Assessment of Student Learning Outcomes

Tips and Tricks to Help You Get Started

Student Learning Outcomes Committee, April 19th, 2006
Assessment of Student Learning Outcomes

Identification of Learning Outcomes, Means of Assessment, Criteria, and Use of Results is a Faculty-Driven Process!
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- **What’s the point?**
  - Control over learning outcomes, assessment, and criteria that define the *program*
  - Academic program improvement
  - Reflects program accomplishments
  - Internal and external accountability

- “It’s all so overwhelming; where do we start?”
  - Seeing the big picture
  - Conversation and discussion are essential!
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Possible Methods of Assessment:

- Quantitative Methods of Assessment
  - Assessment Culminating in a Measure/Score
  - Types of Quantitative Assessment:
    - Cognitive (Demonstration of Knowledge)
    - Attitudinal (Beliefs or Opinions)
    - Performance (Demonstration of Ability)
    - Behavioral (Use of Knowledge/Skill)

- Qualitative Methods of Assessment
  - Assessment Culminating in Informed Judgment
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Cognitive Assessment
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- **Cognitive Assessment:**
  - Absolute measure of learning or achievement
  - Measures change over time
  - Decision point:
    - Locally-Developed Means of Assessment
    - or
    - Standardized Means of Assessment
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Locally-Developed Means of Assessment:

- **Advantages:**
  - Content can be tailored to a program’s learning outcomes
  - Increased format flexibility
  - Adaptable
  - More detailed analysis possible
  - Faculty/program have “ownership”
  - Increased likelihood results will be used
  - Increasingly favored by regional accreditors
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- **Locally-Developed Means of Assessment:**

  - **Disadvantages:**
    - **Time commitment** required of faculty:
      - Development
      - Scoring
      - Maintenance
    - Lack of comparative data
    - Lacks validity and reliability; difficult to establish
    - Possible administration/scoring/reporting issues
    - External credibility
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- Standardized Means of Assessment:

  - **Advantages:**
    - Developed by external panel of experts
    - Reduces charges of subjectivity or bias
    - Availability of existing instruments
    - Ability to make normative comparisons
    - Comprehensive subject coverage
    - Easy to administer
    - Validity and reliability already established
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- **Standardized Means of Assessment:**

  - *Disadvantages:*
    - Does it “fit” or reflect your program outcomes?
    - Are results reported or available in a manner that is meaningful to the program?
    - Can faculty agree upon a common instrument?
    - Are normative comparisons meaningful?
    - Often very costly to purchase/score
    - Turn-around time on results
    - How to incorporate findings in program improvement
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Attitudinal Assessment
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- **Attitudinal Assessment:**
  - Questionnaires or Surveys Completed by:
    - Current Students
    - Students Exiting the Program
    - Alumni/Former Students
    - Employers of Graduates
    - Other constituencies that interact with program and program-defined learning outcomes
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● **Attitudinal Assessment:**

  ➢ Questionnaires/Surveys Provide:
    ✓ Opinions about the program
    ✓ A method of tracking activity (employment, transfer, etc.)
    ✓ A means of assessing value development and life skills
    ✓ Attitudes/opinions about student learning outcomes from external audiences
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Considerations in Attitudinal Assessment:

- Standardized vs. locally-developed instruments
  - Similar to issues in cognitive assessment
  - Campus/Program “Identity”
- Finding your audience
- Response rate
- Quid pro quo
- Indirect means of assessment viewed by regional accreditors as “supportive evidence”
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Performance Assessment
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- **Performance Assessment:**
  - Demonstration of ability as opposed to knowledge
  - “Authentic” assessment – able to control external variables and produce desired environment
  - Results not inferred – what you see is what you get
  - Considered “direct evidence” by regional accreditors
  - **Extremely** time-consuming, logistically intensive; should be considered as a last resort by a program and limited by the institution
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- **Performance Assessment:**
  - *Examples of Performance Assessment:*
    - ✓ “Hands-on” (motor skill) performances
    - ✓ Oral presentations
    - ✓ Capstone projects
    - ✓ Simulations
    - ✓ Internships
    - ✓ Case Studies
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Behavioral Assessment
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- Behavioral Assessment:
  - Linkage of observed or reported behavior to student learning outcome
  - What do students do as a result of accomplishing the learning outcome
  - Observation usually made on unregulated events not designed for assessment
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- **Behavioral Assessment:**
  - Extended tracking, observation, and assessment
  - Usually involves an inference of results
  - Among the most difficult (and most gratifying) to acquire information/feedback about
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- Behavioral Assessment:
  - Examples of Behavioral Assessment:
    - Employment
    - Transfer
    - Participation
    - Attendance
    - Other reported behavior related to learning outcome (e.g., if learning outcome is, “to develop a life-long love of reading,” assessed behavior after graduation might include program alumni reporting that they read 10 works of fiction annually)
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Qualitative Assessment
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- **Qualitative Assessment:**
  - Holistic judgment concerning a specific subject made by qualified evaluator(s)
  - Assessment occurs within a specific context
  - Considerable evaluator flexibility
  - Relatively subjective; difficult to establish consistent criteria
  - Evaluator objectivity in question; consider external evaluators
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- **Qualitative Assessment:**
  - Reliability – difficult to maintain long-term consistency (different evaluators, settings, environmental conditions, etc.)
  - Demands intensive training
  - Faculty sometimes resistant to training (“I’ve been teaching XYZ for 20 years and know XYZ inside-out.”)
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- **Qualitative Assessment:**
  - *Examples of Qualitative Assessment:*
    - Portfolios
    - Public Performances
    - Juried Competitions
    - Oral Presentations
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Rubric Development
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- Developing and Using a Rubric:
  - Explicit scheme for classifying products or behaviors into categories that vary along a continuum
  - Almost anything can be classified:
    - Essays
    - Reports
    - Oral Presentations
    - Performance (e.g., art work, recitals, simulations)
    - Portfolios
    - Group Activities
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- **Developing and Using a Rubric:**
  - Judgments can be:
    - Made by faculty and staff
    - Self-assessed by students
    - Made by qualified external reviewers
  - Two main types of rubrics:
    - Holistic Scoring – one global score for a product or behavior
    - Analytical Rubrics – separate holistic scoring of specified characteristics of a product or behavior
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- **Developing and Using a Rubric:**
  - **Strengths of a Rubric:**
    - Content experts can develop precise definitions
    - Complex products and behaviors can be examined more efficiently
    - Usually results in less subjective measurement
  - **Weaknesses of a Rubric:**
    - Sometimes difficult to achieve consensus on classification categories
    - Training issues - consistency in application and use
    - Time to develop, review, and modify rubrics
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- Developing and Using a Rubric:
  - Identify what you want to assess
  - Identify the characteristics of what you want to assess
  - Start with identifying characteristics that define “proficient” or “acceptable” outcome on product or behavior being assessed
  - Identify characteristics of best possible outcome (i.e., ‘advanced,’ ‘excellent,’ ‘superior,’ etc.) on product or behavior being assessed
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- Developing and Using a Rubric:
  - Identify characteristics of worst possible outcome (i.e., ‘beginner,’ ‘poor,’ ‘unacceptable,’ etc.) on product or behavior being assessed
  - Develop descriptors that characterize intermediate levels (e.g., ‘below proficient,’ ‘fair,’ etc.) of product or behavior being assessed.
  - Review and expand/collapse categories as applicable
  - Seek external review/feedback
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Establishing Assessment Criteria
## Assessment of Student Learning Outcomes

### Identifying Where Program Learning Outcomes Occur and to What Degree

<table>
<thead>
<tr>
<th>Occurs in:</th>
<th>Learning Outcome 1</th>
<th>Learning Outcome 2</th>
<th>Learning Outcome 3</th>
<th>Learning Outcome 4</th>
<th>Learning Outcome 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course A</td>
<td>I</td>
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<td>I</td>
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<tr>
<td>Course B</td>
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<td>Course C</td>
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<td>Employment</td>
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*I = Introduced;  P = Practiced;  D = Demonstrated*
Assessment of Student Learning Outcomes

- Units of Measurement:

  **Criterion Referenced**

  “To what degree did we accomplish our intended learning outcomes?”

  **Norm Referenced**

  “How does performance at our program/institution compare to performance at other programs/institutions?”
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- **Criterion-Referenced Measurement:**
  - Performance is compared to a specific learning objective or performance standard
  - Examples of Criterion Referenced Measurement:
    - “82% of students will score “proficient” or higher on the end-of-semester holistic writing sample rubric.”
    - “28% of graduates will report employment in the field within a year following graduation.”
    - “On a rubric developed by content faculty, at least 74% of students in course/program X will exhibit improvement in their critical thinking skills.”
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- **Norm-Referenced Measurement:**
  - Performance relative to other groups/populations
  - Examples of Norm-Referenced Measurement:
    - “The mean score of students taking the XYZ licensure exam will be higher than the statewide mean score.”
    - “Compared to last year’s graduates, this year’s graduates will have a 3% increase in employment in the field within one year following graduation.”
    - “9% more students will participate in supplemental instruction in course/program X than last year.”
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Primary and Secondary Criteria:

**Primary**

Minimum overall score, rating, response expected if program functioning at an acceptable level

**Secondary**

More detailed item or subscale below which faculty/staff need to review to ascertain cause and make improvement
# Assessment of Student Learning Outcomes

## Oral Communication Evaluation Sheet

<table>
<thead>
<tr>
<th>Material Organization</th>
<th>Points</th>
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<tbody>
<tr>
<td>Subject</td>
<td>1 – 5</td>
</tr>
<tr>
<td>Logical Organization</td>
<td>1 – 5</td>
</tr>
<tr>
<td>Content</td>
<td>1 – 5</td>
</tr>
<tr>
<td>Supporting Material</td>
<td>1 – 5</td>
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<table>
<thead>
<tr>
<th>Delivery &amp; Presentation</th>
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<tbody>
<tr>
<td>Voice &amp; Enunciation</td>
<td>1 – 5</td>
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<td>Language</td>
<td>1 – 5</td>
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<tr>
<td>Gestures</td>
<td>1 – 5</td>
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<tr>
<td>Eye Contact</td>
<td>1 – 5</td>
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<table>
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<tr>
<th>Overall Effectiveness</th>
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<tr>
<td>Audience Appeal</td>
<td>1 – 5</td>
</tr>
<tr>
<td>Speaker Attitude</td>
<td>1 – 5</td>
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</tbody>
</table>

**TOTAL:** 10 – 50

### CRITERIA

- **Primary Criteria**
  - Average Rating of 38 or Higher

- **Secondary Criteria**
  - On no one component will the average score be less than 3.5
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**Assessment Criteria:**

- Make criteria reasonable:
  - Student ability level
  - Ability to influence change
  - Stretch but don’t break
  - Avoid “warm breathing body” criterion

- Don’t report convenient numbers
- Don’t “walk away” from criteria
- Be prepared to fall short
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Creating an Assessment Statement
Crafting an Assessment Statement:

An Assessment Statement Should Include:

- The population being assessed
- The point of assessment
- Assessment instrument being used
- Criterion- or norm-referenced unit of measurement
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**Crafting an Assessment Statement:**

- **Population Being Assessed:** Students who graduate from the Associate Degree Nursing (ADN) Program in 2005
- **Point of Assessment? (When Graduates Take the BRN):**
- **Assessment Instrument:** Standardized Cognitive Assessment
- **Method of Assessment – Standardized Cognitive Assessment**
- **Criterion-Referenced Measure:** “Students who graduate from the Associate Degree Nursing (ADN) Program in 2005 will exhibit a higher mean score than the statewide mean on the Bureau of Registered Nursing (BRN) Exam, with no student scoring below the 50th percentile.”
- **Norm-Referenced Measure**
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- **Crafting an Assessment Statement:**

  “At the end of the final course in the certificate program, 90% of automotive technology students will be able to identify and correct 8 out of 10 mechanical problems on ‘prepared’ test cars. No single automotive malfunction will fail to be identified and corrected by less than 75% of students.”

  - **Population Being Assessed**
  - **Point of Assessment**
  - **Criterion-Referenced Measure**
  - **Assessment Instrument**
  - **Method of Assessment – Performance Assessment**
Crafting an Assessment Statement:

“On an annual follow-up survey of Accounting Program degree earners, at least 60% of students who have not continued their education at a four-year institution will report employment in an accounting-related occupation within two years of earning their degree.”

Method of Assessment – Behavioral Assessment
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“Closing the Loop”
Use of Assessment Results
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Using Assessment Results:

- Maintain focus:
  - Academic Improvement
  - Presentation of assessment findings should directly address the stated learning outcome
  - Specifically speak to criteria (e.g., “48% of students reported finding employment in the field within one year of graduation” not “met criteria”)

- Highlight accomplishments
- Respond to shortcomings revealed via assessment
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- Using Assessment Results:

  Results *should not*:
  - Exactly match criteria
  - Be statistically impossible or highly unlikely to occur
  - Be stated in future tense
  - Be reported in absolutes (e.g., “always,” “never”)
  - A promise to consider making a change through referral to a committee