S.O.S.: Student Outcomes Solutions for Program Assessment

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CS-55
AGENDA

- Overview and Purpose
- Definitions:
  - program assessment
  - student learning outcomes
- Assessment standards across agencies
- Writing Student Learning Outcomes
  - mapping to accrediting agencies
  - You try it!
  - issues in measurement of SLO’s
Definitions

- Program Assessment: setting and assessing outcomes that will promote program improvement

- Types of outcomes:
  - Program outcome: A specific, measurable statement that describes desired performance.
  - Student learning outcome: A specific type of program outcome that describes the intended learning outcomes that students must meet on the way to attaining a particular degree.
Institutional Effectiveness (IE)

“The institution engages in ongoing, integrated, and institution-wide research-based planning and evaluation processes that incorporate a systematic review of programs and services that (a) results in continuing improvement and (b) demonstrates that the institution is effectively accomplishing its mission.” (Core Requirement 2.5)

“The institution identifies expected outcomes for its educational programs and its administrative and educational support services; assesses whether it achieves these outcomes; and provides evidence of improvement based on analysis of those results.” (Comprehensive Standard 3.3.1)
Program Specific Accrediting Bodies

- **ABET:**
  Accreditation Board for Engineering and Technology

- **AACSB:**
  Association to Advance Collegiate Schools of Business

- **NCATE:**
  National Council for Accreditation of Teacher Education

- **CCNE:**
  Commission on Collegiate Nursing Education
ABET Criterion 3: Program Outcomes & Assessment

Specifies a list of (a-k) of student learning outcomes for engineering programs:

(a) an ability to apply knowledge of mathematics, science, and engineering
(b) an ability to design and conduct experiments, as well as to analyze and interpret data
(c) an ability to design a system, component, or process to meet desired needs
(d) an ability to function on multi-disciplinary teams
(e) an ability to identify, formulate, and solve engineering problems
(f) an understanding of professional and ethical responsibility
(g) an ability to communicate effectively
(h) the broad education necessary to understand the impact of engineering solutions in a global and societal context
(i) a recognition of the need for, and an ability to engage in life-long learning
(j) a knowledge of contemporary issues
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
Performance Standards: The school must show that students reach the learning goals for their respective degree programs.

4. Assessment Tools and Procedures
   ...a brief statement of learning goals of each degree program, along with a list of assessment tools, procedures, and results used to demonstrate progress toward an achievement of the mission.
The school must show that students reach the **learning goals for their respective degree programs**.

...an undergraduate degree program that includes **learning experiences in such general knowledge and skills as**:

- communication abilities
- ethical understanding and reasoning abilities
- analytic skills
- use of information technology
- multicultural and diversity understanding
- reflective thinking skills
- management-specific knowledge and skills areas...
“Through standards that focus on systematic assessment and performance-based learning, NCATE encourages accredited institutions to engage in continuous improvement based on accurate and consistent data.”
“All SPAS… must include required assessments that address the five following areas:…

5. An assessment that demonstrates candidate effect on student learning, or (for non-teaching fields) the ability to create supportive learning environments.”
NCATE: Specialized Program Associations Standards

Student Learning for Teacher Candidates
(Initial and Continuing Preparation for Teachers)

Unacceptable
Teacher candidates cannot accurately assess student learning or develop learning experiences based on students’ developmental levels or prior experience.

Acceptable
Teacher candidates focus on student learning as shown in their assessment of student learning, use of assessment in instruction, and development of meaningful learning experiences for students based on their developmental level and prior experience.

Target
Teacher candidates accurately assess and analyze student learning, make appropriate adjustments to instruction, monitor student learning, and have a positive effect on learning for all students.

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The curriculum is developed in accordance with the mission, goals, and expected outcomes of the program and reflects professional nursing standards and guidelines and the needs and expectations of the community of interest. There is congruence between teaching-learning experiences and expected outcomes. The environment for teaching, learning and evaluation of student performance fosters achievement of the expected outcomes.
III-A. The curriculum is developed, implemented, and revised to reflect clear statements of expected student learning outcomes that are consistent with professional nursing standards and guidelines and congruent with the program’s mission, goals, and expected outcomes.

Examples of Evidence:
1. Provide evidence that the curriculum reflects clear statements of expected student learning outcomes and contributes to the accomplishment of expected program outcomes.
Student Learning Outcomes: Think SMART

**Specific**
- Clear and definite terms describing expected abilities, knowledge, values, attitudes, and performance

**Measurable**
- It is feasible to get the data, data are accurate and reliable; it can be assessed in more than one way

**Aggressive but Attainable**
- Consider stretch targets to improve the program

**Results-oriented**
- Describe what standards are expected of students

**Time-bound**
- Describe where you would like to be within a specified time period
Developing Student Learning Outcomes

ABET Criterion 3:k
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Outcome: Aerospace engineering graduates will demonstrate the ability to use equipment to determine and control aircraft altitude.
AACSB: Undergraduate Business
“includes learning experiences in such general knowledge and skill areas as:
Communication abilities…

Outcome: Graduates of the BS program in Business Administration will demonstrate proficiency in oral communication of the kind expected in professional paper presentations.
NCATE: Standard 1
“Candidates preparing to work in schools as teachers or other professional school personnel know and demonstrate the content, pedagogical, and professional knowledge, skills, and dispositions necessary to help all students learn.”

Outcome: Teacher candidates accurately assess and analyze student learning.
Developing Student Learning Outcomes

CCNE Examples of Evidence:
1. Provide evidence that the curriculum reflects clear statements of expected student learning outcomes and contributes to the accomplishment of expected program outcomes.

Outcome: Nursing graduates will demonstrate high level proficiency in acute care assessment of patients.
MATURE: Measuring Student Learning Outcomes

**M**atches
- directly related to the outcome it is trying to measure

**A**ppropriate methods
- uses appropriate direct and indirect measures

**T**argets
- indicates desired level of performance

**U**seful
- measures help identify what to improve

**R**eliable
- based on tested, known methods

**E**ffective and **E**fficient
- characterize the outcome concisely
Program Assessment Measures

**direct measures**
- standardized exams
- locally developed exams
- external examiner
- oral exams
- minute papers
- portfolios (with rubrics)
- behavioral observations
- simulations
- project evaluations
- performance appraisals

**indirect measures**
- written surveys and questionnaires:
  - student perception
  - alumni perception
  - employer perception of program
- exit and other interviews
- focus groups
- student records
**Outcome:** Aerospace engineering graduates will demonstrate the ability to use equipment to determine and control aircraft altitude.

**Measure 1:** Students will earn a 90% or higher on the questions embedded in the final exam in AER3221 dealing with correct use of equipment related to altitude.
Linking Learning Outcomes and Measures

**Outcome:** Aerospace engineering graduates will demonstrate the ability to use equipment to determine and control aircraft altitude.

**Measure 2:** Junior level students using a flight simulator will be rated at least satisfactory by a flight faculty member on the test of equipment that controls altitude.
Linking Learning Outcomes and Measures

Outcome: Graduates of the BS program in Business Administration will demonstrate proficiency in oral communication of the kind expected in professional paper presentations.

Measure 1: In the Capstone Course BA4321, each student will earn at least 90% on the oral presentation section of their capstone project. A scoring rubric will be used to assess elements of communication proficiency for specific skills.
**Outcome:** Graduates of the BS program in Business Administration will demonstrate proficiency in oral communication of the kind expected in professional paper presentations.

**Measure 2:** After viewing and analyzing videotapes of professional paper presentations, junior level BSBA students will achieve satisfactory or better on the presentation skills rubric assessing a 15 minute presentation in BS 3333.
Linking Learning Outcomes and Measures

**Outcome:** Teacher candidates accurately assess and analyze student learning.

**Measure 1:** Participants in Internship II will earn a “good” or “superior” rating in the analysis of student learning strengths and weaknesses in small group classroom situations. A scoring rubric will be used for assessment by the teacher evaluator and the internship supervisor.
Linking Learning Outcomes and Measures

**Outcome:** Teacher candidates accurately assess and analyze student learning.

**Measure 2:** All students will demonstrate a 90% accuracy on the hypothetical classroom situation responses that require accurate assessment and analysis of grade appropriate student learning.
Linking Learning Outcomes and Measures

**Outcome:** Nursing graduates will demonstrate high level proficiency in acute care assessment of patients.

**Measure 1:** All students will demonstrate a 90% accuracy on the hypothetical hospital situation responses that require accurate assessment of acute care responses.
Linking Learning Outcomes and Measures

**Outcome:** Nursing graduates will demonstrate high level proficiency in acute care assessment of patients.

**Measure 2:** All students will be rated high by their clinical preceptors in their patient assessment in the 3 acute care situations required in clinical practice.
Program Instruction/Assessment Mapping

Program Goal A

- Program SLO A1: analyze
- Program SLO A2: estimate
- Program SLO A3: design
- Program SLO A4: appraise
## Program Assessment Map

<table>
<thead>
<tr>
<th>SLO’s</th>
<th>Course I</th>
<th>Course II</th>
<th>Course III</th>
<th>Course IV</th>
<th>Capstone Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLO A1</td>
<td>I classify</td>
<td>E design</td>
<td></td>
<td></td>
<td>R analyze</td>
</tr>
<tr>
<td>SLO A2</td>
<td>I define</td>
<td></td>
<td></td>
<td>E choose</td>
<td>R design</td>
</tr>
<tr>
<td>SLO B1</td>
<td>I predict</td>
<td>E examine</td>
<td>R evaluate</td>
<td>R synthes</td>
<td>R evaluate</td>
</tr>
<tr>
<td>SLO B2</td>
<td>I translate</td>
<td>E specify</td>
<td>R plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLO B3</td>
<td></td>
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</tbody>
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Your Turn

1. Select:
   - ABET: Engineering
   - AACSB: Business
   - NCATE: Education
   - CCNE: Nursing
   - Other discipline without accrediting guidelines

2. Develop a student learning outcome that addresses one criterion and is S.M.A.R.T.

3. Develop one measure to assess that outcome.
Contact Information

Other assessment information is available at:
http://www.oeas.ucf.edu

Assessment plans: click Assessment Support

Continue the conversation:
pkrist@mail.ucf.edu