Model for Department-Based Assessment Loop for a Single Departmental Learning Goal

Division: Natural Sciences
Department: Biology

Departmental Learning Goal:
Students will understand, develop, and apply appropriate quantitative skills within the context of the biological sciences.

Departmental Learning Objectives
A quantitatively literate graduate should be able to:

1. Interpret mathematical models such as formulas, graphs, tables, and schematics, and draw inferences from them.
2. Represent mathematical information symbolically, visually, numerically, and verbally.
3. Use arithmetical, algebraic, geometric and statistical methods to solve problems.
4. Estimate and check answers to mathematical problems in order to determine reasonableness, identify alternatives, and select optimal results.
5. Recognize that mathematical and statistical methods have limits.

The strategy for achieving goals and objectives is the departmental curriculum as well as extracurricular offerings and opportunities sponsored by the department.

Assessment Activities:

1. Relevant Senior Exit Interview Questions. The department asks three questions of senior majors in relation to each objective:

   a) To what extent did your experience in the biology department improve your performance of objective 1(etc.)? Scale: 3) to a great extent; 2) to a modest extent; 1) to a minimal extent; 0) to no extent. Summarize for graduating class and track longitudinally.

   b) What aspects of your education within the department helped you with your learning of objective 1 (etc.), and why were they helpful?

   c) What might the department do differently that would help you learn more effectively in relation to objective 1 (etc), and why would these actions help?

2. Pre/Post Test: The department develops an assignment to evaluate proficiency in each of the College’s quantitative literacy objectives which is assigned at the start of the first biology core course. Similar items are incorporated into an end of the semester assignment or exam. A departmentally agreed upon rubric (below) is developed for evaluating these objectives. The pre/post scores are compared for individual students within the course and tracked against other departmental courses which also meet the College quantitative requirement.

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1 Adapted from Mathematical Association of America (www.maa.org)
Student attainment of each capacity listed above is evaluated according to the following rubric:

<table>
<thead>
<tr>
<th>Score</th>
<th>Rating</th>
<th>Characteristics of student work</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Excellent</td>
<td>Insightful understanding is effectively demonstrated. Whether directly stated or implied, responses are perceptive and appropriately supported by specific details. Support is well defined and appropriate.</td>
</tr>
<tr>
<td>4</td>
<td>Proficient</td>
<td>Well-considered understanding is appropriately demonstrated. Whether directly stated or implied, responses are thoughtful and supported by details. Support is well-defined and appropriate.</td>
</tr>
<tr>
<td>3</td>
<td>Satisfactory</td>
<td>A defensible understanding is clearly demonstrated. Whether directly stated or implied, responses are conventional but plausibly supported. Support is general but functional.</td>
</tr>
<tr>
<td>2</td>
<td>Limited</td>
<td>Understanding is vaguely demonstrated or is not always defensible or sustained. Responses are superficial and support is scant and/or vague, and/or redundant.</td>
</tr>
<tr>
<td>1</td>
<td>Poor</td>
<td>An implausible conjecture is suggested. Responses are irrelevant or incomprehensible. Support is inappropriate, inadequate, or absent.</td>
</tr>
<tr>
<td>0</td>
<td>Insufficient</td>
<td>The marker can discern no evidence for the capability. Responses are so deficient that it is not possible to assess the capability.</td>
</tr>
</tbody>
</table>

(Rubric adapted from a guide for assessing writing assignments which appears in the book *Assessing Student Performance* by Grant P. Wiggins published in 1993 by Jossey-Bass Publishers.)

3. **Standardized Test:** A faculty member administers a multiple-choice test of appropriate standardized items (e.g. from GRE – items relating to these learning objectives) in the senior capstone course. These are tracked and reported longitudinally, and discussed by faculty.

**One Finding**
Through several of these assessments, the department was pleased with the problem-solving abilities of their students, but their abilities to choose appropriate representations for data and communicate their findings orally and graphically needed strengthening.

**Using the results**
The department revised individual course objectives in three core courses to include practice with data presentation and communication skills. To consistently evaluate performance across courses, a specific rubric was developed by the department that guided faculty grading and feedback on all presentations. Mean scores on the rubric components were compared for each student level (first-year, sophomore, etc).
Model for Department-Based Assessment Loop for a Single Departmental Learning Goal

Division: Humanities
Department: Philosophy

Departmental Learning Goal:
Familiarity with the most important topics in ethics and the related field of political philosophy.

Departmental Learning Objectives:
1. Distinguish morality from other sets of requirements (e.g. those of etiquette or law or self-interest).
3. Understand the contributions of contemporary philosophers such as Korsgaard, Nagel, Scanlon, and Williams to ethics.
4. How should an industrial society organize its economy and its welfare system.
5. Apply ethical concepts and theories to debate controversial social issues.

The strategy for achieving goals and objectives is the departmental curriculum as well as extracurricular offerings and opportunities sponsored by the department.

Assessment Activities:
1. The required course in Moral Philosophy has an end of course evaluation form that asks students to indicate their level of satisfaction with the course (on a 1 to 5 scale), and to reflect on how much (on a 1 to 5 scale) the course has contributed to their understanding of the philosophy of ethics.

2. The department has identified key instructional units across two courses that address the contributions of classic and contemporary philosophers to moral and political thought. At the end of each of these units a quiz developed by the department (all instructors use the same quiz) is given to assess students’ understanding of the contributions of these philosophers. Scores on these quizzes are part of the students’ graded work, but they are also tracked over time and used by the department to assess the extent to which objectives are met.

3. Faculty members were increasingly concerned that papers about moral reasoning offered by graduating seniors reflected little understanding of the contributions of contemporary scholars (as opposed to those by major historical figures). They held a number of focus groups with seniors to ask for their feedback about the points in the curriculum where learning about contemporary work occurred and how instruction might be improved.

One Finding:
Two of the assessments (the third was not clear on this) indicated that students were not able to trace the relationships of the work of earlier to contemporary philosophers or to understand the importance of the contributions of the more contemporary scholars.
Using the Results:

The department made changes both to the key instructional units (in the two courses) and to the quizzes that were used. The development of thinking that led to contemporary scholarship was traced more explicitly in those key instructional units, and the quizzes were modified so that students would have to demonstrate the understanding of this development, and not just recite and recognize facts.
Model for Department-Based Assessment Loop for a Single Departmental Learning Goal

Division: Social Sciences  Department: Political Science

Departmental Learning Goal:  
Demonstrate skills for reflective engagement in political activity.

Departmental Learning Objectives:
1. Demonstrate the ability to question political decisions.
2. Understand the significance of collective political action.
3. Participate as contributing members of political organization(s).
4. Demonstrate leadership in political processes and events.
5. Demonstrate the ability to persuade others.
6. Reflect on political information and events and one's contribution to them.

The strategy for achieving goals and objectives is the departmental curriculum as well as extracurricular offerings and opportunities sponsored by the department.

Assessment Activities:
1. The institution conducts an annual, standardized "Senior Survey", one section of which asks the student to report the extent to which one has made educational gains in the area of "effective leadership skills". 54% of Political Science majors over the last 10 years said their skills in this area are "much stronger now" than when they entered college. This value:
   • Has not changed substantially (for Political Science Majors) over the last ten years
   • Is lower than the typical 61% average value reported for Political Science Majors at a set of seven close peer institutions.
   • Is comparable to the institutional average for other Social Science majors, and higher than the value for Natural Science and Humanities majors at this institution.

2. The institution keeps track of student membership in on-campus clubs, and also maintains records of club officers. The institutional research office merges this information with the data for student majors at graduation, and the data reveal the following:
   • Political Science majors are twice as likely to occupy positions in student government than are majors in other Social Science disciplines, and roughly four times as likely to do so than majors in the Humanities or Natural Sciences.

1 Adapted from College of Saint Benedict and Saint John's University, Department of Political Science: http://www.csbsju.edu/assessment/lgm/pols.htm
• Fully 50% of members of student political clubs (College Republicans, College Democrats, etc.) are Political Science majors, a value much higher than any other major.

• Political Science majors are much less likely to belong to other kinds of student clubs and organizations (issue-based clubs, ethnicity or identity-based clubs,) or to assume leadership positions on these types of clubs.

• There has only been one Political Science major on the 10-member Debate club over the last eight years of its existence.

3. The college Development office produced a recent report on graduates of the classes of 20, 30, and 40 years ago. The department sought to examine these data for their majors with an eye to assessing whether their majors were more likely to be "leaders" in their chosen career. Political Science majors, relative to alumnae that majored in other fields, are over-represented in the careers of lawyer and journalist, and underrepresented in the fields of college instructor, manager (business).

One conclusion:

In the course of evaluating their assessment data, the department concluded that, upon reflection, the goal of "leadership in political processes and events" was too narrowly defined. Though the evidence from the student leadership participation on campus data was encouraging, the self-report data were discouraging, and the department felt they could do better there. The department felt upon review that the major attracted some "natural leaders", but the majority would benefit from a more formal introduction to practical leadership skills in politics and in organizations.

Using the results

After modifying their departmental learning goals and objectives to reflect their new understanding, upon review of their curriculum they felt that their required courses did not directly address this refined objective. As a result they developed a required course directly focusing on theories of leadership, half of which was organized around outside speakers (mostly alumnae) discussing their experiences of leadership in real-world settings. In some years, based on student interest, the course would be structured around a specific on-campus effort to effect change in college policy, with attention to understanding the campus leadership.