives and program outcomes coincide?
- A course-by-course analysis

# Chart the Course

Course:	Program	Program
History of Everything	Outcome 1	Outcome 2
Course Objective 1	Not addressed	Introduced: How addressed & assessed
Course Objective 2	Reinforced: How addressed & assessed	Not addressed

# Map the Curriculum

Program: **Alternative Arts and Sciences**

Courses

Outcomes

Students can tell  
the future

Students can read  
minds

Palm Reading 102

**Introduce  
concepts**

**Introduce skills**

**Reinforce  
concepts**

Crystal Ball  
Analysis 480

**Advanced skill  
development**

**Reinforce  
concepts**

# Curriculum Map

Required Courses	Outcome 1	Outcome 2	Outcome 3
AA&S 101	I		I ✓
AA&S 102	R ✓	I	
Elective Courses			
AA&S 350	R ✓	A	R
AA&S 470	A	A	

# Program Evaluation

- If assessment results fall short of what you want and expect, use your curriculum map to begin looking for the cause

# Evaluation Questions

1. Is the outcome adequately included in the curriculum?
2. If so, according to the map, is it also included in the course syllabi?
3. If so, is it being taught as described?
4. If so, is it being learned (assessed)?
5. If so, is the learning retained?
6. If so, does the outcome or its assessment need modification?

# Evaluate Success

- Look at outcomes where student performance is high
- Do a similar evaluation of why this is so
- Determine if there are principles or methods that can be used in less successful areas

# Make Modifications

- Agree on changes to be made for the next curriculum cycle
- Limit the amount of change at one time
- Insure the change occurs
- At the end of the next cycle, focus on assessment results connected to the change
- Look for unanticipated consequences

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# The Program Assessment Plan

# Major Tasks

## ■ Assessment Plan Development:

- Engage faculty in development of assessment plan
- Identify 3-5 Student Learning Outcomes
  - » Identify performance indicators (What?)
  - » Select assessment methods (How?)
- Formulate implementation scheme
  - » **Submit Assessment Plan via Web to OUA (Spring 2002)**

## ■ Assessment Plan Implementation

- Pilot test methods (collection, storage, analysis, etc.)
- Revise assessment plan, if necessary
- Collect & analyze data
- Engage all faculty in review of results
- Initiate program improvements
  - » **Submit Report of program changes via Web to OUA (Spring 2003)**

# Priorities for Plan Development

- Submit Assessment Plan draft by **March 29<sup>th</sup>**. Final Plan is expected by **May 8<sup>th</sup>**
- Every degree-granting program (with graduates) needs an Assessment Plan eventually
- Programs with **NO** graduates need **NOT** develop Plans
- Programs with the most significant levels of graduates should develop Plans spring semester
- Doctoral programs need **NOT** be develop Assessment Plans spring semester 2002
- Different degree levels (BS, MS, Doc) suggest another Plans
- Programs/departments decide if programs are distinct (BS v BA or areas of concentration) enough to justify another Plan