Student Learning Outcomes in NOVA Programs and Classrooms

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What are student learning outcomes?

• Student learning outcomes are the knowledge, skills, attitudes, and values that students gain from a learning experience.

• Student learning outcomes define what students know, are able to do, and value by the end of a learning experience.
What is assessment?

Assessment is the ongoing process of:

• Establishing clear, measurable expected outcomes of student learning.
• Ensuring that students have sufficient opportunities to achieve those outcomes.
• Systematically gathering, analyzing, and interpreting evidence to determine how well student learning matches our expectations.
• Using the resulting information to understand and improve student learning.

(Source: Assessing Student Learning, Linda Suskie, 2004)
Assessment at NOVA

Identify Student Learning Outcomes

Gather Evidence

Use Results

Curriculum Mapping

Methods of Assessment
What is assessment?

• Assessment is an **ongoing process** aimed at understanding and improving student learning.

• It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; **systematically** gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance.

• When it is embedded effectively within larger institutional systems, assessment can help us **focus** our collective attention, examine our assumptions, and create a shared academic culture dedicated to assuring and improving the quality of higher education.

(Source: AAHE Bulletin, Thomas A. Angelo, 1995)
Purpose of Assessment

• Reinforce or emphasize the mission of your institution/program
• Ensure that institutional and program-level goals are clear to the public, students, faculty, and staff
• Use assessment results to modify, shape, and improve student learning and otherwise advance the institution
• Evaluate student learning, not personnel
• As a resource for planning and budgeting
• Assist in meeting accreditation requirements, models of best practices, and national benchmarks; required by SACS, VCCS, and SCHEV.

(Source: What Exactly is Assessment? What is Your Role in it? Marilee J. Bresciani)
SLOs and SACS

• Outcomes assessment is at the heart of institutional effectiveness.

• Institutional effectiveness is at the heart of SACS’ expectations.

• Documenting institutional effectiveness is often where schools have trouble.
SACS Expectations and Recommendation

Expectations

2.5  - Institutional Effectiveness (CR)
3.3.1 - Institutional Effectiveness (CS)
3.5.1 - General Education Goals (CS)
   (College Level Competencies)

SACS Recommendation (2002)
Section III (Institutional Effectiveness)

“The Committee recommends that the College establish a systematic evaluation process which assures that both college and unit-level institutional effective measures are outcome-based and documented college wide.”
Five Stages of Grief as relates to Student Learning Outcomes

Stage 1 – Denial
This is just a fad and will go away like the others.

Stage 2 – Anger
This is the standardization of education and defeat of creativity.

Stage 3 – Bargaining
How little do we have to do?

Stage 4 – Depression
We really have to do this?

Stage 5 – Acceptance
We can use this information to help enhance teaching & learning.
Levels of Assessment

- Classroom
- Course
- Program
- Institution
“Good” Assessments…

- Provide useful information
- Are focused, simple, & cost-effective
  - Focus on a few priority goals
- Yield reasonably accurate, balanced, and truthful information
  - Triangulation/Multiple measures
- Are systematized
  - Consistent across the organization; visible; continuous
- May be quantitative or qualitative

From Linda Suskie, Creating Effective, Viable Plans to Assess Institutional Effectiveness, 2005
Steps to Assess Student Learning Outcomes

1. Identify student learning outcomes for your program
2. Determine practices used to achieve outcomes through curriculum mapping
3. Determine methods of assessment
4. Gather evidence
5. “Close the loop”
   • Review and interpret results
   • Recommend actions
   • Make changes
   • Measure effectiveness of changes
1. Identify student learning outcomes for your program

- Student learning outcomes should be SMART:
  - Specific
  - Measurable
  - Attainable
  - Results-oriented
  - Time-bound
Examples of Student Learning Outcomes

From NOVA

• Demonstrate understanding of the basic refrigeration cycle (AIR 121 Principles of Refrigeration I)

• Identify and integrate methods of organizational structure and the related topics of division of labor, authority/responsibility, span of control, centralization/decentralization, delegation, organizational change, staffing, and diversity within the workforce (BUS 200 Principles of Management)

• Use conceptual tools and analysis to interpret the measures and objectives of households and firms (ECO 202 Principles of Microeconomics)
Examples of Student Learning Outcomes

Accounting: Analyze and record information necessary to complete the full accounting cycle.
http://aslo.lbcc.edu/workbook.doc

Nursing: Demonstrate effective communication skills in nurse/client and professional relationships in the practice of nursing.
http://www.cabrillo.edu/services/pro/assess/assessweb/docs/Sample%20Occupational%20SLOs.doc

Hospitality: Utilize recent research and theory in hospitality operations management effectively and assess new advances in specialties

Geology: Demonstrate understanding of the basic concepts in eight subject areas: physical geology, historical geology, mineralogy, petrology, sedimentology/stratigraphy, geomorphology, paleontology, and structural geology

http://uat.okstate.edu/assessment/assessment_plans/outcome_statements.html
2. Determine practices used to achieve outcomes through curriculum mapping

• Curriculum mapping is a method for depicting the alignment between the curriculum and the learning outcomes of the program.

• Curriculum mapping helps …
  • answer the question “What do you do in your program to foster the desired knowledge, skills, and values?”
  • identify “gaps” in a program
  • refine outcomes
  • allows faculty to identify potential sources of embedded assessment data
  • “Close the loop”
<table>
<thead>
<tr>
<th>SLO</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Course 3</th>
<th>Course 4</th>
<th>Course 5</th>
<th>Course 6</th>
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<tr>
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<td>P</td>
<td>M</td>
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<td>I</td>
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<td></td>
<td>M</td>
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<td></td>
<td>I</td>
<td>P</td>
<td></td>
</tr>
</tbody>
</table>
3. Determine methods of assessment

- Measures should be tied to student learning outcomes
- When appropriate, use what you are already doing
- Methods can be direct or indirect
- Use multiple methods of assessment
Direct Methods of Assessment

- Standardized tests
- Certificate exams
- Locally developed tests/test questions
- Rubrics for evaluating:
  - Essays/Papers
  - Labwork
  - Exam questions
  - Capstone projects
  - Exhibits
  - Performances/Presentations
  - Portfolios of student work
  - Comprehensive exams
Indirect Methods of Assessment

- Surveys
  - Student
  - Alumni
  - Employer
- Exit interviews
- Focus groups
- Job placement rates
- Course evaluations
3. Determine methods of assessment

- Measures for assessing student learning outcomes should be MATURE:
  - Matches: directly to the outcome it is trying to measure
  - Appropriate methods: uses appropriate direct and indirect method
  - Targets: indicates desired level of performance
  - Useful: measures help identify what to improve
  - Reliable: based on tested, known methods
  - Effective and Efficient: characterize the outcome concisely

Adapted from Paula Krist, Director of Operational Effectiveness and Assessment Support, University of Central Florida. Presentation at the Annual Forum of Association for Institutional Research, Chicago, IL, May 2006.
Methods that Provide Immediate Feedback for Your Classroom:

Classroom Assessment Techniques (CATs)
Classroom Assessment Techniques

• The primary goal is to better understand your students' learning and so to improve your teaching.

• The approach is that the more you know about what and how students are learning, the better you can plan learning activities to structure your teaching.

• The techniques are mostly simple, non-graded, anonymous, in-class activities that give both you and your students useful feedback on the teaching-learning process.

Classroom Assessment Techniques

• Choose a Classroom Assessment Technique (CAT) that provides this feedback, is consistent with your teaching style, and can be easily implemented in your class.

• Examples
  • Minute paper
  • Muddiest point
  • One-sentence summary
  • Directed paraphrasing
  • Student-generated test questions
Classroom Assessment Techniques

Benefits

• Provides short-term feedback about the day-to-day learning and teaching process at a time when it is still possible to make mid-course corrections.

• Provides useful information about student learning with a much lower investment of time compared to tests, papers, and other traditional means of learning assessment.

• Helps to foster good rapport with students and increase the efficacy of teaching and learning.

• Encourages the view that teaching is a formative process that evolves over time with feedback.
4. Gather evidence

• Make sure measures are tied to outcomes

• Develop an action plan

• Means to collect student work
  
  • Assessment method is part of grading in course and is therefore applied to all student assignments by instructor

  • Assessment method is not part of grading and therefore random samples are taken from each section of course
    • Group meets to apply assessment method to sample student work
5. “Close the loop” - Review and interpret results

- Organize and summarize results
  - Organize results by outcomes
  - Aggregate data (frequencies, means, etc)
  - Present data in a way that people are comfortable with
  - Link results back to practices
  - Develop decision criteria

- Set aside designated time for review
  - e.g., a department meeting, faculty retreat, cluster meetings
5. “Close the loop” - Recommend actions

- Be as specific/concrete as possible
- Develop an action plan and assign roles
- Use data as evidence for changes
Internal Uses for Outcome Findings

• Provide direction for curricular changes
• Improve educational and support programs
• Identify training needs for staff and students
• Support annual and long-range planning
• Guide budgets and justify resource allocations
• Suggest outcome targets (expected change)
• Help the college expand its most effective services
• Facilitates an atmosphere of change within the institution

From Terri Manning and Denise Wells, The Nuts and Bolts of Outcome Assessment, 2009
External Uses of Outcome Findings

• Recruit talented faculty and staff
• Promote college programs to potential students
• Identify partners for collaboration (hospitals, businesses, etc....)
• Enhance the college’s public image
• Retain and increase funding
• Garner support for innovative efforts
• Win designation as a model or demonstration site

Terri Manning and Denise Wells, The Nuts and Bolts of Outcome Assessment, 2009
5. “Close the loop” – Make changes and measure effectiveness of changes

- Act on recommended changes
- Document changes

- An important component of the definitions of assessment is the “ongoing process” part
- The assessment cycle continues
  - Revise outcomes as necessary
    - Perhaps a program has too many goals, or goals are too ambitious, sometimes new needs and outcomes emerge
  - Refine assessment method and repeat process

Assessment is a means to continual improvement

Linda Suskie, Creating Effective, Viable Plans to Assess Institutional Effectiveness, 2005
Format for Student Learning Outcomes Planning and Reporting
# Student Learning Outcomes Assessment Plans

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Course</th>
<th>Assessment Assignment and Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop main idea by providing supporting evidence in well-organized manner</td>
<td>Course 202</td>
<td>Essay (instructions attached)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rubric (attached)</td>
</tr>
<tr>
<td>SLO 2</td>
<td>Course 1xx</td>
<td>Multiple-choice questions embedded in final exam</td>
</tr>
<tr>
<td>SLO 3</td>
<td>Course 2xx</td>
<td>Presentation (instructions attached)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rubric (attached)</td>
</tr>
</tbody>
</table>
## Assessment Progress Reports

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Course</th>
<th>Assessment Assignment and Method</th>
<th>Results/Findings</th>
<th>Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop main idea by providing supporting evidence in well-organized manner</td>
<td>Course 202</td>
<td>Essay (instructions attached) Rubric (attached)</td>
<td>a. 80% of students were competent or better in organizing evidence b. 60% were competent or better at providing appropriate evidence c. 50% were competent or better at citing evidence</td>
<td>a. No actions necessary b. In instructions, highlighted reputable sources c. Included in handouts appropriate methods of citation</td>
</tr>
</tbody>
</table>
Assessment at NOVA

Identify Student Learning Outcomes

Gather Evidence

Use Results

Curriculum Mapping

Methods of Assessment
Seven (Mis)Perceptions about Assessment and Responses

1. We’re doing just fine without it. (Assessment is medicine only for the sick.)
   Okay, then let’s use assessment to find out what works, and to help us document and build on our successes.

2. We’re already doing it. (Assessment is just old wine in new bottles.)
   Okay, then let’s audit all the assessments we already do to discover what we know and what we don’t.

3. We’re far too busy to do it. (Assessment is an “administrivial” burden.)
   Okay, but since we’re already doing it, let’s use assessment to see where and how we can save time and effort.
Seven (Mis)Perceptions about Assessment and Responses

4. The most important things we do can’t/shouldn’t be measured. (Assessment is too reductive and quantitative.)
   And not everything measurable should be measured, but let’s see if we can agree on how we can tell when we’re succeeding in these most important things.

5. We’d need more staff and lots more money to do assessment. (Assessment is too complex and expensive.)
   Since we’re unlikely to get more resources, how, what, and where can we piggyback, embed, and substitute?

Adapted from T. A. Angelo—DePaul University School for New Learning, June 2001, “Closing the Loop”
Why can’t we just use course grades?

• A course grade is too aggregate a measure to provide an assessment of specific student learning outcomes.

• Course grading criteria (e.g., what comprises the actual grade, such as attendance) differ from assessment criteria.

• Course grades reflect student achievement of learning objectives specific to the class and assignment.

• Assessment of student learning outcomes examines the culmination of several classes and activities throughout the curriculum, rather than the achievements of one course.

• Grading processes vary too much across instructors, sections, and semesters.
Making it Manageable & Sustainable

1. Start small and keep it simple
   a. Focus on one or two outcomes at a time
   b. Try simpler methods before using complicated methods
   c. Test procedures on small scale before full implementation
2. Get help
   a. Don’t reinvent the wheel; look at what others do
   b. Seek consulting support or attend workshops
3. Have clearly assigned responsibilities
   a. E.g., a SLO Lead Faculty; an assessment committee
4. Choose assessment methods that are both efficient and effective
   a. E.g., Use surveys instead of interviews when appropriate
      Yield almost the same information but require less effort to implement,
      manage, and tabulate results
   b. E.g., Choosing between embedded test questions and essays
      For some outcomes, test questions may yield the most appropriate
      information. However, essays may be more appropriate for assessing
      communication skills.
Making it Manageable & Sustainable

5. Integrate with existing practices
   a. Embed assessments (e.g., in required exit courses)
   b. Make minor modifications to existing practices
      Final presentations, papers, theses, exams

6. Organize and document
   a. Have central repository for assessment information
   b. Use existing documents (e.g., plans or maps) as organizational structures

7. Use technology
   a. Online surveys with automatic data summaries
   b. Use spreadsheets or data analysis programs to organize and analyze results
   c. Investigate how Blackboard can be utilized to simplify processes

(Source: Tips for Making Assessment Meaningful, Manageable & Sustainable, Margaret Kasimatis)
What assessment at NOVA is NOT about:

- Evaluating individual faculty and students
- Reducing faculty academic freedom
- Top-down processes

What assessment at NOVA IS about:

- Fostering a culture of continual improvement
- Evidence-based decision making
- Faculty involvement
- Developing an accurate picture of NOVA students’ knowledge, abilities, attitudes and values as relates to program learning outcomes.
8 Questions that Assessments Can Answer

1. Are our students meeting our standards?
2. Are our students meeting external standards?
3. How do our students compare to their peers?
4. How do our students compare to the best of their peers?
5. Are our students improving?
6. Are our teaching & curricula improving?
7. Are our students doing as well as they can?
8. What are our students’ relative strengths & weaknesses?

From Linda Suskie, Middle States Commission on Higher Education, 2007
Next Workshop
Coming in April

Writing Student Learning Outcomes
and
Curriculum Mapping
Other Future Workshops

- Assessment Methods
- Classroom Assessment Techniques
- Developing Rubrics
- “Closing the Loop” – Using Results to Enhance Student Learning
Questions?
Informational Packet and Your Feedback
Thank You

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