



March 10, 2005

Denice Denton
Chancellor
University of California, Santa Cruz
1156 High Street
Santa Cruz, CA 95064

Dear Dr. Denton:

Enclosed is a copy of the final team report, based on the visit on February 2-4, 2005. The team reports will be acted on during the June 16-17, 2005 meeting of the Commission at The Fairmont San Jose, 170 South Market Street, phone (408) 998-1900.

Institution is scheduled on the agenda of the Commission on June 16, 2005. We encourage your attendance at this meeting so that you may interact with members of the Commission and review with them your response to the team report and evaluation of the visit. Please return the attached form indicating your intention to attend the meeting on June 16.

Your institution's report will be heard by a Commission panel, comprised of six - seven Commissioners. The enclosed pamphlet, "Commission Meeting Guide" describes how the Commission conducts its institutional reviews:

The Commission will appreciate an written acknowledgment of receipt of this final report, together with your statement of any points on which you wish to comment or with which you disagree. Absent such a statement, I will assume that the institution finds no errors in the final report. If you plan to submit a written statement for the Commission's review, please mail it to the office by *April 6, 2005*.

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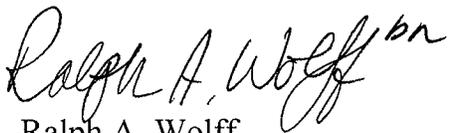
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An important aspect of the accreditation process is the use of the team report by the institution. The report should be disseminated within the institution and discussed by those who participated in the development of the institutional presentation. It also may be made public by the institution to the extent you wish. According to Commission policy, the institution should avoid quoting only those portions of the report favorable to itself.

As part of our commitment to make the accrediting process as effective as possible, we evaluate each accreditation visit. We are therefore sending the Accreditation Liaison Officer an evaluation form by email to complete and return.

We look forward to interacting with you at the June Commission meeting.

Sincerely,

A handwritten signature in black ink that reads "Ralph A. Wolff" with a small "bn" written above the end of the signature.

Ralph A. Wolff
Executive Director

RW:brn

Enclosures

Cc: William Ladusaw

**REPORT OF THE WASC VISITING TEAM
EDUCATIONAL EFFECTIVENESS REVIEW**

To the University of California, Santa Cruz

February 28, 2005

**In Partial Fulfillment of the Requirements for
Reaffirmation of Accreditation**

Team Roster

Chair

James Duderstadt
University Professor of Science and Engineering
And President, Emeritus
University of Michigan

Assistant Chair

Cristina González
Professor of Spanish
And Former Senior Advisor to the Chancellor
University of California, Davis

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Earl Lewis
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Emory University

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Professor of Biological and Environmental Engineering
Cornell University

Judith L. Smith
Vice Provost for Undergraduate Education
University of California, Los Angeles

Robert Weisbuch
President
Woodrow Wilson National Fellowship Foundation

The evaluation team in conducting its review was able to evaluate the institution according to Commission Standards and Core Commitments and therefore submits this Report to the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges for action and to the institution for consideration.

SECTION 1 - OVERVIEW AND CONTEXT

IA - Description of Institution and Visit

Established in the 1960s as a campus placing particular emphasis on undergraduate education, UC Santa Cruz has developed into an accomplished research university and an important member of the prestigious University of California system. While UCSC has created highly-regarded graduate programs, it has preserved its original focus on undergraduate education, which centers on the living and learning experience of its residential colleges. These function as centers for cultural and social activities, bringing students, organized in cohorts, into contact with faculty members. Narrative performance evaluations have been another characteristic of UCSC. Although both residential colleges and narrative performance evaluations have evolved over time, they remain in place and continue to be distinct features of the campus.

UCSC was accredited by WASC in 1967 and had its last, very positive, review, in 1994. The current review process began when the Preparatory Review Team visited the campus and issued a report in February of 2004. The Educational Effectiveness Review took place exactly one year later, in February of 2005. A team of eight members paid a three-day visit to the campus and met with a large number of committees, groups and individuals. The meetings were very informative and lively and provided many interesting insights for the team, which greatly appreciated the campus's creativity, energy and candor. The present report constitutes a summary of the Educational Effectiveness Review Team's observations and recommendations.

IB - Quality of Educational Effectiveness Presentation and Alignment with the Proposal

The team found the institutional presentation thorough and consistent with the review model. There has been extensive and admirable consultation with the administration, faculty and students.

IC - Preparatory Review Update

Although the Santa Cruz campus has experienced a transition in chancellor, provost, and WASC ALO, while the UC system has seen transitions in president and provost, able interim leadership, coupled with deep faculty engagement, has sustained institutional momentum and allowed the institution to respond effectively to the recommendations of the Preparatory Review:

Forging a stronger connection between planning and budget

The team was pleased to find that the campus had strengthened its efforts to approach planning and budget decisions within the new context of severely constrained public support, a situation likely to exist for the foreseeable future. The site visit indicated a far better understanding on the part of both faculty and administration of the importance of establishing cost containment measures while generating new sources of revenue from entrepreneurial activities. The institution seems to have the mechanisms in place to set strong objectives and reallocate resources to highest priorities.

Exploring the balance between undergraduate and graduate education

The team carefully structured the visit to address in depth the issue of balance between undergraduate and graduate programs as the latter grew in both size and breadth. These were highly informative conversations that provided the team with a

better understanding of the institution plans to extend its unique character in undergraduate education to its graduate programs.

Demonstrating that learning outcomes are assessed and used

Clearly the institution has made an effort to develop learning outcomes data sources. The challenge has been to distribute these data and weave them into the ongoing planning and budget process. The site visit was structured to examine this issue in considerable detail, and from these discussions the team is confident that such evidence now plays a more important role in institutional decisions at all levels than it did in the recent past.

Implementing the revised program review process

The team paid particular attention to program review during the site visit and concluded that the institution had made considerable progress in this area. Indeed, its program review process, which uses both student learning outcomes and student survey results, would be considered quite outstanding by most institutions.

Preparing for the Educational Effectiveness Review

The educational effectiveness inquiry addressed two areas proposed by the institution: The growth and improvement of graduate programs and the enhancement of undergraduate academic engagement, with both topics focused on educational goals and institutional capacity to measure and assess learning outcomes. It also provided an appropriate framework for considering several topics of particular importance at this critical juncture for the institution, namely,

1. How assessment measures such as educational effectiveness and program review are woven into planning and budget decisions.

2. How UCSC is approaching the challenge of a substantial growth in research, graduate education and professional education.
3. How UCSC can preserve and build upon its unique character in undergraduate education as it evolves into a more comprehensive research university.

It should be noted that these latter three topics were the focus of the last day of the site visit, with the new Chancellor-designate joining in the discussion with the administration and the leaders of faculty governance.

SECTION II - EVALUATION OF EDUCATIONAL EFFECTIVENESS

IIA - Evaluation of the Institution's Educational Effectiveness Inquiry.

The team was pleased with the campus's structures and processes for evaluating educational effectiveness and utilizing the findings in decision making to create a culture of continuous institutional improvement. UCSC utilizes a variety of methods to assess learning outcomes, including capstone courses and projects, comprehensive examinations, faculty narrative evaluations, and longitudinal surveys of student engagement and post-graduation achievement. These data show that the institution's educational programs are indeed effective, with some measures such as student engagement and later participation in post-graduate study truly impressive, leading both the University of California system and most major research universities.

Teaching processes seem influenced by and aligned with learning outcomes in essentially all academic programs, with deep involvement and commitment of faculty through an array of standing committees and review mechanisms. The institution collects a great deal of data concerning educational effectiveness and learning outcomes,

and, with the new administrative systems now coming online, is weaving this evidence into decision-making at all levels with increasing sophistication. In sum, UCSC's commitment to improve educational effectiveness is exemplary.

Undergraduate Education

UCSC is well known for its "uncommon commitment" to undergraduate education, and the campus has been very focused on maintaining this commitment. The institution's essay on educational effectiveness in undergraduate education addressed two pivotal questions:

- 1) Have recent enrollment pressures and resource limitations eroded the excellence of UCSC's undergraduate education?
- 2) How can UCSC preserve and enhance the excellence of its undergraduate education programs through experiences that engage active learning?

The team was updated on campus efforts focused on both questions. The answers to these questions are summarized here.

Evidence of Excellence in Undergraduate Education

To answer the first question, the campus surveyed student opinions, making use of a national inventory (National Survey of Student Engagement, NSSE), a UC questionnaire (University of California Undergraduate Experience Survey, UCUES), as well as developing their own UCSC Graduating Senior Survey (first used in 2003). NSSE and UCUES data demonstrate that UCSC students score above the national and UC averages, respectively, in satisfaction with several aspects of their education, including access to faculty, perceived quality of education, and opportunities for enrichment activities, such as internships and research experiences.

The campus cites data from student applications, as well as graduation rates, as evidence for student satisfaction. During this period of growth, applications to UCSC have increased more rapidly than applications to the UC system as a whole, and the campus has developed a comprehensive review system to admit a diverse class of academically qualified applications. Although UCSC freshmen are in the top 12.5% of their high school class, they are less competitive than the students at the top tier UC campuses, with some indicators, such as the SAT I and II math scores of engineering freshman, lower than expected for a major research university. In addition, the lack of an Honors program for undergraduates might discourage more ambitious students from enrolling.

The relatively weak academic preparedness of UCSC's freshman class may explain the lower-than-expected graduation rates of UCSC undergraduate students. Fewer than two thirds (63%) of UCSC's freshmen graduate in six years, whereas the UC average six-year graduation rate is 79%, with Berkeley and UCLA achieving rates of 85% and 87%, respectively. In discussions on this topic, UCSC faculty cited recent research showing that much of the variation in graduation rates can be predicted by controlling for test scores, high school grades, and ethnicity of undergraduate students ("Degree Attainment Rates at American Colleges and Universities," Alexander W. Astin and Leticia Oseguera, UCLA Higher Education Research Institute, November 2002). The faculty was convinced that improvement in the six-year graduation rates would be accomplished as UCSC moves further into admissions selectivity.

The team noted that programs focused on special populations (ethnic students, transfers, those who are admitted by exception, other students with special needs) have been successful in enabling most students to make a successful transition to university

life. Research may show that these students are the ones whose lives have been most affected and changed by the UCSC experience. If so, they may become a special target of opportunity for alumni involvement.

Undergraduate students who may be at greater risk are active in academic programs and in the life of the community in substantive and very impressive ways. Many student organizations view themselves as stakeholders in their own education. In addition to developing peer mentoring and advising programs, they conduct independent surveys in constructive efforts to assess the effectiveness of academic support programs.

Programmatic Efforts to Enhance Academic Engagement

The campus has focused on three areas as ways of enhancing student engagement through active learning:

- 1) Increasing early faculty-student interactions,
- 2) Refining the senior exit requirement,
- 3) expanding research and internship programs

UCSC has made substantial progress in all three areas. The residential colleges emphasize living-learning opportunities and community building. The campus recently established a variety of freshman discovery seminars, in addition to the writing seminars all students are required to take as part of the core college courses. These experiences will continue to enhance early faculty-student interactions and show that faculty members are available and care about undergraduates at UCSC.

UCSC is the only campus in the system with a senior exit requirement for all students. In many departments this requirement is satisfied by a senior seminar or thesis. In some departments, however, it is satisfied by an exam. In a recent review, the

campus Committee on Educational Policy advised that departments that use comprehensive examinations consider shifting to some other form of exit requirement and examine this in the regular reviews of major programs. The team believes that both of these recommendations will serve to improve the quality and value of the senior exit requirement.

UCSC has an excellent record of engaging undergraduate students in meaningful internship and research experiences. As departments and academic programs continue shifting from exit examinations to capstone experiences, more and more students will engage in research on and off campus. If this can be achieved, UCSC will reach a benchmark that few public research universities have achieved: Every undergraduate student will have completed an internship or participated in research.

Academic Advising and General Education

UCSC's essay on educational effectiveness in undergraduate education also outlined two other topics:

- 1) improving academic advising, and
- 2) monitoring general education requirements.

Again, excellent progress has been achieved in both areas. Improvement in academic advising, in particular, has been substantial. The training of academic counselors has expanded and a new electronic tracking system has been developed. Although there still may be need to provide more specialized guidance for undergraduates in the sophomore year, at the time they select majors, the academic advising situation is among the best in the system. The campus has moved more slowly with regards to general education. The current requirements were adopted in 1985, and a 1998 proposal to allow students more freedom to develop focal clusters was narrowly defeated by a vote

of the entire Academic Senate. Since then, the Committee on Educational Policy has pursued an evolutionary strategy for renewal by reviewing individual components of the general education program. General Education reform is time consuming and contentious. The process is made more difficult when general education is vested in individual colleges. UCSC faculty must continue to probe this question and determine what foundation UCSC students should have in their lower division education. The next WASC review should revisit this vital topic.

Funding issues

UCSC's undergraduate programs are strong and deserve support. However, repeated cuts to the University's budget over the past decade have created a "culture of scarcity" at UCSC, and there is limited institutional money available to provide special scholarship assistance for undergraduate students who are meritorious or who have high need. Thus, UCSC is not able to compete successfully for the best students with better-funded UC campuses.

The residential college system, in particular, needs new resources. Only one of the residential colleges is well-endowed. The others must rely on diminishing operating funds for those program activities intended to nurture and enliven intellectual and community life. The value of the college system has been disputed. While some ask whether the system can be preserved in the greater UC environment, where there is a move toward sameness, others note that the residential colleges serve many students, particularly first-generation learners and underrepresented ethnic students, very well. They provide a "neighborhood" identity, a community, and placement and orientation services which enable students to have a positive educational experience. These opportunities for interaction are relatively rare in public research universities. To be

sustained, resources for faculty incentives, graduate student support, guest lecturers, space and other amenities are required.

Graduate Education

The team believes that UCSC needs to assess the present and act upon the results. The campus has quite a few small graduate programs, and not all programs, big or small, are of distinction. A case for graduate growth should begin by creating some fresh opportunities without new resources--that is, by freeing some resources from programs that have outlived their vibrancy or have failed to develop an ample student interest. If the faculty could reorganize some of the existing programs, current resources could be freed for the invention of some new programs. Such a set of decisions, of course, requires good process, an assessment of all programs based upon sensible measures, and the context of a clear overall mission.

In terms of growth, expanding current programs may be justified in the case of a few highly successful programs, but the far more exciting prospect is for the development of new interdisciplinary degrees and professional schools. We heard of several interesting possibilities, ranging from a school of public policy and resource management to an education degree that would have a greater basis in the disciplines of the arts and sciences than any other in the country, to a women's studies doctorate, to an intermediate degree, to ideas for a business school tied to the Silicon Valley or the Monterey Peninsula. This is a faculty of more than common creativity, and every new endeavor, whether professional or liberal-arts oriented, will be informed by the distinctive intellectual spirit of Santa Cruz.

In order to improve and expand graduate programs successfully, the team believes the campus will need to effect the following changes:

Invest in a graduate dean and a graduate school

A Vice Chancellor for Research is inevitably too busy with grants and contracts to be an effective graduate dean. An independent Graduate Dean's office allows for a higher quality of attention and decision-making, coordination across fields, concern for the student experience, and maximizing of outcomes. A graduate school serves as a beacon of intellectual integrity and interaction, ensuring that the various disciplines not become utterly separate planets but allied countries in the world of the university. The objection that the Vice Chancellor for Research model is better for funding can be easily addressed by funding the graduate school well, which any provost or chancellor worth his or her salt should be able to do easily. A strong and well-funded Graduate Dean office is far superior to the Vice Chancellor for Research/Graduate Dean office model, which is why many top universities, including other UC campuses, are going in this direction.

Focus on graduate student recruitment and retention

Invest in graduate fellowships, including first year and summer fellowships, and work with the programs to establish multi-year support packages, which is less difficult than it seems. The number of research and travel fellowships for graduate students should be expanded as well. Consider national best practices in regard to recruitment and retention of graduate students and set aside some funds to enhance performance in this area. Pay particular attention to the recruitment and retention of under-represented students, including establishing stronger ties to feeder schools.

Give graduate students a truly progressive set of pedagogical experiences

Greater resources are needed for the professional development of graduate students, particularly the training of TAs, whose presence in classrooms and laboratories

contributes to the success of undergraduate students as well as to the quality of faculty research. A strong TA training program is essential. There should be a guarantee that the development of a doctoral student as an instructor will be given the same attention as the student's development as a scholar. Lead in creating a new model for faculty/graduate/undergraduate cohorts.

Provide an adequate budget, tied to quality assessment

UCSC cannot have graduate growth without reallocating a percentage of the base budget. Give the graduate dean a sufficient amount of those funds to achieve the purposes just stated and require program-quality assessment as a main basis for allocation of funds.

II B - Evaluation of the Institution's Systems for Enhancing Teaching Effectiveness and Learning Results

UCSC has a significant number of systems in place to address the complexities of the University. They have recently completed the student system with PeopleSoft and intend to add other information systems. UCSC seems to have placed great emphasis on data acquisition although at the present time there is some difficulty with having data readily available for analysis. The Institutional Research Group seems to be well poised to help with significant analyses as information systems for research funding, student data, course evaluations, program reviews and alumni are further refined.

With the coming of a new Chancellor at UCSC it is an excellent time to initiate a "Call to Engagement" to get the faculty, students and staff involved in an exercise to get opinions on a number of specific questions. Such an exercise would help develop the future directions of the campus.

The team was told the campus is seeking to chart "What to Be." This seems like an opportune time to activate a Research Futures Task Force to select three or four major research areas for critical investments. Because research and graduate education are so closely connected this exercise will identify the growth areas for graduate programs as well.

One system that the team thinks the campus should consider is an external advisory committee approach for both the divisions and the departments. Appointments to the advisory committees would be a mix of UCSC alumni and other distinguished persons who are able to bring an off-campus perspective. This approach can be a real help to the development effort for fund raising in both divisions and departments, as well as provide continuity of input.

Lastly a system of true integration of undergraduate, graduate and faculty activities is a challenging and exciting initiative. One approach would be to build a graduate center that would function as the focal point of the campus. A way to move more rapidly before a major fund raising produced results, would be to take one of the ten residential colleges and convert it into an integrated learning/living center encompassing the engagement of graduate students, undergraduate students, faculty and staff.

It has been said that systems make things possible, but people make things happen. Clearly there is not a campus that can better embody this concept than UCSC.

**SECTION III - SUMMARY OF TEAM CONCLUSIONS AND MAJOR
RECOMMENDATIONS FROM THE CAPACITY AND PREPARATORY REVIEW
AND EDUCATIONAL EFFECTIVENESS REVIEW**

The educational effectiveness review team reaffirms the primary conclusions of the earlier Preparatory Report and believes they continue to provide an appropriate context for the Educational Effectiveness Review:

The University of California at Santa Cruz is at a critical point of its evolution. Its unusually strong commitment to high quality undergraduate education in the living-learning environment of residential colleges, coupled with numerous opportunities for student development through research projects, public service and international experiences within the environment of a research university engaged in graduate education and research of the highest caliber is unique among public universities. In fact, UCSC has long served as a role model for American higher education. Yet today, the financial realities and economic needs of the State of California, coupled with the changing nature of scholarship (e.g., the interdisciplinary character of new knowledge and the impact of digital technology), have caused UCSC to expand its graduate programs and introduce new professional degree programs (e.g., engineering and management) while enhancing still further the academic engagement of undergraduates.

The Team believes it important to emphasize that the economic (and demographic) future for UCSC is likely to be dramatically different from its past... It seems clear that to sustain its reputation for high quality undergraduate education in a unique living-

learning environment and expand its activities in graduate education and research, UCSC must stimulate a more entrepreneurial spirit on the part of its faculty and extend its reach beyond Santa Cruz...The team believes that the objectives proposed in the institution's recent planning exercises are all appropriate and achievable and that the faculty and leadership of the university have the energy and creativity to achieve this vision. The Team also believes that the institution understands the importance of protecting the distinct character of UCSC in American higher education, particularly its unique approach to undergraduate and strong faculty engagement as it expands its graduate, professional, and research programs.

The brief history of UCSC has been characterized by extraordinary innovation, driven both by the vision of its founders and its capacity to attract energetic, creative faculty, students, staff, and administrative leaders seeking such a pioneering spirit. This may, in fact, be the strongest asset of the university as it faces an increasingly uncertain future, since institutions characterized by innovation and flexibility, based upon enduring traditions and values, seem best able to transform challenge into opportunity during a period of rapid change. We believe that UCSC is remarkably well positioned not simply to adapt to this future with its fundamental values and character intact, but to shape its future evolution into a leading research university with an extraordinary commitment to undergraduate education.

The site visit was carefully constructed to assess the quality of UCSC's educational effectiveness inquiry, the learning outcomes achieved by its academic programs, and the degree to which the evidence produced by these inquiries was woven into planning and

budget decisions to create a learning institution, driven by the desire for continuous improvement. In this process, the WASC framework for educational effectiveness reviews was followed quite carefully, always driven by the key WASC Standards for Educational Effectiveness. Beyond this, however, the educational effectiveness review team sought to engage the institution in a real conversation about its future. The University's administration and faculty leaders worked closely with the team to design and implement such a set of strategic discussions.

Major Conclusions

Educational Effectiveness

There is ample evidence to demonstrate the unusual quality and character of undergraduate education at UCSC, ranging from explicit assessment measures such as capstone courses, student projects or portfolios, or direct faculty evaluation to survey instruments measuring student engagement and post-graduation achievement. Similarly, quality measures of graduate education effectiveness such as student quality, performance on comprehensive examinations such as PhD qualifying and candidacy examinations, and peer review of publications establish the high quality and educational effectiveness of graduate programs. The evidence developed from these outcome assessments is included as an important component of program review and informs planning and budget decisions.

Yet here we offer a caveat. From the experience of team members, it is clear that the assessment of learning is a complex and still evolving task, particularly for the broad liberal arts programs of institutions such as UCSC. The extraordinary recent progress in understanding the learning process through brain research and cognitive science has yet

to be woven into most educational practice, including learning assessment, which all too often is both simplistic and misleading. This is particularly true of the learning processes characterizing undergraduate programs in highly selective institutions with a strong research environment.

UCSC is just such an institution, which provides both a particular challenge and an unusual opportunity. By informing its assessment measures with the latest research in the cognitive sciences, an activity where its faculty excels, we suggest that UCSC could provide important leadership in this area, just as it has in undergraduate education. In particular, the presence of a professional school of education at UCSC with an emphasis on cognitive psychology and learning would be a great resource, both for on campus enhancement of educational effectiveness and for export to other institutions of higher education. It would provide UCSC with a great opportunity to cast a vigorous image as developers of a new generation of faculty and pedagogical methodology.

Growth

The University's recent and anticipated growth will clearly change both the character and culture of the institution. This will require:

- Different organizational structures (e.g., a clearly identified graduate school, perhaps with organizational changes such as more interdisciplinary programs; an additional commitment to professional education in fields such as education, management, public policy, environment, and perhaps even law and the health professions)
- Different leadership styles (e.g., more authority at the level of chairs and other administrators to better balance their responsibilities and accountability)

- Different forms of faculty participation (e.g., greater agility less bound by custom and process, more risk-taking, greater delegation of academic decisions to academic leaders)
- New systems and processes to support both ongoing decisions and long-range planning that are capable of accommodating the increasing size and breadth of the University's academic programs.
- And, perhaps most important, a better understanding and acceptance of the unique character of UCSC on the part of the University of California system (e.g., UCOP) and a willingness to provide not only the necessary resources but also the flexibility to achieve and accommodate growth.

Particular Challenges

While UCSC's unusual history of experimentation and innovation coupled with its tradition of exceptionally strong faculty involvement in planning and decision-making positions it well, it does face some particular challenges:

- Clarification of Mission: The UCSC faculty is struggling well with very rapid growth in student population. The institution is at this moment in the midst of a transition from what was really a large, experimental liberal arts college with some research aspirations to a full-fledged research university that wishes, for good reasons, to retain the most valuable features of its original emphasis on undergraduates. This is a difficult goal but one that, attained, would make UCSC a national model anew. But the faculty and administration cannot succeed unless the UC system itself affirms the aims and purpose of this unique campus. If it wishes simply to make the campus a typical research university, it needs to say so. We hope instead for an affirmation that would update the original

purpose: barrier-busting, interdisciplinary, learner-centered study at both the undergraduate and graduate levels; fresh explorations of the relationships among faculty, graduate students and undergraduates within the university; and equally fresh explorations of the relationship of the internal campus to its social contexts, from local to international.

- Leadership: Throughout its history UCSC has experienced a relatively high turnover of leadership at all levels. The tradition of short term chair appointments is clearly inconsistent with the need to provide strong leadership and vision at the department level. More stability should also be sought at the level of deans and other executive officers, whose authority needs to be strengthened.
- Culture: While the UCSC faculty culture emphasizes strong faculty engagement in planning and decision-making, it is too accepting of the status quo, of existing constraints and practices. A more challenging, entrepreneurial, risk-taking, and courageous faculty culture will be necessary to achieve the goals of the campus. Perhaps as a result of what one dean termed a mismatch between administrative responsibility and authority, the university appears under-prepared and spotty in achievement in three areas: Development (fundraising), grant-seeking (though clearly some programs are extremely capable and appropriately aggressive and creative), and off campus service. The first two needs can be addressed by an investment in people and effort, with special attention to that culture of faculty participation that already makes UCSC exceptional in many ways. The third is more difficult. One would expect the campus to be more fully invested in the social application of learning, whether in terms of interchange with middle and

high schools or in terms of recruiting a more diverse faculty and student body or in terms of applying knowledge generally.

- Resources: There is a pressing need for new resources and for an entrepreneurial attitude about fundraising. Resource acquisition and allocation will be a major task for the new Chancellor and her senior officers. As the University grows in size and in selectivity, it will be necessary to identify new sources of revenue, and to articulate planned outcomes for fundraising and development.

Comprehensive planning is critical. In some instances, priorities have to be clearly established, and tradeoffs or “growth by substitution” will be required.

The Role of the UC System

The team understands and agrees with the objective of evolving UCSC into a more comprehensive research university, considerably larger in size. But it believes that for this to happen, the UCOP must strive to understand the unique character and role of the institution, respecting and accommodating this, and helping UCSC to define it for a new century. One of the greatest challenges to UCSC’s ability to evolve while preserving its unique character is the UC system itself. The long standing traditions and processes of the UC system, if applied too rigidly, could constrain if not cripple UCSC’s evolution in an ever more competitive and resource-limited future (e.g., academic personnel policies, rigid application of budget models, archaic approaches to revenue streams from sources such as tuition and indirect cost recovery, nonresident and international enrollment). Considerable accommodation will be necessary to provide UCSC with the agility to respond to the challenges and opportunities before it as it evolves into a mature campus. The UC system culture Should not force UCSC as a round peg into a square hole.

Recognition and Rectification of Past History

It is important to rectify the consequences of a past history which saw UCSC funded less generously than other campuses because of its undergraduate emphasis. On the other side of the spectrum, UCSD got a head start due to a decision to fund much bigger numbers of senior faculty appointments when the campus was established. The 1990s decision to freeze budget allocations will significantly constrain UCSC's further growth.

Faculty Culture

The team found strong evidence of a better understanding and acceptance among UCSC faculty and administrators of the brave new world of limited state support. While some faculty are clearly apprehensive, worn down by the ongoing budget cuts and concerned about leadership changes at both the campus and system levels, many others were excited about the opportunities offered by the anticipated growth of the campus. Yet it is also clear that the campus will need help in establishing the entrepreneurial culture necessary to become less dependent upon state support. Current goals for fund-raising and sponsored research volume are very low. The campus needs to be more aggressive.

Diversity

Diversity, broadly defined, has been an attribute of UCSC's distinctive character since the inception of the campus. As the campus makes plans to grow in size and selectivity, it must not lose sight of this aspect of its mission. Alumni and others with special connections to UCSC should be able to complement student recruitment efforts. Although the university enrolls a considerable number of Latino students, the number of Native American and African American students is low. The non-urban setting

seems an anomalous excuse for this enrollment pattern, both because cities are so nearby and because urban settings are not necessary to attract minority students, many of whom would certainly enjoy the physical beauty and intellectual excitement of the campus.

Major Recommendations

Planning Activities

It is important that the institution continue the long-range planning activities of the past several years with strong faculty engagement. The transition to a new chancellor provides a particular opportunity to intensify this effort. Among the possibilities suggested by team members are:

- A “call to engagement” to the faculty by the chancellor seeking their participating in defining the key themes that will characterize the growth of the institution over the next decade.
- The development of a one-sentence mission statement articulating the future vision for the University and endorsed by the UCOP.
- The conduct of a research futures exercise in which a group of faculty members, augmented with external consultants, is charged with identifying a small number of critical research thrusts for the campus.
- Finally, there needs to be a better articulation among planning activities at the department, division, campus and system levels. For example, how would UCSC planning take advantage of UC system estimates that as many as 6,000 new faculty may be required over the next decade?

Undergraduate Education

The Review Team makes several recommendations that it believes are critical to attaining the vision of a world-class research university with an “uncommon commitment to undergraduate learning:”

- The team suggests that the Committee on Educational Policy continue working on transforming UCSC’s general education curriculum. Upgrading this important program could provide a new hallmark of UCSC’s leadership in undergraduate education.
- The team encourages the Committee on Educational Policy to make a discussion of learning a part of the six-year review by mounting a pilot program with two or three departments.
- The team also recommends the creation of a research center focused on teaching and learning, both to support continued enhancement of on campus educational effectiveness, and to provide the opportunity for leadership in higher education pedagogy.

Graduate Education

The Review Team strongly supports the effort to expand graduate education at UCSC, which it believes could be strengthened by the following recommendations:

- The campus needs a more visible organizational structure, in which a separate graduate school is established, along with a senior officer (a dean of graduate studies) to direct and coordinate graduate activities with the departments, divisions, schools and colleges.

- There should be an ongoing assessment of the quality and organization of existing graduate programs, particularly those of unusually small size, with the aim of freeing resources for new program development.
- The team also suggests that the institution explore the possibility of constructing a major physical facility to house the graduate school and serve as the physical and intellectual focal point for the campus.
- To provide greater capacity for truly interdisciplinary graduate work, the institution should also explore different models for organizing Ph.D. activity such as the “graduate group” or “graduate field” approach adopted by several universities, which broadens the options for graduate study beyond the conventional disciplinary programs.

The Linkage Between Graduate and Undergraduate Education

A key theme of the Educational Effectiveness Review has been a desire to stimulate an ongoing discussion of how UCSC might build upon its unusually strong commitment to high quality undergraduate education to create a new model for graduate study. It was clear from the site visit that the faculty is deeply engaged in a creative effort to explore such possibilities. Among the many options explored during our discussions were:

- Exploiting the unusual resource provided by the residential college setting to provide graduate students with the experiences of teaching and mentoring undergraduates as a component of a preparing future faculty program. Note here that the majority of UCSC’s newly minted doctoral recipients will start their academic careers in “teaching institutions”, where pressures are great to demonstrate student learning outcomes. The strong commitment of UCSC to

undergraduate education within small living-learning communities represents an important opportunity to provide training and experience to graduate students in teaching undergraduates, thereby giving them an advantage in competition for teaching positions.

- Developing a campus-wide TA training program, to be required of all graduate student teaching assistants and aimed at providing them with both the general teaching skills necessary to be effective in undergraduate teaching and discipline-specific pedagogical methods to prepare them for possible future academic careers.
- Utilizing graduate students as mentors in undergraduate research projects.
- Joint facilities for undergraduate and graduate instruction, research, and collaboration.
- A school of education that exploits the unique resources provided by the residential colleges as research laboratories for the study of higher education.

Professional Education

While the primary emphasis of planning activities has been the expansion of graduate programs at the masters and doctorate level in the traditional academic disciplines, the team recommends that more attention be given to the creation of additional professional schools and degree programs. The team believes that strong professional schools must become a priority in UCSC's effort to become a more comprehensive research university. The following possibilities might be considered:

- First, it is clear that while the engineering program has achieved excellence in key areas, it will need to develop the additional core programs that characterize most top engineering schools (e.g., mechanical, chemical, civil, and industrial

engineering) to broaden educational and research opportunities and achieve a world-class reputation and impact.

- While the proposed efforts in technology management are important, there was a sense among some members of the team that eventually the institution must build a regular business school, offering both traditional MBA programs and executive management education.
- As noted earlier, the team believes that the institution should explore the development of a school of education, but perhaps more focused on higher education than traditional K-12 education (to take advantage of its residential college system as “research laboratories”). Such a school, augmented by the residential college environment, could serve to integrate undergraduate, graduate, and professional education and enhance California’s ability to address the needs of the oncoming rush of diverse students seeking higher education opportunities (Tidal Wave II).
- A number of other interesting possibilities that build upon existing UCSC strengths, such as environmental policy, were suggested by the faculty. While we agree that these are attractive possibilities, it is also important that such efforts be consistent with other leading professional schools around the nation (e.g., in the policy area, the MPP programs offered by the Kennedy School at Harvard, the Ford School at Michigan, or the Woodrow Wilson School at Princeton would be examples).
- While the institution may be justifiably cautious about the major investments required to build leading programs in areas such as the health professions or law, we encourage UCSC to explore alliances with existing UC professional

schools in these areas that are separate from a comprehensive university (e.g., UCSF in the health professions and the Hastings School in law). Similarly the close proximity of national centers such as the Carnegie Foundation for the Advancement of Teaching in Palo Alto and its agenda for promoting the scholarship of learning and teaching could provide a UCSC school of education with interesting opportunities for collaboration.

The College System

While the UCSC effort to build academic programs within a residential college system was a bold experiment in earlier times, it has become clear that such an approach is incompatible with building strong academic programs in the traditional academic disciplines, particularly at the graduate level. Today, while the residential colleges provide a very unique asset for living-learning environments, the campus has evolved into a more traditional academic organization characterized by departments, divisions (which we suggest should eventually be identified as “schools”), and degree programs. In this regard, more effort should be made to involve upper-class, transfer, and graduate students in the life of the residential colleges.

Academic Organization and Leadership

It is inevitable that UCSC will look increasingly like other comprehensive research universities as it evolves its graduate, professional, and research programs. Furthermore, the need to stimulate strong entrepreneurial activities to attract resources both to enable growth and compensate for the inevitable erosion of state support will require incentives that are incompatible with centralized budgeting systems. The team has several observations in this area:

- It is essential that academic leadership at the level of department chairs and deans be provided with the authority commensurate with responsibilities and accountabilities. The current practice of appointing short-term department chairs with little authority is incompatible with building strong academic programs.
- Furthermore, there was an increasing sense that the long-standing traditions of centralized budgeting and an overly cumbersome and process-dominated style faculty governance has inhibited the effectiveness of leadership at the dean level, particularly during a time of significant change.
- There was even concern, expressed by members of the senior management team, to the degree the current policies and practices at the UC system level undermine the effectiveness of executive leadership.

Resources

It is clear that UCSC's early emphasis on undergraduate education has burdened the institution which was built when the formula-funding model was biased toward graduate student enrollment. The inadequacy of this base budget allocation, now locked in by the Atkinson Doctrine of the 1990s that bases further budget increases on enrollment growth without distinguishing among degree levels, will seriously hamper the growth of UCSC into a comprehensive research university. The team urges UCOP to adjust the base support of UCSC to take into consideration the sequence of budget models that have handicapped this campus.

Educational Assessment

The team offers the following suggestions for improving assessment of learning outcomes:

- The strong commitment of UCSC to undergraduate education within a unique living-learning community (the residential college system) provides an unusual opportunity to study learning assessment methods. UCSC should consider formalizing its research programs on learning and teaching, adding faculty in this area (perhaps associated with a new school of education focused on higher education).
- The increasing importance of fund-raising and alumni development suggests the possibility of a far more comprehensive approach to track and survey graduates concerning post-graduation experiences and achievements.
- More attention should be paid to how student learning is evolving and to the various learning patterns of the digital generation (e.g., collaborative, active, media-intensive learning).
- While it is clear that learning assessment will continue to be a moving target, as the cognitive sciences continue to evolve, we believe that with appropriate investments in research on learning and teaching and inquiry into learning experiences and outcomes, UCSC can remain at the cutting edge in these activities.

Achieving the Capacity for New Initiatives

While it is understandable that recent years of budget stringency experienced by UCSC should erode faculty confidence and dampen somewhat enthusiasm for new initiatives, it is also true that when the going gets tough, the tough get going. Even in the most trying of times, institutions can develop the capacity to fund new efforts. To this end, UCSC might consider more concerted efforts to reallocate resources off the top of

the base budget to new initiatives, thereby not only creating the venture capital for innovation but stimulating all units to become more entrepreneurial.

Physical Facilities

In the Preparatory Review Report we observed that the early campus design based upon residential colleges scattered among the forests both dispersed important academic facilities (classrooms, libraries, faculty offices) and left the campus without an architectural focal point. The growth of UCSC along with its increasing emphasis on graduate and professional education and research will require—but also possibly provide the opportunity—for new facilities to address these needs. For example:

- The campus needs one or more centrally located classroom facilities with large lecture halls.
- The changing nature of student learning will require new kinds of space for collaborative activities. In fact, many universities are now building so-called 21st century “libraries” based less upon access to books than upon the provision of collaborative spaces within a media-rich environment.
- As noted earlier, the team believes it important to consider creating a major new space associated with a graduate school. This would contain not only graduate and administrative services, but also lecture halls, classrooms, study areas, and perhaps even performance and dining spaces.
- Finally, there also needs to be a need for a highly visible, central, and accessible “town square” for major activities—e.g., the place where student revolutions could begin.

Although state support for such capital projects is likely to become more limited, the projects mentioned above would seem ideal candidates for major private support since they provide significant naming opportunities.

Off-Campus Activities

Clearly much of the projected growth of the institution will occur beyond the campus. Of particular note here are:

- The expansion into Silicon Valley will be absolutely essential for the growth agenda. While the involvement of selected programs such as engineering in the UARC effort at the NASA Ames Laboratory, the team suggests that the University consider even bolder possibilities such as the establishment of a major satellite campus in this area (e.g., several thousand students, with faculty members living in the area, and connected to the Santa Cruz campus with robust information technology).
- The institution should continue to explore possible expansion into the Monterey Peninsula area, perhaps through affiliation with the Naval Postgraduate School or the Monterey Institute of International Studies.
- Clearly the experience of UCSC faculty in building and operating scientific collaborations to access remote facilities such as the Mauna Leā observatories provide the opportunity for broader extension through IT-based distance learning.
- Finally, we believe that UCSC should continue to explore major international outreach activities. While it is natural to look to Pacific Rim nations as a possible market, the strong UCSC interest in social and environmental issues also

suggests third world agendas involving international development and global sustainability.

Ongoing Program Review and Guidance

The institution has developed and implemented a carefully designed system of program review, involving both internal self-study and external review, strongly evidence-driven, and informed by ongoing educational effectiveness and learning outcome measures. These reviews, conducted at six-year intervals, have become an important component of program evaluation and inform both academic and budgetary decisions. However, since the campus has been in a growth mode throughout most of its history, it has had only limited experience in program elimination, an activity necessary to facilitate program creation. The team suggests that the institution be more proactive with respect to program transformation and go beyond the current review process to establish in addition an external advisory committee structure for major programs, which involve not only external experts but as well alumni and corporate leaders who meet on at least an annual basis. Such committees would not only provide important ongoing guidance, but would also build strong identity and loyalty among those who could play a major role in fund-raising activities.

Faculty Culture

While the strong tradition of faculty engagement in academic planning and decisions, both generally within the UC system and at UCSC in particular, is a great strength, it also can become cumbersome. This can lead to a leveling effect, constraining the institution to the status quo at a time when bold action and transformation is necessary. To this end, the team strongly recommends that

- The University should give high priority to the ongoing recruitment of senior, established faculty with strong track records in new program development, in order to encourage at UCSC a culture of entrepreneurial initiative.
- Working closely with faculty governance and the UC system, the UCSC should streamline the process for recruiting and appointing faculty in roles such as research professors, adjunct professors, professors of practice, and clinical professors. Such appointments will be particularly important both for professional schools that require strong participation by practitioners and for building the large scale research programs necessary to provide the environment for quality graduate education in the sciences.

Diversity

As higher education increasingly recognizes the strong dependence of academic excellence upon social diversity, institutions must strengthen their commitment towards building diverse learning communities of students, faculty, and staff. While UCSC has made progress in some areas of diversity, for example, in serving the Latino community, progress in other areas is disappointing, as evidenced by the low participation by African Americans and Native Americans among students. Furthermore, there is growing concern that the student body will become increasingly biased toward upper income students without a major effort to strengthen the institution's need-based financial aid programs. Finally, like other UC campuses, UCSC risks to become quite insular with such low enrollments of both domestic non-resident and international students, particularly at the undergraduate level. While the achievement of diversity among students in UC campuses is complicated by Proposition 209, the team believes that a deeper commitment by the institution will yield significant

progress. UCSC should make a special effort to recruit more African American and Native American students, as well as continue to recruit Latino students and achieve “Hispanic Serving Institution” status. In order to accomplish these goals, the campus will need a more diverse senior management team and cadre of chairs, faculty and staff. Students need to see diversity at the top.

CONCLUDING REMARKS

The team wishes to commend the University of California at Santa Cruz—its faculty, administrators, students, and staff—for an exceptional effort to utilize both the WASC Preparatory Review and Educational Effectiveness Review process to stimulate planning discussions that have already led to important decisions and achievements. The campus has many exemplary assets: its students and faculty; the campus environment; the residential college system; the interdisciplinarity of the curriculum; the historical openness to innovation and experimentation; and the interconnected communities of scholars that characterize the institution. We have no doubt that the institution remains among the nation’s leaders in its conduct of undergraduate education of the highest quality, within the context of a strong and rapidly evolving graduate education and research environment.

Working closely together, the members of the campus community have set high aspirations for the future. While at times current urgencies such as the California budget situation and constraints such as the awkward processes and practices characterizing the UC system can shake the confidence of those charged with achieving these objectives, we have little doubt that the unique history of UCSC, its culture of innovation and

experimentation, and its strong faculty engagement will surmount these momentary obstacles. The opportunities before the University of California-Santa Cruz far outweigh its challenges and suggest an extremely exciting future for an institution long viewed as an important trailblazer in American higher education.