Assessment Plan & Report Instructions

Program assessment (i.e. assessment of students as a group) is an ongoing process designed to improve student learning. It involves identifying student learning outcomes, measuring the extent to which the outcomes are achieved, and using the results to improve the program.

Mission Statement Instructions

The mission statement is usually a short, one paragraph explanation of what the program is, and why the program exists. The following is a general format that can be used when developing a mission statement:

“The mission of (name of your program) is to (your primary purpose) by providing (your primary functions or activities) to (your stakeholders).” (Additional clarifying statements)

Note that the order in which the statements are made may vary from this format, but the content should be easily identified. The mission statement should be clear, concise, and easily understood by those outside one’s academic area. The program mission statement should be aligned with the college or school mission statement.

Examples:

The School Psychology program at the University of South Carolina is dedicated to enhancing the development of children, adolescents, families, and social systems. This is accomplished through training future leaders, generating new knowledge, and providing exemplary service. An emphasis is placed on schools and schooling, the integration of psychological and educational theory, research, and practice in the context of a collegial atmosphere, intense faculty/student mentoring, multiple theoretical perspectives, and commitment to life-long learning. Faculty and students value preparation to work in a broad range of ecological settings serving the needs of a diverse population. (Adopted, 2000).

The mission of the Biomedical Engineering Program is to develop high quality biomedical engineers by providing students with a foundation in biomedical science and engineering, conducting world-class research, creating an environment for professional development, and engaging in service to the community and the profession.
Goal Statement Instructions

Goal statements are broad, but provide a more detailed discussion of the general aims of the program that support the mission. Goal statements describe intended outcomes for students/graduates of the program in very general terms.

Example:

The BA/BS Program in Experimental Psychology expects all graduates to:

1. gain the required knowledge of theory and research in the core areas of psychology and apply them beyond the laboratory.
2. utilize scientific methodology and psychological principles in the critical evaluation of information in the public domain.
3. review and synthesize data from multiple sources and prepare and present data based reports.
4. have an enhanced understanding of self and others' behavior, and the ability to work effectively with others.
Learning Outcome Instructions

Learning outcomes are much more specific than goal statements. Learning outcomes describe the measurable skills, abilities, knowledge, or values that students should be able to do or demonstrate upon completion of the academic program. Learning outcomes should be SMART: Specific, Measurable, Agreed upon, Realistic, and Time framed.

Guidelines:

- Identify 3-5 learning outcomes that are specific, measurable, and attainable. Select learning outcomes that faculty deem most important for all program graduates to achieve upon degree completion.
- More than 5 learning outcomes can be included if required by program accrediting agencies, or if faculty believe the learning outcomes are very important for all graduates to achieve. With numerous (5+), substantial learning outcomes, faculty may decide to assess sets of outcomes on a rotating cycle (e.g. with a total of 12 learning outcomes, assessing a set of 4 outcomes each year, with a 3 year cycle), while others may prefer to assess all learning outcomes annually.
- More advanced degree programs should have more advanced learning outcomes (and different measures and criteria).

Action Verb List:
The verbs listed below can be used to create student learning outcomes. Anderson and Krathwoh (2001) have adapted Bloom's model to fit the needs of today's classroom by employing more outcome-oriented language, workable objectives, and changing nouns to active verbs.

Remember: Understand: Apply: Analyze: Evaluate: Create:
Arrange Classify Apply Analyze Appraise Arrange
Define Convert Change Appraise Argue Assemble
Describe Defend Choose Categorize Assess Combine
Identify Distinguish Compute Compare Conclude Compose
Label Explain Demonstrate Contrast Defend Construct
List Estimate Dramatize Criticize Evaluate Create
Match Interpret Employ Diagram Judge Design
Outline Infer Illustrate Differentiate Justify Develop
Recognize Paraphrase Manipulate Discriminate Support Formulate
Recall Summarize Modify Distinguish Value Generate
Repeat Translate Operate Examine Plan
Reproduce Practice Experiment Question Synthesize

Examples:
Students will be able to utilize scientific methodology and psychological principles in the critical evaluation of information in the public domain.

Students will explain relationships between and among literary elements including character, plot, setting, theme, conflict and resolution and their influence on the effectiveness of the literary piece.

Students will be able to plan, implement, and evaluate the most appropriate intervention(s) within one system level (e.g., with an individual) as well as across systems levels (e.g., family and/or group intervention; individual and/or family intervention) given the unique, diverse, and at-risk characteristics of client systems and their presenting problems and strengths.

Sample Program-Specific Learning Outcomes
Curriculum Instructions & Curriculum Mapping

Curriculum Instructions

The curriculum statement addresses the “teach it” aspect of assessment. The curriculum statement tells where in the curriculum the students will be exposed to the necessary materials to obtain the knowledge and skills associated with the goal or learning outcome. This can include specific classes as well as any extra-curricular opportunities that would provide students with the opportunity to gain knowledge or skill in the goal area.

Example:

Students will gain knowledge and skills in research methodology by completing PSYC 226 (Research Methods in Psychology), PSYC 227 (Psychological Statistics), and PSYC 228 (Laboratory in Psychology).

Curriculum Mapping

Curriculum maps are very helpful in demonstrating where in the program’s curriculum learning outcomes are being addressed. In essence, a curriculum map consists of a table with two axes, one pertaining to program learning outcomes, the other to courses in the major.

Example of a curriculum map.

<table>
<thead>
<tr>
<th>Course #</th>
<th>Learning Outcome a</th>
<th>Learning Outcome b</th>
<th>Learning Outcome c</th>
<th>Learning Outcome d</th>
<th>Learning Outcome e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course # 101</td>
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<td></td>
<td></td>
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<tr>
<td>Course # 226</td>
<td>M</td>
<td></td>
<td>L</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Course # 310</td>
<td>M</td>
<td></td>
<td>L</td>
<td>M</td>
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<tr>
<td>Course # 360</td>
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<td>Course # 430</td>
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<td>Course # 465</td>
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<td>Course # 523</td>
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<tr>
<td>Course # 589</td>
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</table>

Note: L, M, and H describe the extent to which students experience the learning outcome. L = Low emphasis on the learning outcome; M = Moderate emphasis; H = High emphasis. Every course should contribute to at least a single learning outcome.

Assessment of student learning would ideally take place in the highest-level class that includes a focus on a specific learning outcome. Presumably, that class would be the place in which students ‘put it all together,’ making it the best place and time to conduct assessment.

A program of study (such as the General Education program or a program major) has specific learning outcomes, which are developed by faculty and articulated in the Academic Bulletin. When applicable, use appropriate program learning outcomes in the course assessment plan. “Mapping” program outcomes to course outcomes shows how students develop skills and knowledge in courses that are required for their programs of study. At this point in time, curriculum maps are strongly encouraged, but not required.
Measures and Criteria Instructions

This section describes the measures that will be used to determine the extent to which a learning outcome is achieved, and defines the level of performance that must be met in order for the learning outcome to be considered achieved.

This section should include:

1) Measures
   - Measures are used to evaluate student learning, and can be direct or indirect, quantitative or qualitative.
   - Include a description of each measure that will be used to assess achievement of a learning outcome.

Examples of direct and indirect measures:

<table>
<thead>
<tr>
<th>Direct Measures</th>
<th>Indirect Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific course assignments</td>
<td>Surveys (student satisfaction, employer, alumni, exit, etc.)</td>
</tr>
<tr>
<td>Oral presentations</td>
<td>Interviews</td>
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<tr>
<td>Embedded test items</td>
<td>Focus groups</td>
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<tr>
<td>Capstone projects</td>
<td>Case Studies</td>
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<tr>
<td>Portfolios</td>
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<tr>
<td>Pre/Post testing</td>
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<td>Research projects or papers</td>
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<td>Manuscript submissions</td>
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<tr>
<td>Comprehensive exams</td>
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<td>Thesis/dissertation</td>
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<tr>
<td>Licensure/Certification exams</td>
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<tr>
<td>National/standardized exams</td>
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</tbody>
</table>

Avoid the temptation…Course grades are poor measures of learning outcomes. Course grades do not reflect the students’ strengths and weaknesses in specific areas. For instance, all students may have received an A in a course, but none may be able to write a statistical null hypothesis. Furthermore, many factors contribute to course grades that are unrelated to student learning outcomes, such as class participation, attendance, and various instructor-specific grading policies (e.g. grading on the curve, different cut-off points).

Click here to learn about the advantages and disadvantages of each measure type.

Guidelines:
- Each program must use multiple measures, one of which must be a direct measure.
- Use at least 1 measure per learning outcome.
  - Multiple measures are desirable for triangulation of results.
  - Quality of assessment measures is more important than using numerous measures that are not very meaningful.
- To inform improvement efforts, select measures that will identify relative strengths and weaknesses among students’ (aggregate) achievement of the learning outcome. For example, by using oral presentations as a measure of students’ communication skills, faculty may learn that collectively, students’ skills are weaker in the areas of delivery and organization, and stronger in content and adaptation to audience. It would be much more difficult to identifying such strengths and weaknesses when using classroom discussion as a measure.
- Consider using rubrics to score subjective assessments. Rubrics provide those doing the assessment with detailed descriptions of what is being learned and what is not, students’ collective strengths and their weaknesses.
- A given measure may be able to assess multiple learning outcomes. For instance, a thesis defense could assess students’ ability to demonstrate an understanding of content knowledge and to demonstrate oral communication skills. If using a single measure (e.g. thesis defense) to assess multiple learning outcomes, it is best to use a rubric that will allow these knowledge areas/skills to be evaluated independently.
2) Criteria

- Acceptable levels of performance need to be established for aggregate performance for each measure (not for individual student performance, but for students as a group). Examples: 80% pass with a score of 8 or higher on a 10-point rubric, 85% satisfied or very satisfied.

Guidelines:
- Programs must have an assessment criterion for each assessment measure.
- Set the criteria so that it is ambitious, but attainable. It is okay if all criteria are not met; the point of assessment is to grow and improve the program.

Examples:
Criterion for a national exam:
The average thermodynamics score of all of our students who take the National Fundamentals of Engineering (FE) examination, administered twice every year, will equal or exceed the national average for the thermodynamics section.

Criterion for an employer survey:
Based on an employer survey, which is administered once every three years, at least 75% of the employers will be satisfied with the ethical conduct and the knowledge of ethical standards of our students.

Criterion for a course evaluation:
At least 90% of our students who complete the GEOG 432 course evaluation will report that the course was “beneficial” or “very beneficial” in enhancing understanding of self and others and the ability to work with others.

Criterion for a comprehensive exam:
At least 90% of students should earn a 3 or better (on a 5-point scale) on each of the following dimensions of the comprehensive exam: basic knowledge of general linguistics; basic knowledge of phonology; basic knowledge of syntax; ability to apply knowledge to a given problem.

Rubrics
Rubrics are helpful in assessing qualitative student work. A rubric is a guide that describes the criteria that will be used to score or grade an assignment. A rubric identifies the traits that are important and describes the levels of performance (e.g., unacceptable to excellent) within each of the traits.

Rubrics can:
- assist faculty in determining which (student) skills/knowledge areas are well-developed and which skills/knowledge areas require improvement. That is, rubrics help communicate students’ strengths and weaknesses.
- reduce bias and improve consistency in scoring.
- clarify for students the expectations for an assignment.

Examples:
Department-specific rubrics. Excellent links to rubrics from various major disciplines and general education areas at other institutions. http://assessment.uncg.edu/departmentrubrics.htm


Rubistar. Rubistar is a free tool intended to help faculty design rubrics. Rubistar allows users to create new rubrics based on templates. After users select a general content area (e.g., research, writing, oral projects) and choose rating
dimensions, Rubistar generates descriptions for levels of performance. Users can add or modify the rubric text as desired. Rubrics can be downloaded, saved, and printed. http://rubistar.4teachers.org
Methods Instructions

The method section describes how and when each learning outcome will be assessed.

Include the following information:

- When assessment measures will be administered.
- Persons responsible for aggregating, analyzing, and disseminating data.
- Timeline and description of how assessment data will be interpreted, shared, and discussed among faculty and staff as appropriate in order to make decisions based on the results.

Guidelines

- A method section is necessary for each measure.
- Program-level data must be collected.
- An annual cycle for collecting data must be established.

Examples:

Faculty teaching CE 531 will submit final, ungraded reports to the program director. The program director will make a copy of the papers and return the original copy to the appropriate faculty. The program director will make sure to remove any student identifying information (e.g., name, SSN) from the copy. The program director will compile a representative sample of these papers to be distributed to the faculty for evaluation using the appropriate rubric. The faculty members will meet with the purpose of identifying students’ strengths and weaknesses and this assessment strategy. Where weaknesses are identified, recommendations will be developed and given to the entire faculty at the departmental meeting at the end of the spring semester.

In addition to pass/fail information, the oral comprehensive exam committee will evaluate the exam for assessment purposes by reporting a numerical rating (1 = excellent to 5 = unsatisfactory) of each of the following dimensions: basic knowledge of general linguistics; basic knowledge of phonology; basic knowledge of syntax; ability to apply knowledge to a given problem. Chairs of comprehensive exam committees will submit the evaluations to the program director. The program director will gather, analyze, and interpret the data from all students who took the comprehensive exam during that year, and share the results of this assessment at the program meeting in May.

Student Services will develop a list of employers to survey based on student exit interviews. Employers will be interviewed by Student Services one year after the student begins work. Student Services will collect, aggregate, and analyze the data and prepare a report. A written report of employer interviews will be presented to the director of the program every summer, and shared with faculty at the annual program retreat in August.

Capstone instructors will collect all the student portfolios at the end of the semester. The Capstone instructors will evaluate each portfolio using an established rubric. The Capstone Coordinator will compile and analyze the data. The results will be presented to the department chair late spring, and then presented to faculty during at the department’s end-of-the-year meeting in May.
Results Instructions

The results section presents the findings from the data that have been collected and analyzed in a simple, easily understood format. The result section should accurately depict the findings relevant to each learning outcome at the program level.

Include the following:

- Number of students included in the data collected for each measure.
- Data relating to aggregate performance.
- Faculty interpretation of the data and results.
- Whether criteria were met and whether the learning outcome was achieved.
- Brief description of common strengths and weaknesses among students with regard to each measure and learning outcome.

Guidelines:

- Results must be presented for each measured learning outcome, using tables/figures where appropriate.
- Because a goal of assessment is to pinpoint weaknesses in the program and suggest ways to improve it, simply indicating whether or not the criteria were met is not particularly helpful. Be sure to discuss the group’s overall performance in terms of their strengths and weaknesses (even if the criteria were met).

Examples:

Minimum acceptable performance level is 80% of students scoring at or above satisfactory level, using the rubric established for the assignment in ELCT 350.

1. Students use proper technique to solve problem. Outcome was met with 93% (39 out of 42 students) satisfactory or above.
2. Students pick appropriate engineering tool to implement solution. Outcome not met with 43% (18 out of 42 students) satisfactory or above.
3. Students demonstrate skills to solve problem. Outcome was met with 100% satisfactory or above.

Overall, students’ strengths included: Using the proper technique and discussing the solution in layman’s terms. As a group, students struggled with correctly detecting and analyzing the problem and selecting the appropriate engineering tool. Outcome was not met due to item 2 above.

Five students were tested with the Qualifying Exam in this area. The average score was 58, with a minimum of 25 and a maximum of 93. As the criterion for an acceptable level of performance was set at attaining an average of 80 or higher, the learning outcome was not achieved. Students excelled in their ability to analyze and interpret research articles. Students’ ability to write coherent, organized, well-developed papers was substandard.

In reviewing papers and oral presentations by seniors in our program, it was determined that our students are not performing at the established acceptable level of excellence when discussing issues and ideas involving literary study. Specifically, the criterion was not met as 74% (31 of 42 students), not 90%, of students earned a score of 4 out of 5 when evaluated with the rubric for assignment 1 and 2.

Exit Interview: 87.5% of students (105 out of 120 students) responding to the exit interview indicated that they were satisfied with the way they there able to develop their research and presentation skills in the course of their anthropology curriculum.

Overall and in each performance area, 80% of (72 out of 90) engineering students scored above the national average on the MFT exam in Spring 2007.
Use of Results Instructions

This section explains the actions taken based on the assessment results, and assists in documenting changes and the reasons for the changes.

Guidelines:

- Link the changes (e.g., curricular changes or changes in assessment measures and/or methods) to the assessment results.
- Evaluate and make changes to improve assessment measures and methods, if needed.
- The changes proposed need not be completed by the time the Assessment Report is submitted, but there should be a concrete plan to address the issues identified with a timetable and persons responsible.

Examples:

ELCT 350 instructors state that the students showed good ability in using modern engineering tools to solve problems, but struggled with formalization of the problem itself. Instructors will improve time management in class and hold meetings in the computer lab to work on problem formalization.
(Refers to Example #1 in Assessment Results above).

In this case the problem seems to be broad and not related to a specific student. The assessment of the problem is that four students joined the program with a lack of background in this area. The instructor will assess the situation at the beginning of the class in order to target the specific population. Results will be compared with the results in the next Qualifying Exam to determine if there is a systematic problem in this area. (Refers to Example #2 in Assessment Results above).

Although a student satisfaction survey was administered to assess our learning outcome (that students will apply conflict resolution skills in specific situations), we later realized that opportunities to demonstrate these skills were not offered in the specified course. The instructors who teach PSYC 430 will meet to determine appropriate activities that can be added to the curriculum. Additionally, the instructors will create a scoring rubric so this learning outcome can be assessed more directly.

Our accrediting agency recommended that we include more assessments throughout the curriculum. We targeted projects and activities that students complete in their coursework and student teaching. We developed rubrics that addressed and incorporated CEC standards. Not all the rubrics are as polished as we would like so we will continue this in Fall 2008. [Note: Although this is not directly related to the assessment results, it is still important to use this Annual Report to document programmatic changes. Be aware that some of the changes must be based on the assessment results.]

Portfolios from students were completed as an afterthought and were not in the same format nor did they fully address the standards. The use of the blackboard portfolio system will allow us to provide a similar format for all students to complete their reflection on the program in relationship to the CEC standards. We will start introducing the system in EDUC 750 in Spring 2009 and hopefully by next fall these portfolios will be more complete and robust.

The numerical ratings in the rubric did not provide enough information to the committee to guide any reforms. Next year, at the time of each student’s thesis defense, committee members will also be required to note where the weaknesses were in those students with lower ratings. This will make it much easier when they go back to address why a particular set of scores was so low.