

**College of Science**  
**Tipping Point Progress Report**  
15 August, 2007

The College of Science has begun implementing our Tipping Point plan. Working with department chairs, departments and individual faculty and staff, we have made significant progress in some areas and have achieved a solid beginning in others. We report our progress, below, within the framework of the major elements of our plan.

**I. Focus on Learning in Classes**

1. Make learning outcomes assessment visible to students.

We proposed informing students of our assessment practices by using the College website to post information about our assessment programs. In addition to describing how each department conducts assessment, proposed informing students of how each course in the curriculum met the learning outcomes of their degree program and summarizing the results of assessment analyses.

To make this information accessible to students and others, the College established a new section of its website devoted to learning. The Learning Centered Activities in Science page ([www.csupomona.edu/~cosl](http://www.csupomona.edu/~cosl)) features information and resources on learning centered activities in each department and prominent links take visitors to descriptions of the assessment programs. Computer Science, Geological Science and Physics have active assessment programs. Biological Sciences has just completed the external review of their plan and Chemistry and Mathematics are finalizing their plans for external review during 2007-08. The three departments with established assessment programs describe on these pages how their program works and what evidence is used to assess student learning.

Computer Science is the first department to post learning outcomes for each course in its curriculum. The other departments will follow suit in Fall 07. We also expect to begin posting the departments' conclusions from their assessments and describe changes they have made in the curriculum as a result.

2. Use the required Freshman course sequence in the College to prepare students to make decisions about their learning and to prepare them with learning skills

The College proposed establishing a First Year course sequence to assist first year students in our majors understand our expectations for their learning and familiarize them with services and strategies for successful learning.

A College taskforce designed a two course sequence to introduce first year students to their major curriculum, to career options they may have, and to learning and student activity resources they should use. We are partnering with Student Affairs, which will loan us professional staff to help present the courses. The courses will

be taught in sections specific to each major or groups of majors in the College to build an early connection between faculty and students who share an interest in the same discipline.

The courses were submitted for approval by the University Curriculum Committee and have been approved for offer beginning Fall 07. A parallel request to grant these courses GE Area E status is still pending before the Senate. Faculty scheduled to teach the courses in Fall 07 attended a national meeting on First Year Experience programs at College expense. The assessment plan for each course will allow us to determine how well the courses meet our goals for the students.

3. Prepare a Learning Support Plan for each service course offered by the College

Our proposal was to ensure that we had a clear plan for supporting student learning in service courses through our newly expanded Math and Science Student Help Center. Working with the instructors in these courses, MaSH will tailor its services and programs to help students master the material in each course that the instructors find the most challenging for students to learn. MaSH will go beyond simple tutoring to integrate supplemental instruction and online tutorials that are integrated with the work of the instructors.

We had planned to initiate this task during Spring 07 but expanding MaSH took longer than we expected. We have been successful in expanding the drop-in advising for Biology, Chemistry, Mathematics and Physics. In Fall 07, the Center will work with faculty teaching the introductory service course sequence (freshman Biology, freshman Chemistry, introductory Physics, Math through Calculus, and Statistics) to articulate Learning Support Plans. These Plans will focus on how MaSH will support student learning of topics in each sequence faculty believe students have difficulty mastering. MaSH will develop materials and programs to enhance student learning of these subjects.

4. Expand opportunities for faculty to explore issues of student learning in science and math

We proposed to increase the number of workshops and seminars within the College devoted to student learning of science and mathematics. We also proposed establishing a College Colloquium on Learning to feature a nationally prominent speaker on campus. Plans are underway to implement this task during the 2007-08 academic year. We will partner with both the Faculty Center for Professional Development and the ADVANCE grant program in these efforts.

## **II. Focus on Organizational Learning in the College**

1. Assess our delivery of key services offered by departments and the College

This task in our proposal is a key step in helping the College become a learning organization. Critically important is establishing practices that let us learn how our constituents perceive our services. Although listed first, this task requires progress on task 2, below, as a prerequisite. We will begin asking staff in the College to develop a preliminary assessment tool for the services they deliver during September. These tools will be piloted during Fall, 07.

2. Sponsor workshops for staff, faculty and students on learning organizations and the use of assessment in providing service.

We need to increase the understanding by staff of learning centered principles and how a College can be a learning organization. Indirectly, we also need to help staff engage in learning themselves. In Spring, 2007 we held a pair of workshops for all staff in the College to review learning centered principles and to help them understand how these could apply to their areas. Susan Berilla of Organizational Development and Training presented these workshops, which were extremely well received.

To build on this foundation, Susan referred us to Sally Clevenger, an outside consultant with experience in this area. During early Summer, 07 we worked with Sally to design a second round of workshops to assist staff understand how they might assess their service delivery. The first of these workshops was held last week for administrative support staff and we will have a second workshop later this month for instructional support staff. Finally, we will hold additional sessions in September to help staff construct pilot assessment tools for use during Fall.

3. College and department web pages describing learning centered activities.

The College concluded that we needed to do a better job of informing our constituents of learning centered activities we are undertaking. Dr. Marcia Murray, Director of the Math and Science Help Center, has led the effort to develop web resources on learning centered activities in the College. As mentioned earlier, the Learning Centered Activities in Science website ([www.csupomona.edu/~cosl](http://www.csupomona.edu/~cosl)) now serves as a central resource for the College.

### **III. Budgeting, Planning and Recognition**

1. Establish a Science Quality Learning Fund to support initiatives to enhance student learning in the College

We proposed to link our learning centered goals to the budgeting process by setting aside a significant amount of recurring dollars to support innovative ideas to expand our learning centered activities. To that end we established a Quality Learning Fund of \$1000,000 for the 2007-08 academic year. Formal proposals were solicited during Spring 2007 and a College committee reviewed them and made funding recommendations. In June 2007 we announced the eight successful proposals to be

funded for the 2007-08 academic year (see [www.csupomona.edu/~cosl/QualityLearningFund](http://www.csupomona.edu/~cosl/QualityLearningFund)). Each department in the college made at least one successful proposal. The range of activities is broad, but all focus on enhancing student learning. Some projects will focus on service courses (e.g., organic chemistry) while others will address the learning needs of majors.

2. Establish an annual award to recognize leadership and excellence in advancing College learning centered goal

Our proposal was to establish criteria in existing awards to permit us to recognize, in each of the several areas we give awards, the contributions of faculty, staff and students to advancing learning centered goals. The College awards committees will establish the criteria to accomplish this during Fall 2007 and invite applications and nominations in Winter 2008.