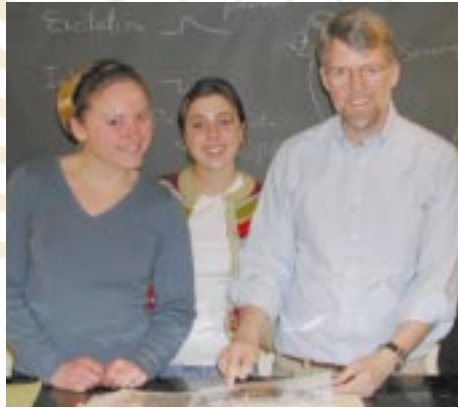


office of **Academic Planning & Assessment**
University of Massachusetts Amherst

Faculty Focus on Assessment

“The process sounds orderly looking back, but much of it was ad hoc. We often sat around wondering ‘how are we going to do this?’”

– Gordon Wyse, Professor



OFFICE OF ACADEMIC PLANNING & ASSESSMENT

Members of the Biology Department discuss how assessment helped shape curriculum reform.

What should students know? What should they value? What skills should they have when they graduate from college? While such questions may seem difficult to answer in departments with a broad base of theoretical and applied approaches to learning, the Biology department has found agreement on these and other questions central to improving student learning.

Project Development

The Biology department’s decision to develop common learning objectives grew out of a series of changes in the department, including a growing awareness of teaching issues, a rise in undergraduate majors, and an increased teaching load. Faced with the largest undergraduate population of majors on campus, Biology faculty wondered how

they could address the needs of so many students. In 1997, Department Chair Chris Woodcock established the first learning goals committee to rethink the Biology major in order to manage the increase in majors without losing the student-centered approach to learning that Biology faculty valued.

Finding Common ground: Establishing Learning Goals

“The learning goals are guiding principles for learning, not a prescription for how to teach. They are more like a declaration than a constitution.”

– Peter Alpert
Associate Professor

Committee members, representing a cross-section of disciplinary approaches, educational viewpoints, and seniority, quickly realized that agreeing upon universal facts or concepts that all Biology students should know was impossible. So instead of relying on content-based standards, the committee shifted its focus to look at the skills that all Biology students should possess. As Assistant Professor Steven Brewer explains, the committee moved from asking, “what classes should students *take*?” to “what is it we want students to *do*?”

In this first phase, the committee began by looking at existing standards from organizations such as the American Association for the Advancement of Science and the National Academy of Science. Next, the committee developed a

preliminary draft of learning goals. Each committee member then took this draft to fellow Biology faculty members and interviewed them about their perceptions of the goals. This multiple-step process was specifically designed to encourage faculty members to “buy in” to the process. Margery Coombs, Associate Professor, explains: “the iterative process gave us a real incentive to look over the learning goals carefully and to talk about them. I felt that I was listened to, so that made the process more positive for me.”

After being reviewed, revised, and edited, a draft of the learning goals was voted on by the faculty. The Biology department voted unanimously to accept the learning goals as a broad framework for student learning.



The Office of Academic Planning and Assessment (OAPA) provides service to the campus community in evaluating student learning and program effectiveness. OAPA can assist departments and individual faculty members in several areas: ■ **Developing evaluation plans** for new programs, grant proposals, and externally and internally funded projects ■ **Exploring and articulating** student learning outcomes appropriate to a course or program ■ **Finding useful ways** of assessing student success in achieving program goals ■ **Developing strategies** for ongoing reviews of program effectiveness for quality improvement, accreditation, and other purposes ■ **Contact:** Martha L.A. Stassen, Director of Assessment, phone: (413) 545-5146, email: mstassen@acad.umass.edu

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Using the Learning Goals to Restructure the Curriculum

“After we had agreed upon the goals, we asked, ‘Is what we’re doing meeting our goals?’”

– Elizabeth Connor, Associate Professor (pictured below, left)

After the faculty approved the learning goals, the next step was to evaluate the existing curriculum based on those goals. Biology faculty admit that this step was much harder because they had to look critically at the curriculum. In order to meet the department’s goals for student learning, several major curriculum changes were proposed. Such curriculum reform was fraught with concern – would students miss out on basic knowledge essential to Biology major? Would the changes unbalance the curriculum? Would it drastically alter the teaching load?

The process of reconciling such concerns was difficult and often faculty

members disagreed. However by focusing on areas in which agreement could be found, the team moved forward. Again, the team took proposed changes to other faculty members and asked for their support in resolving conflicts. In the end, the decision to allow more flexibility in the curriculum and remain true to the learning goals outweighed concerns about a core set of required classes. As Gordon Wyse, Professor, explains Biology faculty felt that “herding” students into large core courses ultimately was not the best answer to managing the increased number of Biology undergraduates.

Changing the Way We Teach

Today, the Biology department is in the third phase of their learning goals project, incorporating learning goals in individual course instruction. Faculty are finding creative ways to include learning goals in classroom instruction. And the movement to use learning goals for

classroom instruction has not been limited to full-time faculty. Teaching Assistants are given the learning goals and shown how to use them in their labs. The goals are available on-line: <http://bcrc.bio.umass.edu/learninggoals/>.

Advice to other faculty

“By developing common learning goals, we have shown other departments on campus, the administration, and the general public that effective teaching is a major goal in the Biology department.”

– Bernard Rubinstein, Professor

Biology faculty say that there are central elements to ensuring the success of a learning goals program:

- Start with good models of learning goals from other institutions and external agencies.
- Ensure that committees include a balance of viewpoints as well as junior and senior faculty who will work together to accept change.
- During the development stage, use a combination of committee work and

one-on-one interviews to reconcile concerns.

- Rather than airing disagreements in public forums, interview fellow faculty one-on-one and then bring concerns back to the committee before voting on changes.
- Understand that change can come slowly. Create consensus. Be patient and keep working at your vision for student learning success.

office of Academic Planning & Assessment

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