Learning Outcomes Assessment: 2008-2009

Assessment in the Department of Environment and Society has two components: a quantitative assessment of the degree to which individual courses achieve curriculum objectives, which is then aggregated in order to look for strengths and weaknesses within our overall program; and a qualitative assessment of the overall learning experience as measured through student exit interviews. For graduate students only the qualitative assessment is used since programs of study vary for each individual.

Quantitative assessment: Achievement of learning outcomes

At the conclusion of each term, students enrolled in undergraduate courses with an ENVS or GEOG prefix are asked to complete a survey asking them to rate the *degree* to which that course addressed each of the 34 learning outcomes identified by the department as being objectives of our curricula. Ratings are on a scale from 1 (not at all) to 5 (very much).

At the same time, the course's instructor rates the same 34 outcomes for his/her course, but the 1-5 scale describes the extent to which he/she believes the class *contributes* to each learning outcome. If an instructor has rated an outcome as contributing significantly to that particular course – i.e., 4 (quite a lot) or 5 (very much) – then we want to know how successful the course has been at addressing that outcome. We believe that if all of our courses succeed in addressing the outcomes for which they're individually designed, the overall curriculum is doing its job.

Each of the 34 learning outcomes has been rated as significant for at least one course we offer, although we rely on other USU departments for some outcomes (e.g., knowledge of physical science or mathematics/statistics) more than we do for outcomes that lie clearly within our departmental expertise (e.g., knowledge of natural resource policy and social science). The table below lists the number of courses for which each learning outcome is rated as significant, along with the number of courses that failed to achieve that outcome – i.e., the number for which ***the mean success rating by students was below the significance rating assigned by the instructor.*** (Note: mean results are rounded to the nearest whole number.)

Although 27 separate courses are part of our undergraduate curricula, data were not collected for eight courses in 2008-09. Three courses were not offered, one had only graduate students enrolled, two courses were taught by instructors from another department, and one was taught by an instructor who was leaving the university and chose not to participate.

Analysis of this data show that, based on students' self-evaluations of what they've learned, a large majority of our courses are able to achieve the learning outcomes that their instructors believe are the most significant. However, there are three areas where we tend to fall short in multiple courses:

- Helping students become more likely participate in public debate and social change;
- Improving students' ability to communicate effectively in writing; and
- Contributing to students' understanding of international environmental/natural resource policies and issues.

	Department total		Environ. Studies		Geography		Geography Teaching		Recreation Res. Mgmt.	
	Courses	Deficient	Courses	Deficient	Courses	Deficient	Courses	Deficient	Courses	Deficient
Attitudes and behaviors										
Address important problems	22	2	13	1	9	0	5	0	13	0
Participate in debate, change	17	7	11	2	7	3	5	3	9	4
Sense of civic responsibility	16	1	8	0	9	0	6	0	9	1
Exhibit professionalism	14	0	8	0	5	0	1	0	9	0
Identify future problems	14	0	9	0	5	0	2	0	7	0
Adhere to ethical principles	13	0	9	0	5	0	2	0	9	0
Engage in scientific discovery	6	1	4	1	1	0	1	0	4	0
Skills and Abilities										
Analyze complex problems	22	2	12	1	9	0	6	1	12	1
Think logically & critically	22	1	15	0	6	0	2	0	14	1
Integrate categories of knowledge	19	2	9	0	9	2	6	1	10	0
Written communication	14	6	6	0	5	1	2	0	8	2
Analyze at multiple spatial scales	13	2	4	1	9	1	6	0	6	0
Work effectively in teams	12	3	6	0	4	2	1	0	7	1
Respect interdisciplinary diversity	12	1	8	0	5	1	1	0	5	0
Think creatively	11	2	5	0	4	1	1	0	6	1
Evaluate information resources	11	3	5	1	4	0	2	1	6	1
Verbal communication	11	3	5	2	4	1	1	1	7	1
Respect cultural diversity	10	4	3	1	7	2	5	2	3	1
Use information technologies	9	3	6	1	3	1	1	0	6	1
Visual communication	8	0	3	0	4	0	1	0	5	0
Employ scientific reasoning	6	0	5	0	1	0	0	0	5	0
Work effectively in large groups	6	2	3	0	3	2	0	0	2	0
Knowledge										
Natural resource issues/problems	20	1	14	1	5	0	1	0	12	0
Social science	15	2	6	1	8	1	5	1	7	1
Communication	12	2	6	0	4	1	2	1	9	1
Regional natural resource policy	11	1	7	1	3	0	1	0	7	1
International natural resource policy	11	5	5	3	7	2	4	1	3	3
National natural resource policy	9	2	9	1	3	1	1	0	5	1
Computer skills	8	2	4	1	3	1	1	0	5	0
Economics	5	1	3	1	2	2	1	0	3	1
Inventory/mapping/monitoring	5	1	2	0	3	1	1	0	3	0
Conflict management	4	1	2	0	1	1	0	0	1	0
Mathematics & statistics	4	2	3	0	2	2	0	0	3	0
Biological or ecological science	3	2	2	1	2	1	0	1	2	1

There could be multiple reasons why our courses are not achieving the level of success we desire for these areas. One of the most important is that we don't really know how students are interpreting these categories. For example, the question about participating in public debate and social change asks students if they would be more likely to participate in public debate and social change as a result of the course. They may be interpreting it as having actual opportunities to participate in social change during the class itself, whereas the instructors interpret it as meaning the students have been equipped with improved understanding of current policies and social action skills/opportunities, so that they can participate more effectively when they choose to do so. This also assumes that students believe they *need* improvement in their willingness to participate in social change whereas they feel they already have that capacity. Similarly, students may believe they're being asked if they learned specific policies of specific foreign nations while their instructors are trying to help them understand the processes of political interaction between nations and their consequences for people, especially in the developing world. Nonetheless, these results do help us understand the places where we need to re-evaluate our curricula to assess whether we're meeting our own teaching objectives as well as the needs of students.

Qualitative assessment: Student reflections on their overall ENVS experience

Exit interviews with graduating undergraduate majors are conducted at the end of each semester. Due to scheduling issues only about half of graduating seniors are able to attend; while we cannot know whether these individuals are typical of the entire group of graduates we do believe they provide a representation of the breadth and nature of student evaluations of our academic programs. Below are summaries of student comments from the Spring 2008, Fall 2008, and Spring 2009 interviews that were specifically relevant to assessment of our course curricula, listed by major:

<u>Geography</u>

- Courses listed in the requirements sheet were not always offered when anticipated
- An introductory course on information technology, offered prior to the main class in Geographic Information Systems, would be helpful.
- There appears to be overlap in human geography courses
- A course in renewable energy and household sustainability in the developing world would be valuable; also a course on social aspects of climate change
- Faculty members are strongly committed to teaching, even to the point of taking on extra course loads to meet students' needs.

<u>Environmental Studies</u>

- Flexibility in course offerings and specialization options is especially helpful.
- There appears to be some overlap in course content between lower and upper-division courses, although this may reflect differences in depth of coverage in topics that are important to revisit.

<u>Recreation Resource Management</u>

- Significant overlap in course content between lower- and upper-division courses. Some material in recreation courses was covered in multiple core major courses.
- A basic business course would be useful in the curriculum, as not everyone plans to work for a land management agency.

Exit interviews with graduate students are focused more generally on the overall degree program experience and less on coursework because graduate programs are more flexible and there is no specific "graduate curriculum" for some degrees. Students majoring in Human Dimensions of Ecosystem Science and Management (HDESM) do take a 6- to 9-credit theory/methods core, and Bioregional Planning

students all take a 10-credit, two-semester project ("studio") course. Beyond that the only requirements are to attend research and orientation seminars. Statements relevant to assessment that arose during these interviews were:

Overall program

- Students disagree about the balance and linkages between ecological and social sciences in the program. The HDESM degree cannot be seen as a degree in environmental sociology, but the need for integration of social science and ecology will probably differ from student to student. The *perception* that our degree is an environmental sociology degree exists outside the program, however, so it is important to market ourselves in ways that emphasize the differences.
- Students would appreciate opportunities to participate in interdepartmental collaborations and to benefit from opportunities outside the department (e.g., graduate-level internships).

HDESM core

- The department's course in research methods has strengths and weaknesses that vary from year to year. It may be too superficial on nuts-and-bolts of specific methods, too in-depth on history/philosophy of science – overall the weakness appears to be the extent to which it is grounded in real-world application of the methodologies discussed. Some students have asked for a statistics class designed specially for Environment and Society studies.
- Perceptions of the theory class vary with the amount of previous experience in social theory as well as the extent to which the instructor grounds it in real-world experience. Students want more on how to apply theories to the problems they study.
- For PhD students a third core course is in the requirements sheet: a capstone in which students attempt to conduct a real research project. This has not worked well, partly because of the time constraints and partly by students' need to start work on their own research by the time they are taking this class. As a result the course hasn't been offered in several years.

Seminars

- Students did not agree on the degree to which an introduction to faculty and their interests is needed (as in ENVS 6840). They did want more information on procedures relevant to grad students.
- For research seminars, the primary suggestion was that graduate students be asked to make presentations on their own research.