

CUR Focus

Differing College-level Tenure Models and the Culture of Undergraduate Research

The quest for tenure exerts a powerful influence on college and university faculty members. Many part-time and adjunct faculty members aspire to tenure-track positions, and those faculty fortunate enough to find tenure-track appointments incessantly weigh their prospects for successfully completing the process. It is through the tenure review process that institutions communicate the type of work that is valued and rewarded, ultimately shaping academic careers. James Fairweather (2002, 27) observed that, other than the hiring process, “the principal expression of academic values about faculty work lies in the promotion and tenure decision.”

Accordingly, colleges have traditionally looked to their tenure criteria and processes as a means to guide the efforts of faculty members toward desired institutional objectives. In particular, as colleges increasingly seek to foster what George Kuh (2008, 9-11) has called “high impact educational practices” they are looking to the tenure process as a means to promote undergraduate research.

When Weber State University (WSU) created the Office of Undergraduate Research (OUR), care was taken to promote a definition of undergraduate research that could be embraced by all disciplines. Undergraduate research from the viewpoint of faculty members was broadly defined as mentoring students to conduct work in the discipline and subjecting the results of students’ work to formal review. The undergraduate research office promotes institution-wide support for undergraduate research by providing funding for student research grants and for students to present the results of their research; by hosting an annual undergraduate research symposium; and by sponsoring a student-edited journal, *Ergo*. Students in each of WSU’s seven academic colleges have benefited from this support. Since the creation of the office, the number of WSU seniors indicating that they have engaged in undergraduate research has increased by 22.56 percent, as measured by responses to the National Survey of Student Engagement. This reflects

the support provided by the office and the independent efforts of the academic colleges.

In supporting undergraduate research, the ways in which WSU’s academic colleges value and recognize faculty mentoring of undergraduate research projects varies greatly. Each of the seven academic colleges is responsible for its own set of tenure policies and criteria. This article will examine the differing recognition of undergraduate research in tenure policies and practices and the culture of undergraduate research in three of WSU’s academic colleges: the College of Science, the College of Social and Behavioral Sciences, and the College of Arts and Humanities. All have built vibrant undergraduate research programs, but each college has followed a different path.

The College of Science treats undergraduate research as a form of traditional faculty research, which can be considered equivalent to peer-reviewed journal publications. The College of Social and Behavioral Sciences views mentoring student research as a form of teaching, and any explicit recognition of this work is recognized as teaching. In contrast to these two colleges, the tenure document of the College of Arts and Humanities makes no explicit mention of undergraduate research, but in practice the college’s tenure process recognizes working one-on-one with students as an important form of teaching. The diversity of support for undergraduate research in the tenure policies of the various academic colleges provides the opportunity for an interesting case study. In examining the differing tenure processes in these three colleges, all of the tenure decisions made over the past three years were examined, along with the formal tenure documents and written criteria in each college.

Attitudes toward undergraduate research are different in each of these three colleges, and these differences are reflected in the tenure criteria and evaluation processes. Two underlying factors are especially important in determining how undergraduate research is treated in these three colleges’ tenure processes.

First, the basic research expectations for faculty themselves influence the treatment of undergraduate research in the tenure process. When the tenure criteria articulate rigorous research expectations for faculty, those who engage students in research projects are likely to do so by involving students in the faculty member's own ongoing research. In these instances, the student research is connected to the faculty member's own research agenda, and tenure criteria are likely to view this activity as a form of research. When scholarly expectations are more broadly defined, faculty may allow students to pursue their own research projects while acting as advisers. This type of undergraduate research may not be part of a faculty member's own research agenda, and tenure reviews may view this work as a form of teaching rather than research.

In defining research expectations, it is important to recognize that the habits of the discipline have a profound influence on faculty. The unwritten expectations of the discipline are often more important than carefully crafted tenure criteria. Faculty members may work at multiple institutions during their academic careers, but most will be engaged with their disciplines throughout their careers. In defining expectations for working with students on research projects, effective tenure criteria will reflect both the priorities of the institution and the standards of the discipline.

Second, the rationale underlying the college's commitment to undergraduate research is critically important. In some cases, student research experiences are considered indispensable for admission to leading graduate programs or other post-baccalaureate placement. In other instances, undergraduate research is considered as one of many activities that may engage students and in so doing enhance student learning and advance student retention, graduation rates, and other institutional priorities. In the latter case, mentoring student research projects may be viewed as an optional activity, with faculty free to substitute service learning, community-based learning, or other forms of student engagement as alternative methodologies for fostering student learning.

We Must Do Undergraduate Research

The academic departments of botany, chemistry, geosciences, mathematics, microbiology, physics, and zoology comprise the College of Science. If asked why they work with students on undergraduate research projects, faculty members in this college might say: "We must engage our students in undergraduate research," "we have to do it," or "we don't have a choice." As the conversation continues, it becomes clear, though, that these statements are not intended to describe an environment of coercion.

Instead, the faculty members believe that student research is an essential component of science education, which leads students to a richer and more enlightening experience in the sciences. This perspective is not unique to WSU. Anne Barrie Hunter's (2007, 36) ethnographic research found that faculty members view an undergraduate research experience as a critical part of "becoming a scientist." Moreover, the College of Science faculty members believe that an undergraduate research experience is necessary for students to be successfully placed in doctoral programs, medical and professional schools, and other post-baccalaureate experiences.

In addition, working with students on research projects is an extension of the long-standing practice of collaborating with peers on research. In the sciences, research projects often have several participants, and published articles commonly have multiple authors. Incorporating students into research projects is simply another form of collaboration.

For these reasons, undergraduate research is deeply embedded in the tenure process within the College of Science. Its tenure document explicitly notes that "supervised student research" may "satisfy the criteria" that define the research expectations for faculty. The document further notes that, "the candidate is responsible for documenting each item of scholarship ... and explaining its significance as well as his or her role in accomplishing it." Thus, undergraduate research may be considered as traditional academic research, but the burden is on the candidate to demonstrate the importance of the research and the faculty member's role in the project.

In practice over the past three years, the reviews of candidates for tenure have unflinchingly referenced the



WSU student Jaime Frank presenting at WSU's 8th Annual Undergraduate Research Symposium and Celebration.

candidates' work with students on research projects. Mentoring undergraduate research is evaluated at the various levels of review: by department, college, and dean. Reviews enumerated the number of student projects mentored, whether the research results were published, and the impact of specific research projects on students' placement in graduate school. Because the College of Science tenure criteria specifically note that supervising student research is a form of research and scholarship, candidate reviews consistently recognize undergraduate research.

Not surprisingly, within this college, the tenure process has contributed to a culture strongly supportive of undergraduate research. In academic year 2009-10, science students published 14 peer-reviewed journal articles and presented 74 papers at regional and national meetings. To put this in perspective, the college typically awards approximately 125 bachelor's degrees each year.

Faculty members in the College of Science have taken their zeal for undergraduate research to students on other college campuses. John Cavitt, a zoology professor and director of WSU's undergraduate research program, initiated a partnership between the University of Nayarit in Mexico and WSU. Students on both campuses monitor the snowy plovers, endangered birds that spend the

summer months at the Great Salt Lake and migrate to Mexico for the winter. The project has furthered undergraduate research efforts at both institutions and provided important insights into the conservation of habitats for Great Salt Lake birds along their migration routes. In 2009 the project received the North American Bird Conservation Award. In 2011, the ongoing research project will be expanded to South America.

Undergraduate Research One Among Many Enrichment Activities

The College of Social and Behavioral Sciences is an eclectic academic unit containing the departments of criminal justice, geography, history, political science and philosophy, psychology, social work and gerontology, and sociology and anthropology. Within the college, undergraduate research is viewed as one of many enriching educational experiences. Undergraduate research, service learning, community-based learning, capstone experiences, and study abroad are all regarded as means to foster student learning.

The College of Social and Behavioral Sciences' tenure criteria specifically note that the "sponsorship of student research" is a form of teaching. The document also states that a wide range of "out-of-class learning activities" are also considered to be teaching. This list includes the supervision of student "research projects, field projects, public service projects, internships, and field trips."

Correspondingly, there are abundant examples of different active-learning pedagogies in the tenure dossiers of candidates. Because the tenure document states that undergraduate research is one of many recognized pedagogies, some faculty members choose to forgo working with students on research and instead pursue alternative teaching strategies. Unlike the College of Science, where examples of undergraduate research are ubiquitous in the tenure portfolios of candidates, undergraduate research is not as widespread in the portfolios of candidates for tenure in the College of Social and Behavioral Sciences.

Academic disciplines are a key to whether faculty members choose to mentor student research projects or use other forms of engagement. The pattern of tenure reviews in the geography, psychology, and sociology and anthropology departments is similar to that found in the

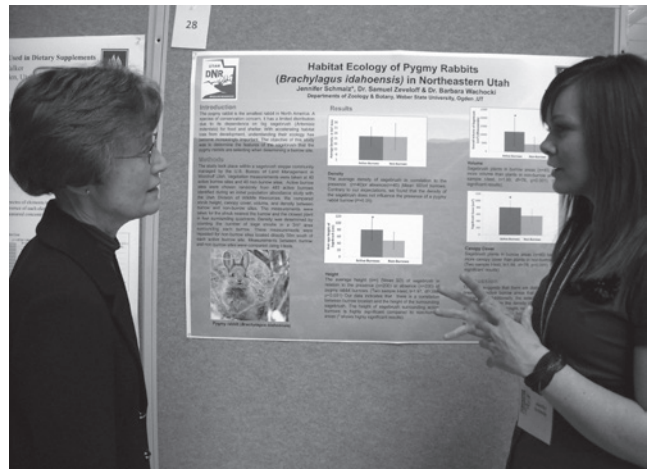
College of Science. Tenure reviews for candidates in these disciplines consistently reference the candidates' work with students on research projects. Not coincidentally, these disciplines are also active in national undergraduate research conversations. Other departments in the College of Social and Behavioral Sciences do not eschew undergraduate research, but they do not expect it.

Despite the lack of a distinct emphasis on undergraduate research, many faculty in the College of Social and Behavioral Sciences have established notable records of mentoring undergraduate researchers. Faculty members have obtained funding from the National Science Foundation's Research Experiences for Undergraduates program, for example. On several occasions, social science students have presented their research results at the Council for Undergraduate Research's Posters on the Hill event in Washington, D.C.

Most recently, Christian Petersen, a senior majoring in psychology, presented at the 2010 Posters on the Hill event. Mentored by professor of psychology and CUR Counselor Lauren Fowler, Petersen examined the influence of video gaming on visual acuity and response time. A group of university students whose video gaming habits varied dramatically completed a questionnaire about their gaming experience and then took a short computer-based test that measured visual responsiveness. After the test, students played Halo 3, a popular video game. At the conclusion of each gaming session, subjects were asked to take the visual awareness test again. Petersen found a significant increase in students' ability to spot changes within the visual field after playing the video game; visual response and alertness increased significantly from the pre-test to the post-test.

Integral in Some Disciplines, Under Other Guises

WSU's College of Arts and Humanities includes the departments of communication, English, foreign languages, performing arts, and visual arts. The college presents a curious case study of undergraduate research. Two of the departments within the college, visual arts and performing arts, are not associated with traditional academic research that results in publications. The tenure criteria in the College of Arts and Humanities do, however, treat



WSU President F. Ann Millner and WSU student Jennifer Shamalz at WSU's 8th Annual Undergraduate Research Symposium and Celebration.

creative expression and the production of artistic works as equivalent to traditional forms of research.

Faculty and students in the College of Arts and Humanities have demonstrated a solid commitment to undergraduate research. In part, this reflects the fact that WSU's undergraduate research office has taken great care to promote a definition of undergraduate research that can be embraced by all the disciplines. Departments that initially expressed concern that WSU's undergraduate research initiative would not be inclusive were relieved to find that they could view as undergraduate research the support that faculty members gave students who conducted various kinds of work in their disciplines, as long as it was subjected to formal review. Indeed, once the definition of undergraduate research was articulated and understood, the visual and performing arts faculty stated that they had been doing it forever—that it was, in fact, an inextricable part of their disciplines.

For example, in the music program, students must demonstrate artistry through performance of two juried recitals. To enter the bachelor of fine arts program in the visual arts department students must display creativity by submitting a minimum of six art works to juried review. After admission, students must exhibit additional juried works to meet graduation requirements.

The English department sponsors an undergraduate literary journal, *Metaphor*, which publishes poetry, fiction, non-fiction, and articles, as well as works in other artistic

media. For 25 years, the department has also sponsored the National Undergraduate Literature Conference, at which undergraduates present both creative papers and critical analyses.

Given the fact that the arts and humanities have long pursued a model of mentorship, artistic creation, and juried review that predates the emergence of undergraduate research across college and university campuses, it is not surprising that their tenure criteria would not contain the contemporary language of the undergraduate research movement. The tenure criteria of the College of Arts and Humanities make no mention of undergraduate research per se, but its tenure document reinforces the importance of working with students in a context that is wholly consistent with undergraduate research. For example, the criteria specifically recognize that in the performing arts mentoring that takes place on a “one-to-one basis between teacher and student” is an important form of teaching.

WSU’s College of Arts and Humanities, in fact, has produced some of the institution’s most memorable examples of undergraduate research. As one example, Kalista Francom, a sophomore enrolled in an English composition class taught by Christina H. Millard, chose to write a nonfiction essay on the impact of placing Native American babies for adoption by white families, a practice begun in the 1800’s and continued through the 1960’s in some states. Francom conducted primary research by interviewing Native American birth mothers and tribal officials. Her conclusion was that these adoptions largely were unsuccessful. The Native American children felt alienated and distanced from their adoptive families. Many returned to reservations as adults, but were unable to assimilate into the Native American cultures. Francom’s nonfiction essay was developed into a poster that was selected for CUR’s 2006 Posters on the Hill event.

Lessons

At the end of the day, the question is whether undergraduate research “counts” in tenure processes. The answer depends upon how “count” is defined. Candidates who receive negative tenure reviews often lament that a certain activity did not count in the process. By this, they

most often mean that their work in a certain area was not sufficient to offset deficiencies in other areas. According to this definition, no single activity would rise to the level of “counting” in the tenure processes of WSU’s academic colleges because single accomplishments are not sufficient to offset glaring deficiencies.

In WSU’s College of Science, attaining a large federal grant would not make up for a complete absence of peer-reviewed research. In the College of Social and Behavioral Sciences, a strong record of research would not offset serious deficiencies in teaching. In each of WSU’s academic colleges, the tenure process views faculty work as a gestalt.

A more reasonable definition is that an activity counts if it is considered in tenure reviews and has some influence upon the ultimate decision. Based upon this definition, undergraduate research clearly “counts” at WSU.

As institutions seek to incorporate undergraduate research into tenure criteria and processes, they must consider exactly how they wish undergraduate research to be counted. What are the college’s goals for the student research experience? Is the specific intent to enhance student research skills or to more generally foster student learning through other forms of engagement? Is it desirable to incorporate students into existing research projects or is it preferred for students to define their own research projects? The answers will determine whether the tenure criteria treat undergraduate research as a form of faculty research or whether mentoring students should be viewed as a form of pedagogy.

In addition to furthering institutional agendas, the answers to these questions will also be shaped by academic disciplines. Future faculty members are initiated into their disciplines during their graduate studies. The academic job market, of which pre-tenured faculty are always mindful, establishes the requirements for career mobility. Federal funding agencies reward specific disciplinary work.

In promoting undergraduate research, the tenure criteria must reinforce, rather than change, disciplinary attitudes.

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Are you a new faculty member? A post-doc applying for a faculty or research position? Are you looking for guidance and advice?

The Council on Undergraduate Research's Mentor Network matches individuals seeking information about starting, sustaining, or re-initiating undergraduate research programs with experienced, tenured CUR faculty members who can assist them.

Those requesting mentors may be newly hired faculty, as well as graduate students or post-doctoral scholars. Established faculty members who are interested in starting or restarting a research program or moving in a new direction with their program may also request a mentor. Please note that the individual requesting a mentor must be a CUR individual member.

For interested individuals, a list of possible mentors will be provided based on mentoring needs, discipline, institutional similarities, and/or regional proximity, depending on the individual's preferences. Please note that the individual requesting a mentor must be a CUR individual member.

Send your contact information, CUR Member ID number, a brief description of your research interests, and your intended goals via email to the appropriate mentor network liaison listed below.

He or she will identify two to four prospective mentors and send you information about them. You may then choose the mentor who seems to fit your needs most effectively and contact that person directly to define the mentoring relationship.

Biology: Quinn Vega, vegaq@mail.montclair.edu

Chemistry: Myriam Cotten, mcotten@hamilton.edu

Geoscience and Physical Geography: Laura Guertin, uxg3@psu.edu

Physics and Astronomy: Beth Cunningham, bcunningham@aapt.org

Administrators/Undergraduate Research Program Directors: Sandra Gregerman, sgregger@umich.edu

Web site www.cur.org/mentoring.html.