

Faculty Representative Mary Gilly
Remarks to the Board of Regents
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Thank you, Chair Varner, for this opportunity to speak to the Regents.

Today, I'd like to talk about the ways in which faculty research and creative activities are intertwined with teaching. You know about the economic impact of UC research on California: for every dollar UC spends, the state's economy increases by \$2.10. Thus, the \$4.1 billion UC spends on research multiplies to nearly \$9 billion in statewide economic activity. This translates directly into jobs and general economic growth.

And, you know that faculty bring their research into the classroom by teaching courses in their research areas. Because the goal of faculty research and creative activity is to contribute new knowledge to their field, they must keep abreast of the field and they bring that expertise to the classroom as well.

Still, much of the public conversation suggests that it is easy to look at research and instruction as two distinct and potentially competing endeavors. I invite you to explore some of the less obvious but equally important ways UC faculty research contributes to student learning.

UC faculty not only educate UC students, we educate the educators. We do this in a number of ways. First, UC faculty teach, mentor and guide doctoral students, many of whom go on to be educators themselves. The research these doctoral students do with UC faculty is the basis for their expertise in the classrooms in which they teach.

UC awards more than 60% of all academic doctoral degrees in California, and an impressive number of UC Ph.D. graduates take faculty positions on the 23 campuses of the California State University system. Overall, 22% of CSU tenure track faculty hold UC doctorates, along with about 7% of lecturers. Combined, that's 3,452 individuals with UC doctorates teaching undergraduate and Masters students at Cal State. UC educates the educators of the state of California.

The UC system is the preeminent producer of Ph.D.s in the country. We generate about 8% of all Ph.D.s; the next closest is U of Michigan with less than 2%. Our doctoral students take positions at universities around the world such that UC research impacts the lives of many more students than just those in California.

Then, there are the ways a UC faculty member's research fosters innovation in another faculty member's teaching. As part of our research and creative activities, UC faculty, for example, write books and journal articles, design lighting for plays, curate museum exhibits, create art, and invent new teaching and learning technologies. Other academics, both in UC and beyond, use these creative products in teaching their own students. Let me offer you a (not unusual) example. At a meeting of the Academic Senate committee on the national labs, we learned about a publication in *Nature*. Ram Seshadri, a professor in the Department of Chemistry & Biochemistry at UC Santa Barbara, who is on the committee, decided to look up the article. It was such a great paper that he used it to prepare slides for a class session on pressure effects on materials. Ram says:

I used the slides to describe the work in class as a "monster experiment" in high-pressure science. Basically, the authors (who include a Berkeley professor and an LLNL scientist) have compressed diamond to pressures that exceed those at the center of the earth, and even of Saturn. To be a little fanciful, when compressed, the diamonds weigh more than lead. No other facility (than the National Ignition Facility) in the world could achieve this.

The research done at UC (and one of our National Labs) inspired Ram to share it with his students to illustrate what large-scale facilities and University-Lab partnerships make possible: research that would, not very many years ago, have been beyond the realm of our wildest imagination.

UC faculty present their work at conferences, where academics from UC and all over the world share the latest research. Although conferences are primarily focused on research, they typically have workshops and symposia devoted to teaching methods and approaches. Conference participants subsequently incorporate UC research into their lectures, laboratory assignments, production of plays and more.

Through faculty doctoral education and dissemination of UC research and creative activities, we educate the educators of the world.

At the risk of starting to sound like a late night infomercial ("Wait, there's more!), there *are* more ways in which UC research and creative activity enter classrooms globally.

UC students are involved directly in faculty research, and then help to disseminate it. For example, Jennifer Hughes, a professor of history at UC Riverside, includes both graduates and

undergraduates in her research projects at the Center for the Study of Immigration and Religion. One of her undergraduate students (a first generation Latina) wrote a thesis that drew on oral historical methods of data collection. The student is now in a graduate program at Harvard where she plans to build on that research project. Because of undergraduate research experiences, UC students often further their education.

UC faculty synthesize knowledge in textbooks adopted for use in classrooms around the world. UC President Emeritus Jack Peltason is now on the 20th edition of his popular textbook, *Government by the People*, reaching generations of political science students he has never met. And, when textbook writers revise their works, they rely on the latest research published in their fields, including UC faculty research. UC Irvine Professors Scott Samuelsen and Jack Brouwer's cutting edge research on hydrogen fuel cells is cited in books used in classes on thermodynamics.

UC faculty share their expertise with others in their field in professional groups on Linked In, Research Gate and Facebook. Group members take this information to their classes. Some UC faculty are bloggers. In my field, UC Berkeley Professor Emeritus David Aaker is considered the world's expert on branding. I subscribe to his blog, "Aaker on Brands" where he posts comments on news items related to brands. His blog is a great source of examples for my lectures and assignments in my own Strategic Brand Management course.

As you can see, UC research is not a distraction from teaching. Rather, it contributes to the body of knowledge that is taught to UC students, and students around the world.

So, when public officials and critics opine that UC faculty should teach more and do less research, they misunderstand what faculty at a research university do. To quote President Napolitano, "Our business, if you will, is to transform individual lives and to transport new knowledge into the world." UC faculty's creation of new knowledge is at the very core of the educational mission of a research university.

Faculty members are attracted to positions at UC because of the opportunity both to push the boundaries of knowledge and share new insights and discoveries with students and with peers. By educating the educators, UC faculty extend their influence far beyond their own classrooms to students everywhere.

Chair Varner, this concludes my remarks. Thank you.

