

UNIVERSITY OF CALIFORNIA ACADEMIC COUNCIL
ANALYSIS OF THE SEPTEMBER 9, 2002 REPORT OF
THE JOINT COMMITTEE TO DEVELOP A MASTER PLAN FOR EDUCATION

FEBRUARY 25, 2003

OVERVIEW

In September 2002 the California Legislature's Joint Committee to Develop a Master Plan for Education released its final Report. This 2002 Report seeks to create a plan for a single, seamless system of education from preschool through postsecondary education for California, and it addresses major issues that affect our State's pre-K – 12 and postsecondary systems. The 2002 Report is divided into four major segments: access; achievement of students; accountability for learner outcomes and institutional performance; and affordability. The Report presents a number of recommendations (56 in all, some having multiple parts) in each of the areas.

The University of California Academic Senate commends the efforts of the Joint Committee, but we urge the Legislature to consider our comments and reservations concerning recommendations directed at faculty hiring and promotion practices, admissions policies, accountability measures and assessments, and intersegmental articulation within postsecondary education. These issues require academic judgments usually delegated to the faculty, and we believe our perspectives on these matters would have been valuable to the Committee. The Senate plays an important role in the shared governance of the University of California and has been responsible for shaping effective academic policies. The Senate also believes that any Master Plan should recognize explicitly the key roles that UC research and graduate education play in enriching a university student's learning experience and in fostering the economic development of the State.

The 1960 California Master Plan for Higher Education defined important differences among the three segments of public higher education: the University of California, the California State University system and the California Community Colleges. The 2002 Report tends to treat these segments as similar institutions rather than recognizing the special role of each and the excellent way each fulfills its role. We believe the role of UC is to provide outstanding undergraduate and graduate education, and through research and service to improve the well-being of California and of the world. We believe that the UC faculty, with critical support from its administration and the State, is at the heart of this endeavor, and that the faculty has an important role in shaping the future of California's higher education. Committed to maintaining the excellence of higher education, we offer the following comments on the 2002 Report.

DISCUSSION

The California Legislature's Joint Committee to Develop a Master Plan for Education presented its final report in September 2002 ("2002 Report") (<http://www.sen.ca.gov/masterplan/020909themasterplanlinks.html>). This 2002 Report addresses an impressive spectrum of education, for students of all ages. The 2002 Report focuses attention on pre-kindergarten through high school, segments which are in need of a set of principles that can be applied throughout the state. The 2002 Report recognizes the many problems in presecondary education and recommends far-reaching and innovative solutions. We laud the Joint Committee's having addressed the needs of these students. We hope that many of the Committee's goals can be met, as better elementary and secondary education will produce students more likely to succeed in higher education.

The 2002 Report also speaks to postsecondary education, the segment that was the only focus of the innovative 1960 California Master Plan for Higher Education (“1960 Master Plan”) (<http://www.ucop.edu/acadinit/mastplan/MasterPlan1960.pdf>). This 1960 Master Plan did not address primary and secondary education in California. The UC Academic Senate advises that, if portions of the 2002 Report are adopted as law, they should not alter the fundamental features of the 1960 Master Plan, which has produced the finest public university in the world.

The 1960 Master Plan resulted from extensive study by the major segments of California’s higher education: the University of California (UC); the State Board of Education (which governed what we now know as the California State University and the California Community Colleges (CCC)); and the private colleges and universities. Careful planning, negotiation and agreement among these segments and the California Legislature created the current structure of our tripartite public higher education and outlined the roles and functions of the different components. The 1960 Master Plan was adopted by the Governor, the Legislature and the governing bodies of the higher education institutions and, with occasional modifications, has been California’s policy framework for higher education ever since.

The 1960 Master Plan also recognized the vital role of research at the University of California. In 1997, Graham and Diamond published their landmark study of the rise of research universities (*The Rise of American Research Universities: Elites and Challengers in the Postwar Era*, Baltimore: Johns Hopkins University Press, 1997). Reviewing developments in higher education in the United States they report

“No aspect ... is more arresting than the inclusion of all eight general campuses of the University of California.” While recognizing that “UC Berkeley still claims top honors among the nation’s great public universities,” they felt that a most compelling story was the achievement of all the UC campuses. “. . . by 1990 Santa Barbara was winning \$50 million in federal R & D annually and ranked among the top six public institutions in all three of our qualitative per capita indicators. Santa Cruz produced the highest top-social science index of all the nation’s public doctorate granting universities, and Riverside produced the highest per capita publications index. Much of the UC success...goes to the state’s visionary higher education policy, as codified in the 1960 Master Plan” (p. 150).

The 2002 Report has the ambitious goal of addressing major problems with the state’s pre-K through 12 education system and as well as many issues related to higher education. We believe that these are two critically different areas (pre-K – 12 and higher education) and should be treated separately. Although there is some overlap between secondary and postsecondary education issues, their problems and needs are not the same, and each system would be served best by treating it individually. Encompassing both of these complex systems in one overarching review fails to do justice to the demands that each individually faces.

The success of our postsecondary education system has provided a major stimulus to California’s and America’s growth and prosperity. Changes to this complex enterprise must be made with great care to prevent any loss of its enormous value. Because the 2002 Report recommends substantial changes to education in California, the UC faculty believe that our review of this document is important and urge California legislators take note of our comments as they consider implementing the 2002 Report. Our comments incorporate many of the suggestions made by our statewide committees and the ten campus Academic Senate faculties after their review of the 2002 Report.

The 1960 Master Plan for Higher Education is a landmark document. As encouraged by the 1960 document, current California education code states

“The University of California may provide undergraduate and graduate instruction in the liberal arts and sciences and in the professions, including the teaching professions. It shall have exclusive jurisdiction in public higher education over instruction in the profession of law and over graduate instruction in the professions of medicine, dentistry, and veterinary medicine. It has the sole authority in public higher education to award the doctoral degree in all fields of learning, except that it may agree with the California State University to award joint doctoral degrees in selected fields. The University of California shall be the primary state-supported academic agency for research.”

Distinct from this, Code specifies that

“The California State University shall offer undergraduate and graduate instruction through the master's degree in the liberal arts and sciences and professional education, including teacher education. . . The doctoral degree may be awarded jointly with the University of California. . . Research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission is authorized in the California State University and shall be supported by the state. The primary mission of the California State University is undergraduate and graduate instruction through the master's degree.”

and that

“The California Community Colleges shall, as a primary mission, offer academic and vocational instruction at the lower division level. . .”

This separation of function among the three postsecondary education segments has been essential for the success of California's higher education. Attempts to blur the differences as suggested in parts of the current 2002 Report likely would cause harm to the state and its colleges and universities as discussed below. The UC Academic Senate advises that, should portions of the 2002 Report be adopted, they should not alter the fundamental features of the 1960 Master Plan, which has produced such a fine postsecondary education system.

The UC faculty support a number of the 2002 Report's recommendations, with changes advised in some.

Recommendation 10 calls on the State to maintain competitive wages for teachers, faculty, and other education professionals. We are concerned by reports from the California Postsecondary Education Commission that faculty salaries at UC are now nearly 10 percent below those of our comparison institutions.

Recommendation 36 appropriately cites the wording from the 1960 Master Plan regarding UC's, CSU's and the CCC's roles except the new 2002 Report inserts new wording that UC should “be the primary, *although not exclusive*, academic agency for research” (new wording in italics) and omitted the term “state-supported” currently in the Education Code. UC has never had the “exclusive” right to conduct research; CSU has authority to conduct research using facilities provided for and consistent with their primary instructional mission. However, State support has been essential to the scope and success of UC's research mission, especially in providing seed money for new projects which have often gone on to be self-sustaining. The Academic Senate cautions that any effort to dilute this support is extremely unwise. If the 2002 Report is meant to suggest a new direction which would broadly distribute critical and scarce research resources across multiple research administrative infrastructures, we believe that this would not serve California well.

Recommendation 38 continues the California Postsecondary Education Commission (CPEC) as the main coordinating entity for postsecondary education. We support a continuation of the “partnership” relationship between UC and the State. Public and private colleges and universities (private schools receive funding through financial aid – Cal grants, e.g.) must agree with CPEC on the standards that must be met so that they can be universally applied.

Recommendation 50 calls for fee increases in predictable and justifiable ways. This approach would lower the chances that UC would have to increase fees dramatically in poor budget times. UC charges fees that are much lower than most other research universities. In favorable economic times, the State is able to support UC effectively. However, in poor budget times, UC needs to have the flexibility to charge fees that will sustain quality and insure access to all students irrespective of family income.

Recommendation 51 calls for continuing adequate student aid, to which UC has long been committed. This is vital and has the enthusiastic support of the UC Academic Senate.

The Academic Senate has reservations about the following recommendations which call for legislation, or direction from the State or governing boards, or make policy matters that we feel are best left to the critical judgment of college and university faculty. We believe that we maintain a teaching and research environment that is among the best in the world, a credit to the UC faculty, the administration and the generous support of the State. Given UC's success to date, the Academic Senate has concerns about the following recommendations.

Recommendation 8 directs the State to become closely involved with the hiring and ongoing professional development of faculty, “in order to improve the quality of teaching . . .” The document does not recognize the special expertise in teaching that UC's world-class research faculty bring to the classroom or laboratory. The faculty have for decades been extremely successful in attracting and hiring “academically qualified teachers and faculty members” without a particular infrastructure called for in the Recommendation. We agree that providing resources for attracting “talented individuals, especially from underrepresented groups” would be valuable in recruiting new faculty from this important pool of scholars. We also agree that Schools of Education should be properly supported. UC already provides doctoral and masters graduates in “areas of high need” – e.g. the substantial increase in the number of graduates at all levels in the computer sciences and biological sciences, growing areas critical to California's and the nation's economical well-being. But the faculty disagree that there is a need for “an infrastructure” specifically to improve the quality of teaching. Since many graduate and doctoral students never enter a teaching arena, to require that teaching and learning curricula be inserted in their programs would be costly in time and resources and would detract from the education in their discipline. Teaching instruction is already introduced as needed as part of an integrated research training program. All campuses already have programs in instructional improvement to enhance the skills of teaching assistants and junior faculty who wish such help, but such programs must be designed with the recognition of the widely varying needs of the different disciplines. Other instruction in teaching can be focused on those students who actually intend to pursue teaching careers; this is a more cost effective approach to ensuring quality teaching at our campuses.

Recommendation 9 directs the adoption of policies regarding the balance between temporary and permanent faculty. This “balance” changes from year to year, depending on factors such as University funding at a particular time, rapid changes in the number of students, movement of permanent faculty, etc. We believe that formulating such a policy would create more problems than it would solve. Such a policy could substantially reduce the flexibility of all segments of the California higher education system and

might lead to higher costs. The University of California must have the ability to compete successfully in an increasingly competitive research and higher education environment. This involves flexibility and local control of scarce teaching resources. Doctoral students, postdoctoral students, teaching fellows and others are part of teaching team in many research and teaching environments, and provide critical flexibility.

Recommendation 10.1 calls for the governing boards of the colleges to examine the faculty promotion processes “to ensure that teaching excellence is given sufficient weight” in promotion decisions. The Academic Senate believes that promotion standards are best left to the judgment of the faculty, rather than the governing boards. Teaching has always been a key concern in evaluating faculty for promotion and tenure at the University of California. Indeed, UC's Academic Personnel Manual notes “Superior intellectual attainment, as evidenced **both** in teaching and in research or other creative achievement, is an indispensable qualification for appointment or promotion to tenure positions.”[emphasis added] UC has a broad and comprehensive system designed to honor and reinforce high quality teaching. Any examination should recognize the substantial effort which the Academic Senate has dedicated to insuring that teaching is central to faculty promotion.

Recommendation 12 guarantees UC admission to the eligible top 1/8 of the state's high school graduates. However, the Senate notes that this guarantee requires that the State meet its commitment for support for education of these students. We endorse collaboration with K-12 to enhance the rigor of secondary education, and comprehensive review of eligible applicants which UC has undertaken. However, the call for “elimination of providing additional weight to honors and AP courses in GPA calculations” suggests a premature resolution of a complex issue currently under Academic Senate review. The Academic Senate understands the objections to the current policy, but before any change in the weighting of grades in Honors and AP courses is proposed, a careful assessment of the value of these policies is necessary.

Recommendation 20.4 calls for “authentic assessments. . . of accomplishments . . . in relevant academic subjects.” The Senate believes that current methods of evaluating and assigning grades for academic work including research projects, portfolio and performance material are the best and most-tailored form of assessment. As worded, this recommendation limits the faculty's creativity and professional authority and, more important, may threaten the quality of education with forms and tests that do little to ensure student success or measure their command of the relevant subjects. Recognition of the expertise of a distinguished faculty is reflected in its primary role in constructing assessments of learning.

Recommendation 21 which calls for a “means of assessing the learning of students.” Given the extraordinarily wide range of disciplines taught at UC, from the arts to zoology, measures of success will vary widely. Faculty currently use many measures of success including grades, performance on projects, assessment of creative work, etc. which are likely much better indicators of success than any given standard measure. The UC campuses are among the most highly competitive in the country. Several of the campuses receive more applications than any but the most selective universities in the country. Introducing an unproven testing and assessment scheme that attempts to assess broad portions of college students' learning and is used by no other comparable selective university, will be costly and is unlikely to succeed or to improve undergraduate education.

Recommendation 22 calls for addition of K-12 faculty to the Intersegmental Council of Academic Senates (ICAS). UC already has an extensive information program for high schools and counselors about UC admission criteria and procedures. There currently is no K-12 faculty organization to enter discussions with postsecondary academic senates about implementing changes in K-12 education or improving interaction between the pre- and postsecondary segments. Thus, the addition of K-12 faculty to ICAS at this time would not be likely to yield any additional benefit to intersegmental collaboration. When topics are defined

that are best addressed by pre- and post-secondary faculty, and appropriate K-12 faculty can be identified, then ICAS probably would be willing to begin discussions of these topics.

Recommendation 23.2 proposes that course units be freely transferable between and among public colleges and universities. UC, CSU and CCC have cooperated in creating the Articulated System Stimulating Interinstitutional Student Transfer (ASSIST), a web-based tool that allows students to choose CCC courses which are transferable to a UC or CSU campus. UC's relatively new Dual-Admissions Program has necessitated bilateral agreements between each UC campus and each CCC campus; this work is more than halfway done and will be completed soon. At present, many general education units are transferable and work is in progress to achieve this same goal for courses in chosen majors. There is enormous diversity of courses in postsecondary education, and not all CCC courses are designed for completion of a college degree. For instance, many courses at the California Community Colleges are designed for adult-education students who are not pursuing a college degree. These courses are valuable to the community but may differ substantially from those intended for students pursuing a four-year undergraduate degree. Thus, articulation of all courses is not appropriate, and considerable study is needed to determine which courses should be transferable. Despite incomplete articulation among UC, CSU and CCC, the UC campuses admit substantial and increasing numbers of transfer students, one of the major goals of the 1960 Master Plan. ICAS views clear course articulation as a laudatory and important goal, and continues its work in this arena.

Recommendation 24 “encourages . . . infusion . . . of age appropriate school-to-career experiences in public schools, colleges and universities . . . to provide . . . guidance about . . . post-high school options . . .” Such experiences would not benefit all students, and selection of such experiences is best made through counseling and discussions between individual students, and their counselors and faculty. There are many examples of these school-to-career experiences already operative within UC – internships, independent research and creative projects, and programs such as the UC Washington Center.

Recommendation 34 would allow the California Community Colleges to develop upper division courses jointly with UC, CSU or another California postsecondary institution accredited for undergraduate degrees. The Academic Senate believes that offering such courses may not require new legislation, as there are mechanisms already available that permit courses to be team-taught by community college and CSU or UC faculty. Careful coordination with the universities’ faculties is essential.

Recommendation 43 calls for an accountability system integrated across all postsecondary education “to monitor . . . achievement of all students in common academic content areas.” As described in Recommendation 20.4 above, we believe that *assessment* of student performance is best done by the faculty at each institution, rather than by trying to use such tools as standardized tests applied across the postsecondary segments. The three components of higher education are quite different, so any measures of *accountability*, distinct from assessment, need to be mission-specific and appropriate for the breadth of functions and disciplines within each segment of higher education. At present, UC regularly reports to the Legislature on performance in a number of arenas. The current 2002-2003 UC Budget (p. 23-24) (<http://budget.ucop.edu/pubs.html>) reports on the Progress on Accountability Measures currently called for in the “Partnership Agreement” with the State. It is important that a partnership agreement recognize the State's obligation to provide resources to allow a segment to reach its agreed goals.

Recommendation 49 is followed by a discussion that notes, “the (2002 Report) committee finds the proposition that the State should allocate funding to support lower division instruction at roughly comparable levels in all three public sectors . . . attractive”. We disagree that equal funding for lower division students would “foster greater faculty collaboration and course articulation” and the 2002 Report

offers no explanation of how such collaboration would occur. In effect this recommendation is the equivalent of building a 2-year college on each of UC's campuses, a direction that would not assist in attracting and recruiting UC-quality faculty. The University of California would not have become a great university as an upper division institution with a two-year college next door. Each campus is an integrated unit. Funding the first two years at a reduced level to reflect the costs of a two-year college would represent a substantial downgrade of lower division instruction at UC. This Recommendation does not consider the different missions of the postsecondary education segments or the different costs attendant to those missions. A research university is more expensive to operate than a purely teaching-centered undergraduate institution. A research-oriented faculty benefits undergraduate education, including lower-division, but this comes with higher costs. The current "partnership" model of funding, with accountability of UC and the other segments, has worked successfully in the past and should be adhered to in the future, as recognized in the 1960 Master Plan.

RESEARCH IN THE 2002 REPORT AND AT THE UNIVERSITY OF CALIFORNIA

The 2002 Report is remarkably silent on the role of research at UC, and on the lasting benefit of that research for the State and nation. Virtually every Academic Senate committee that reviewed the 2002 Report noted this omission. The Joint Committee often cites research to support their recommendations, including a number of the studies that were done by UC faculty, so it does recognize the importance of research.

The Academic Senate wishes to highlight some of vital and historic accomplishments of the UC faculty over the University's 135-year history. This record is unmatched by any other public university.

(1850: California becomes a state.)

(1868: Legislation creates the University of California, the state's public land grant institution.)

Late 1800s: Researchers discover how to remove salts from alkali soil in California's Central Valley, turning barren land into the world's most productive farming region.

1800s: UC scientists set up the first earthquake recording system and map and name the San Andreas Fault.

1907: UC chemists develop an electrical "precipitation" device, still used today, to clean smokestack emissions.

1920: A UC bacteriologist develops a process to kill the organism that causes botulism, paving the way for the modern canning industry.

1922: Two UC scientists discover Vitamin E.

1930s: UC scientists discover plutonium and eight other transuranium elements, revolutionizing science and medicine.

1931: UC scientists invent the first cyclotron or atom smasher, which ushers in the Atomic Age.

1935: A UC scientist discovers Vitamin K.

1940: UC scientists save California's strawberry industry by developing a hybrid plant resistant to a devastating virus.

1946: UC scientists studying growth and reproduction identify a minimum requirement of vitamin A for humans.

1947: UC foresters develop cultivation practices that today are standards for reseeded forests.

1951: UC is the first to use a bacteria, rather than pesticides, to control insects. A bug "pathogen" is used to combat a caterpillar destroying alfalfa.

1952: A UC physicist invents the first wetsuit, leading to a \$100-million annual business.

1954: UC scientists discover photosynthesis, the process by which plants use sunlight to change carbon dioxide and water into sugar.

1957: UC scientists are first to recognize the phenomenon known as global warming or "the greenhouse effect."

1959: UC engineers develop airport center line runway lighting, which helps pilots to land more safely and accurately.

1965: A UC researcher creates "fuzzy logic" technology, which enables machines, such as appliances, to respond to changing conditions.

1965: A UC engineer invents the ground-fault interrupter, used in virtually all electrical outlets to protect people from electrical shocks.

1966: UC researchers develop and test "wrong way" and "do not enter" highway signs that have become the national standard.

- 1966: UC researchers establish safety standards for cars, including lap seatbelts, shatterproof windshield glass and headrests to prevent whiplash.
- 1970: A UC law professor co-authors California's no-fault divorce law, now used in some form in every state in the nation.
- 1972: A UC professor founds the Natural Reserve System, preserving more than 150,000 acres in California for teaching and research.
- 1973: UC scientists design computer software which simulates a car engine and helps pave the way to make car engines more efficient and less polluting.
- 1973: UC scientists develop a technique called "deep brain stimulation" to relieve debilitating pain from nerve damage.
- 1974: UC chemists discover that chlorofluorocarbons are depleting the earth's ozone layer, leading to a ban on CFC propellants, including those used in aerosol cans.
- 1974: UC scientists discover the mechanism that activates gene expression to determine why a cell is a liver or a kidney cell.
- 1974: UC doctors develop an artificial ankle to replace joints damaged by arthritis.
- 1976: UC virologists discover that cancer-causing genes exist in healthy cells, showing that environmental, hormonal and other factors can alter cell structure and result in cancer.
- 1979: UC scientists clone the gene for human growth hormone.
- 1980s: UC scientists develop a black-eyed bean that thrives in a drought-stricken environment and feeds more than a million Africans.
- 1980: UC researchers identify technologies to avoid potential failures in computer software, which can be applied to operations such as nuclear reactors and space flights.
- 1982: UC scientists continue work begun in the 1950s in developing varieties of tomatoes, which represent as much as 85 percent of the nation's production.
- 1982: A UC doctor develops a procedure to restore hearing by replacing damaged middle ear bones with sculpted cartilage.
- 1983: UC scientists are among the first in the world to isolate the AIDS virus.
- 1983: UC opens the nation's first AIDS outpatient clinic at UC-affiliated San Francisco General Hospital.
- 1984: UC doctors are first to warn that AIDS can be transmitted through blood. UC develops a heat treatment to kill the virus for blood transfusions.
- 1987: A UC researcher discovers a hormone which is a marker for Down's Syndrome and develops a blood test to determine the risk for having a Down's baby.
- 1989: UC scientists alter a common bacterium that prevents crops from freezing.
- 1989: UC researchers adapt a heart pump implant to pump insulin in diabetics, eliminating the need for daily insulin injections.
- 1990: UC researchers develop a way to study small amounts of cancer-causing chemicals, as little as a single molecule.
- 1991: UC develops the "Gwen" avocado, which equals the quality of the Hass avocado, but is larger and more uniform.
- 1991: UC researchers discover a gene on chromosome 19, responsible for atherosclerosis, or hardening of the arteries.
- 1991: UC researchers develop a way of testing for potentially cancer-causing lead in pottery.
- 1992: UC researchers discover a way to screen for salmonella bacteria in chicken eggs.
- 1992: UC astronomers design and co-construct the world's largest telescope, the W. M. Keck Telescope, in Hawaii.
- 1993: A UC graduate student creates the world's smallest light bulb, shorter than the width of a human hair, but bright enough to be seen 25 feet away.
- 1993: UC scientists develop an experimental laser so small a million will fit on a two-inch wafer, with potential uses in optical communication or laser surgery.
- 1993: UC researchers develop a test to diagnose HIV infection in infants of HIV-infected mothers. It could also help researchers learn more about how the virus is transmitted from mother to infant.
- 1994: A UC scientist discovers a way to reduce energy costs by more than 50 percent in large buildings with a chemical, which can reduce the amount of electricity needed in heating, ventilation and air conditioning systems.
- 1994: UC anthropologists discover fossils of the oldest human ancestor ever found, calculated to be some 4.4 million years old.
- 1995: UC engineers discover a new form of steel which can remain rust-free for up to 100 years, saving billions of dollars in repair and replacement costs.

(These accomplishments are listed in the 1995 publication "UC Means Business" found at <http://www.ucop.edu/pres/ucmeans.pdf>)

Many critical industries both within and outside California have arisen and grown as a result of UC research, including computer, telecommunication, biotechnology, medical sciences, and healthcare policy among others. New discoveries are reported quarterly in the UC President's Report

<http://www.ucop.edu/pres/presrpts.html>) and the list is extraordinary. UC is also heavily involved in new issues surrounding Homeland Security (<http://www.ucop.edu/news/archives/2002/sept6art1.htm>).

The University of California's research is not limited to its scientists and engineers. UC is home to Nobel Laureates in Economics for work including econometric models that provide the basis for planning transportation systems throughout the country, and a theory of how consumers choose what to buy.

Sociological research at the University of California

tracks and projects important birth rates, the aging of the population, changing ethnic composition;

allows us to evaluate and explain some of the changes in the nature of poverty and the effects of particular policy programs on the poor;

documents where/when/how racial and gender discrimination occurs in job and housing markets, and has illuminated the subject of work-family trade-offs, especially for women;

has helped in understanding the transmission of AIDS and in finding the most effective ways to change public health policy;

has studied the workings of urban gangs in US cities;

is studying what determines interethnic violence in California high schools;

has described of how governments can successfully produce economic growth in developing countries;

has helped us to understand the conditions under which nationalism or religion take extremist, perhaps terrorist, forms;

has evaluated theoretically and practically the relationship between governmental policy and the success (and failure) of corporations; and

has examined the effects of term limits on the State legislature, and the impact of redistricting on State politics.

In the arts and humanities, there are significant contributions and achievements as well. The UC Humanities Research Institute (UCHRI) at UC Irvine is one of the leading research institutes for the humanities nationally and internationally. It regularly advises other academic institutions on establishing or reviewing their humanities programs. UCHRI organizes and funds humanities conferences, workshops, and seminars. The Institute is funded by all the major funding foundations - National Endowment for the Humanities, The Rockefeller, Ford, and Mellon Foundations - on projects having to do with the humanities. Faculties at a number of other UC humanities centers such as the Townsend Center at UC Berkeley, the Institute for Humanities Research at UCSC, the Humanities Center at UCLA, and the new Pacific Rim Regional Humanities Center at Davis, serve as consultants to corporations, community groups, cultural institutions such as art museums, research bodies and governments. Members of the faculty have been recognized with MacArthur 'Genius' Awards and the President's National Humanities Medal. One UC faculty member served as the Poet Laureate of the United States and another won the Nobel Prize for

Literature. UC faculty have been instrumental in developing the field of disabilities studies, spanning literature, the arts and the social sciences. They contribute original works in music, and in the visual and performing arts that enrich the lives of all Californians, and often have significant impacts in the commercial entertainment.

The Anderson School of Management at UCLA routinely supplies prescient economic forecasts. A UC management dean served as Chairwoman of the President's Council of Economic Advisors. And there are many other examples of UC's research in law, business, architecture and environmental design that allow UC faculty members to serve as influential advisors to all levels of government and business.

UC's extraordinary success in multiple research realms is an enormous bargain for the people of California. With the State's investment of \$540M, the University of California has attracted during the next academic year an additional \$2B from other sources (2003-04 UC budget (<http://budget.ucop.edu/pubs.html>), p. 2). Thus UC has returned the State's research investment nearly five-fold, with immeasurable benefits to California.

The research enterprise at UC has a direct impact on the quality of students' education at all levels. At a research university such as UC, undergraduates are taught by world-renowned scholars who frequently involve undergraduates in their research. Moreover, UC's research prowess attracts outstanding graduate and professional students. One of UC's most important educational roles is to train these promising students, who in turn will contribute to California's increasingly knowledge-based economy.

The UC faculty are justifiably proud of their research accomplishments, and believe it important to emphasize the vital role of research at the University of California.

CONCLUSION

We are hopeful that legislators, their staff, and other interested readers, will consider our remarks in the spirit in which we offer them. They and we want the same result, to make only useful modifications to a higher education system that is the envy of the world. It is imperative, if modifications are made as a result of the 2002 Report, that they not impair the extraordinary success of California's higher education.