

Department of Environmental Studies: Student Learning Outcomes & Assessment

Evaluation is essential to determine if the department's and faculty's goals for our programs and courses are being met. Faculty member Gene Myers, who teaches a course on educational program evaluation, explains, "Evaluation should be useful, and to be useful there needs to be specific people who want the information and intend to use it. Deciding what to evaluate about the [classes] is as important as deciding what to put in [them], because they are part of the same process. Neither can be done well (i.e., usefully) without participation."

As a first step to assessment, we identify the attributes of a Huxley graduate. These attributes, hopefully, are the result of achieving expected learner outcomes in coursework and other experiences (such as internships and capstone courses), and thus the achievement of our programmatic objectives.

The attributes of a Huxley graduate are as follows:

- Understand the natural environment as a system and how human enterprise affects that system.
- Acquire the knowledge and skill to apply a systems approach to the analysis and management of natural and human-made environments.
- Understand that the modern world is an entity that is ecologically, economically, and politically interconnected and interdependent and what the implications are of this for environmental problem solving.
- Be able to deal in complex wholes – to view the self and social situation in their full ecological, cultural, and social context.
- Understand the temporal dimension of the environment, including what forces have created the contemporary environment and what effects current behavior may have on future environments.
- Perceive the future of society and environment as a range of alternate possibilities, which will be determined by the policies and decisions of the present, and understand the processes through which these policies and decisions are made.
- Acquire a measure of logical skill in working through the moral dilemmas implicit in the assignment of social priorities and in the risks involved in seeking to attain those priorities.
- Acquire specific skills necessary to achieve understanding of and solutions to environmental problems, including those necessary for assessment of environmental impact of human activity, and for monitoring of the health of environmental systems.
- Be prepared for entry into professions involved in environmental monitoring, assessment, management and education, and/or for entry into graduate and professional school.

Three common components of learning reflected in these attributes are of interest across all programs: content knowledge, intellectual development, and problem solving skills. Together these reflect some important goals for all of our courses. One example of assessment of these goals was what was performed for the Huxley Core class taught by this Department. In recent years, as the new Core course was developed and taught, student achievement of the above learning goals was systematically assessed using an Environmental Problem Solving Essay and a Knowledge Assessment instrument. Content analysis of the essays revealed the use of problem solving steps. It was also professionally scored as the standardized Measure of Intellectual Development (MID) by nationally-certified judges. The Knowledge Assessment measured gains in understanding of concepts and content in the course. The results of this evaluation showed gains in all the sections that were taught. The MID instrument taps the complexity of thinking about a challenging problem – the results show that the course prompted development away from simplistic dualistic thinking about environmental problems, as indicated in the following figures. The Problem Solving scores and the Knowledge Assessment showed both strong and weak areas across the full range of interdisciplinary content, and were used to improve course design and delivery.

Thus, evaluation components and the measures used were:

Area of Learning	Measure
Env. science and studies content knowledge	Self-reported learning in subject & skill areas; Knowledge Assessment (KA)
Development of understanding of knowledge and learning (Perry stages)	Measure of Intellectual Development (MID)
Solving real-world environmental problems	"Env. Problem Solving Essay" (EPSE)

Other examples of assessment are:

- Use of Capstone courses. The complexity of thinking and depth of course work indicates to what extent the student has been able to integrate study at Huxley into real-world problem solving.
- Use of Internships and final projects. These contain the elements of the entire suite of skills a Huxley grad should have. Advisors approve the internship reports and final projects in light of the goal statements that the student specifies.
- Development, implementation, and administration of alumnae survey. This comprehensive survey, the results of which were mentioned throughout this review, offers detailed information on the success of our graduates, and strengths or weaknesses of the program, as expressed by the graduates now in the workforce.
- Use of Huxley Advisory Board, which counsels on the real-world utility of certain features of our curricula, and the attributes of a successful Huxley graduate.



In addition, as ENVS departmental faculty member Nicholas Zaferatos writes, “The best assessment tool is job placement - and planning students have continued to show high placement rates upon graduation. A WWU study of incomes from the various majors show Policy and Planning students earning at the upper level of Western graduates. In addition, due to the applied nature of the program, case study projects within the community are emphasized, and community response to student work is exceptionally high. We experience continued demand for student classes to work to solve local problems.”