

# LEARNING OUTCOMES & OBJECTIVES:

IMPROVING ASSESSMENT PLANS  
WITH  
EFFECTIVE OUTCOMES & MEASURES

NORTHERN NEVADA ASSESSMENT  
CONFERENCE  
JANUARY 29, 2010

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# Assessment Language



- Goals, outcomes, objectives
- Measures, metrics, indicators, data
- Methods – direct & indirect, assessment processes
- Use of Results - closing the loop
- Plans & reports

# Outcomes and Objectives



- Learning Outcomes

- Broad, general goals
- Difficult to measure directly

- Learning Objectives

- Skills, attitudes, values, etc. associated with an outcome
- Building blocks for effective instruction
- Much easier to measure

# Developing Learning Objectives

- Objectives should have
  - ▣ verb to describe the behavior which demonstrates the student's learning
  - ▣ Information about the context for the demonstration
  
- Sample action verbs:
  - ▣ compile, create, plan, revise, analyze, design, select, utilize, apply, demonstrate, prepare, use, compute, discuss, explain, predict, assess, compare, rate, critique
  
- Some verbs should be avoided
  - ▣ Unclear and subject to different interpretations in terms of what action they are specifying.
    - know, become aware of, appreciate, learn, understand, become familiar with

# Developing Learning Objectives



- Learning objectives should be SMART
  - specific,
  - measurable,
  - acceptable to the instructor,
  - realistic to achieve, and
  - time-bound with a deadline).

# Developing Learning Objectives

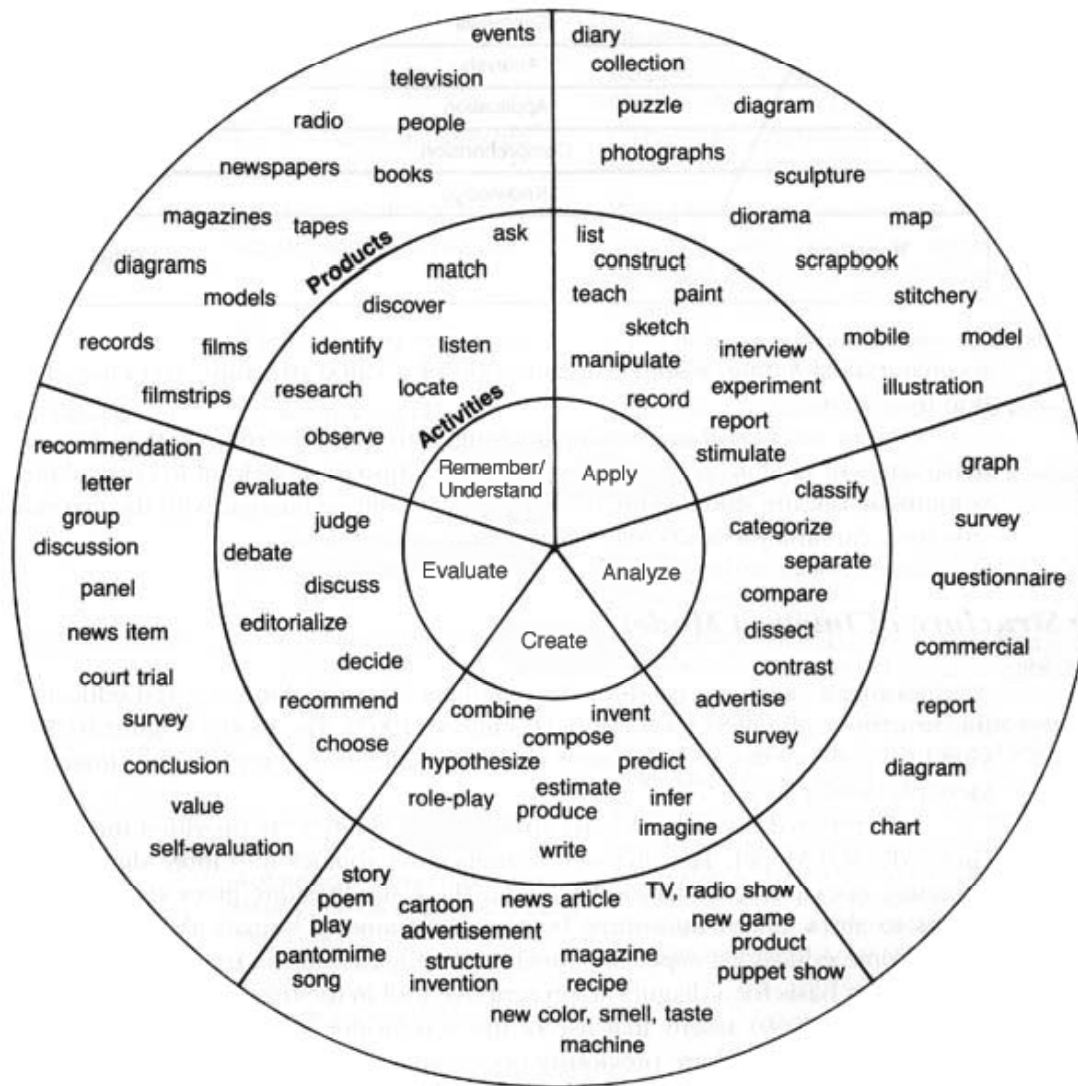
- Performance,                      The student will..... (verb)
  - Conditions,                      Given X..... (Optional, only if needed)
  - Expectations/Criteria   Meeting a quality of....
- 
- (Performance) Students will produce two hypotheses, (Conditions) when presented with information sources on a topic (criteria) that are original and testable.

# Bloom's Classification of Cognitive Skills

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

# New Version of Bloom's Taxonomy

## Cognitive Taxonomy Circle



# Developing Learning Objectives

## **Examples:**

- ❑ Articulate the procedure for assessing the health status of a patient with Alzheimer's Disease.
- ❑ Plan workable strategies for incorporating new staff into the work team.
- ❑ Analyze and match three works of short fiction of contrasting genres with correct genre.
- ❑ Develop a care plan for a family of six supported by an annual income of \$32,000, and caring for a child who has cystic fibrosis.

# Developing Learning Objectives



- Topic: Stress Management
  - Write a learning objectives using an appropriate verb.

# Outcomes and Objectives



- An outcome can be measured by gathering evidence from a collection of objectives
  
- **General Education Outcome: Communicate effectively in writing to various audiences.**

# **Outcome: Communicate effectively in writing to various audiences.**

- **General Education Outcomes are very general, and can be captured by more specific objectives:**
  - Discover and then develop a controlling idea for each writing project.
  - Select, organize, and relate ideas and develop them coherently.
  - Effectively use the basic structures and techniques of writing: at word, sentence and paragraph level.
  - Employ typical rhetorical techniques, such as openings, effective paragraphing, transitions, and closings.
  - Develop the judgment and flexibility to choose the rhetorical strategies, style, and level of language most appropriate to the audience, purpose, and genre of their writing.

# Student Learning Outcomes

- SLOs:
  - ▣ *Broad statements about what students in a 'program' are expected to know or be able to do*
  - ▣ *Operationally defined educational goals that can be measured – Student artifacts, i.e. products or performance*
    - Cognitive Domain
      - Knowledge & comprehension
    - Performance Domain
      - Skill & ability
    - Higher Order Domain
      - Apply, synthesize & evaluate
    - Other Outcomes (dispositions, post-grad, life-long)

# Student Learning Outcomes

- Graduates will demonstrate a strong fundamental knowledge of . . .
- Students will be able to assess a problem . . . and propose solutions. (CT)
- Students establish independence and demonstrate the capacity for scientific creativity.
- Students will recognize and respect community diversity.
- Graduates should be prepared for further **education** &/or **employment**.

# Assessment Plan Rubric

Student Learning Outcomes (SLO)	Good Overall	Sound, but needs revision	Needs significant improvement
<p>SLOs are concise, singular statements that indicate what students in a program are expected to know or be able to do at some stage (mid-point and/or conclusion) of their studies.</p>	<p><u>All SLOs</u> are at an appropriate program level, state a single outcome clearly and student achievement can reasonably be measured through assessment of student work (behaviors &amp; products).</p>	<p><u>One or more SLOs</u> may not clearly state program-level outcomes of student competence/ability; SLOs may not state competencies that can be demonstrated by measurable student artifacts (PIs); or SLOs may not be measureable.</p>	<p><u>Most or all SLOs</u> do not state a program-level outcome of student competence/ability; SLOs do not state competencies that can be demonstrated by measurable student artifacts (PIs); or SLOs may not be measureable.</p>

# Poor SLO Examples

- Program X is committed to ensuring that our students are provided with a facility that enables them to learn in conditions and with tools that approximate those found in professional practice.
- Students are given numerous opportunities to present their work at different platform levels and practice their verbal skills.
- Capitalize on learning experienced through well-designed departmental curriculum, advising, access to faculty and opportunities for training and experience.

# Poor SLO Examples (Cont)

- Students will demonstrate the ability to work as a team, to plan and prepare for an event, and to budget and control expenditures.
- Graduates will understand the role X plays in our modern global society, that much is to be learned from the past and applied to the present and that a responsible graduate is ethical and will continue to increase his/her knowledge throughout his/her lifetime.
- Students will engage in oral participation and presentation of research analysis.
- Communication skills

# Group Exercise



- Apply Rubric - review each SLO A = Okay, B = Average, C = Poor
- If possible – identify the domain of each SLO
- Determine whether each SLO is appropriate:
  - ▣ Clearly states a single outcome;
  - ▣ Can reasonably be measured;  
and if not,
  - ▣ Re-write it.

# Performance Indicators

- PIs – measureable student artifacts (behaviors & product)

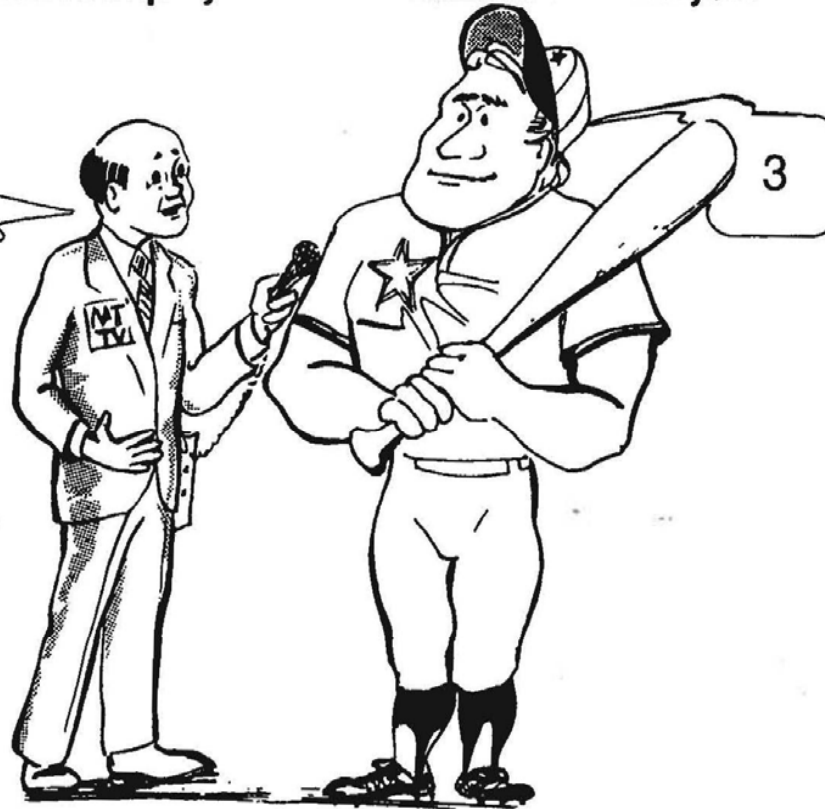
Direct Measures (unfiltered)	Indirect Measures (mediated/reflective)
<ul style="list-style-type: none"><li>• Pre – post tests</li><li>• Portfolios/exhibitions/performances</li><li>• Simulations</li><li>• Research papers or essays</li><li>• Presentations (in courses)</li><li>• Oral Exams (Languages)</li><li>• Employer/internship ratings</li><li>• Capstone projects</li><li>• Senior thesis</li> <li>• External Validation<ul style="list-style-type: none"><li>• Standardized/licensure exams</li><li>• Publications (books &amp; articles)</li><li>• Presentations (conferences)</li><li>• Grad school acceptance/success</li><li>• Career placement/achievement</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Surveys</li><li>• Interviews</li><li>• Focus groups</li><li>• Self reports</li><li>• Curriculum &amp; syllabi analysis</li><li>• Employer/internship ratings</li> <li>• External Validation<ul style="list-style-type: none"><li>• Comparative data (NSSE, EBI, USNWR, etc.)</li></ul></li></ul>

## Mixing Methods

Qualitative Inquiry

Quantitative Analysis

Last year you had 2 home runs all season. This year you have 5 in one month. What's the difference?



# Program Assessment Plan Rubric

Performance Indicators (PI)	Good Overall	Sound, but needs revision	Needs significant improvement
<p>PIs identify what students will do to demonstrate their competence re: an SLO.</p> <p>A student artifact (behavior or product) is actual student work that can be measured (e.g., direct measures: paper, project, &amp; presentation; or indirect measures: exit interviews &amp; survey responses).</p>	<p><u>All PIs</u> specify a direct measure of a student behavior or product (an artifact) that informs students' achievement on each SLO relative to program-level standards.</p> <p>Appropriate direct and indirect measures of student performance are identified.</p>	<p><u>One or more PIs:</u> restate/expand SLOS and not describe a measurable student behavior or product;</p> <p>PIs may not contribute to determining student achievement of SLOs;</p> <p>PIs does not identify a direct measure &amp;/or rely too much on grades &amp;/or indirect measures.</p>	<p><u>Most or all PIs:</u> may restate/expand SLOS and not describe a measurable student behavior or product;</p> <p>PIs may not contribute to determining student achievement of SLOs;</p> <p>PIs rely almost exclusively on grades &amp;/or indirect measures.</p>

# Group Exercise



- Review each of your revised SLOs
- Identify 1 direct & 1 indirect method



**“Sir, the following paradigm shifts occurred while you were out.”**

# Resources [\(<http://www.unr.edu/assess/resources/index.html>\)](http://www.unr.edu/assess/resources/index.html)

## □ **National Resources**

- National Institute for Learning Outcome Assessment – <http://www.learningoutcomeassessment.org/>
- Internet Resources for Higher Education Outcomes Assessment – NC State – <http://www2.acs.ncsu.edu/UPA/assmt/resource.htm>
- HE Resource Hub – <http://www.higher-ed.org/resources/Assessment.htm>
- Searchable Glossary – James Madison – <http://people.jmu.edu/yangsx/>
- Glossaries – Queensland U – <http://ahe.cqu.edu.au/glossaries.htm>

## □ **Assessment Resources by Institution**

- Eric Soulsby's Assessment Notes – U of Connecticut  
[http://www.unr.edu/assess/PlanResources/ResourcesPages/Eric\\_Soulsby\\_Assessment\\_Notes.pdf](http://www.unr.edu/assess/PlanResources/ResourcesPages/Eric_Soulsby_Assessment_Notes.pdf)
- Assessment Handbook – Skidmore – <http://cms.skidmore.edu/assessment/Handbook/>
- Assessment Workbook – Ball State – <http://web.bsu.edu/IRAA/AA/WB/contents.htm>
- Assessment Manual – U of Wisconsin, Madison – <http://www.provost.wisc.edu/assessment/manual/>
- Program Based Assessment – U of Mass – [http://www.unr.edu/assess/resources/UMass\\_Program\\_Based\\_Assessment.pdf](http://www.unr.edu/assess/resources/UMass_Program_Based_Assessment.pdf)
- Course Based Assessment – U of Mass – [http://www.umass.edu/oapa/oapa/publications/online\\_handbooks/course\\_based.pdf](http://www.umass.edu/oapa/oapa/publications/online_handbooks/course_based.pdf)
- Field-tested Learning Assessment Guide – Math & Science – <http://www.flaguide.org/>
- Viable Assessment Plans (Psych) – <http://www.apa.org/ed/governance/bea/assessment-cyberguide-v2.pdf>
- Specific Academic Disciplines – Florida Atlantic – <http://www.fau.edu/iea/assessment/colldept.php>
- Learning Objectives (Program & Gen Ed) – Ohio U – <http://www.ohio.edu/learningobjectives/>

## □ **Direct & Indirect Measures**

- Examples of Direct & Indirect – Cleveland State – <http://www.csuohio.edu/offices/assessment/exmeasures.html>
- Selecting Assessment Measures – Stanford – <http://www.stanford.edu/dept/pres-provost/irds/assessment/AM.pdf>
- Direct vs. Indirect Methods – Skidmore – <http://cms.skidmore.edu/assessment/Handbook/direct-v-indirect-assessment.cfm>