AGENDA

COMMITTEE ON EDUCATIONAL POLICY

Meeting: **10:15 a.m., Tuesday, January 27, 2009 – Closed Session**
Munitz Conference Room

8:00 a.m., Wednesday, January 28, 2009—Open Session
Glenn S. Dumke Auditorium

Herbert L. Carter, Chair
Roberta Achtenberg, Vice Chair
Carol R. Chandler
Debra S. Farar
Kenneth Fong
Margaret Fortune
George G. Gowgani
Curtis Grima
William Hauck
Peter G. Mehas
Lou Monville
Craig R. Smith
Glen O. Toney

10:15 a.m., Tuesday, January 27, 2009 – Closed Session
Munitz Conference Room

1. Review and Recommendation of Nominees for Honorary Degrees, *Action*

8:00 a.m., Wednesday, January 28, 2009—Open Session
Glenn S. Dumke Auditorium

Consent Items

Approval of Minutes of Meeting of November 19, 2008

Discussion Items

2. Career Technical Education, *Information*
3. Multi-Campus Collaborations: Strategic Language Initiative and Intelligence Community—Center of Academic Excellence, *Information*
4. Proficiency in English and Mathematics, *Information*
5. San José State University Davidson College of Engineering: Zero Emissions Vehicle, *Information*

MINUTES OF THE MEETING OF
COMMITTEE ON EDUCATIONAL POLICY

Trustees of The California State University
Office of the Chancellor
Glenn S. Dumke Conference Center
401 Golden Shore
Long Beach, California

November 19, 2008

Members Present

Herbert L. Carter, Chair
Jeffrey L. Bleich, Chair of the Board
Carol R. Chandler
Debra S. Farar
Kenneth Fong
Margaret Fortune
George G. Gowgani
Curtis Grima
William Hauck
Peter G. Mehas
Lou Monville
Charles B. Reed, Chancellor
Craig R. Smith
Glen O. Toney

Approval of Minutes

The minutes of September 17, 2008 were approved by consent as submitted.

Enrollment Management: Systemwide Impaction

This item presented information concerning steps to be taken by CSU campuses to manage enrollments for 2009-2010, in the context of proposed budget reductions. Chancellor Reed, Executive Vice Chancellor and Chief Academic Officer Gary W. Reichard, Executive Vice Chancellor and Chief Financial Officer Richard West, and Allison Jones, assistant vice chancellor for student academic support presented the item, which featured available enrollment tools including systemwide impaction criteria. Chancellor Reed explained that while he worries most about students from underserved communities, even with these projected limitations on enrollment the CSU will still serve more students than it is funded to serve. He reconfirmed his commitment to ongoing outreach efforts. Dr. Reichard explained that the system as a whole is severely over-enrolled, and this item provides necessary tools for planning purposes. Mr. Jones then reviewed the effects of declaring a systemwide impaction, including in his presentation a

review of the state education code, the definition of impaction, and a summary of CSU admission priorities and Trustees' enrollment management principles. Trustee Carter opened the floor to questions from Trustees, the Academic Senate, and Presidents. The discussion centered around several topics, including the effect of impaction on diversity, possibilities for moving more aggressively into online instruction as an alternative for students who would otherwise be denied access to the CSU, and the importance of outreach to community colleges. The Committee heard from Superintendent O'Connell, who advised Trustees to urge legislators, in response to CSU impaction, to raise the necessary economically-imperative revenue. Chancellor Reed extended his appreciation to Superintendent O'Connell for sending a message to every high school in the state regarding systemwide impaction. Trustees also heard from representatives from the California State Student Association, who voiced their concerns over the budget crisis.

California State University Accountability Process – The Fifth Biennial Report

In this information item, presented by Dr. Gary Reichard, the Committee on Educational Policy reviewed the fifth (and final) biennial report on progress under the *Cornerstones* strategic plan. Dr. Reichard outlined three levels of reporting that were mandated by the *Cornerstones Accountability Process* in 1999: Campus to Trustees, System to Trustees, and System to State Government. He further explained that information presented in this report is based on 2006-2007 figures. The report included an update on CSU progress on access, progression to degree, remediation, persistence and graduation, and facilities utilization, and concluded with reference to the website: www.calstate.edu/AccAff/accountability. Trustee Monville questioned whether any cross-reference has been made to regional employment and economic data. Although no such cross-references are currently available, Dr. Reichard agreed that it would be timely to look at such connections as the CSU moves forward under the new strategic plan, *Access to Excellence*.

The Voluntary System of Accountability's *College Portrait* and the California State University's *Contributions to the Public Good*

As part of the CSU's participation in the Voluntary System of Accountability (VSA), the *College Portrait* and *Contributions to the Public Good* represent the potential to demonstrate to stakeholders and policymakers in California some of the key positive impacts of the California State University. Dr. Reichard, Assistant Vice Chancellor for Academic Research and Resources, Marsha Hirano-Nakanishi and Presidents John Welty (Fresno) and F. King Alexander (CSULB) presented this item for information. The presentation focused on the CSU's rapid and innovative response to calls for accountability by policymakers, including demonstrations of CSU Fresno's *College Portrait* and the unique CSU addition to that *Portrait*, the *Contributions to the Public Good* page.

Faculty-Student Research and Mentorship Special Focus: McNair Scholars Programs in the California State University

Through brief testimony by faculty/student research groups from CSU Dominguez Hills and CSU Fresno, both of which are engaged in the U.S. Department of Education's Ronald E. McNair Post-Baccalaureate Achievement Program, this information item underscored for Trustees the critical connections between faculty and student scholarly activity, mentoring, and professional success. Assistant Vice Chancellor for Research Initiatives and Partnerships Elizabeth Ambos introduced the items and the Committee heard reports on the research activities and accomplishments of both groups.

Former Foster Youth

Item was deferred to a later meeting of the Board of Trustees.

Trustee Carter adjourned the Committee on Educational Policy.

COMMITTEE ON EDUCATIONAL POLICY

Review and Recommendation of Nominees for Honorary Degrees

Presentation By

Herbert L. Carter
Chair

Gary W. Reichard
Executive Vice Chancellor
Chief Academic Officer

Summary

Recommendations from the Committee on Educational Policy, Subcommittee on Honorary Degrees, will be addressed in closed session pursuant to Government Code Section 11126 (c) (5) [closed session "to consider the conferring of honorary degrees"].

COMMITTEE ON EDUCATIONAL POLICY

Career Technical Education

Presentation By

Gary W. Reichard
Executive Vice Chancellor and
Chief Academic Officer

Allison G. Jones
Assistant Vice Chancellor
Academic Affairs, Student Academic Support

Christine Tell
Director
Achieve Alignment Institute
American Diploma Project

Introduction

There is considerable research about the beneficial relationships between strong academic preparation in high school and success both in college and in the workforce. Whether high school graduates enter college or choose to enter the workforce directly after high school, they need advanced knowledge and skills in order to be successful in meeting the expectations of employers in today's world economy. This agenda item describes the value that the California State University (CSU) places on such academic preparation, including the role that Career Technical Education (CTE) courses play in preparing students not only for college but also for the workforce. This item will conclude with comments by Christine Tell, Director, Achieve Alignment Institute, American Diploma Project. Ms. Tell will share the results of Achieve's extensive research that identify the knowledge and skills that high school graduates will need in order to be successful both in college and in the workplace.

Background

In recent years, the California legislature has shown increasing interest in career technical education and its relationship to college preparation and admission. Many bills have been proposed, and several have become law, including SB 1543 (Alarcon), which required the California State University and requested the University of California to publish standards by which CTE courses could become eligible for inclusion in the "a-g" list of college

preparatory courses (see section below on *Freshman Admission Requirements for California Residents*). Other proposed bills applying only to CSU, but not to UC, would have established a separate set of college preparatory courses explicitly for CSU admission, an outcome that neither the CSU nor the UC believe would be in the best interest of students. While this legislation did not pass, it signals ongoing legislative interest in the extent to which CSU and UC recognize CTE courses as incorporating the depth and breadth of content knowledge necessary for high school graduates to succeed at both CSU and UC institutions.

Freshman Admission Requirements for California Residents

Since 1960, the California State University has been charged by statute to admit qualified freshmen who are among the top third (33%) of California high school graduates. The university's adherence to that charge has been statistically evaluated on several occasions via analyses performed by the California Postsecondary Education Commission (CPEC). The most recent CPEC university admission eligibility report was released in November, 2008. CPEC announced that 32.7% of California's high schools graduating class of 2007 were found to have been eligible for admission to the CSU. This indicates that CSU admission requirements have been set to ensure that the top 33% of California high school graduates are eligible for admission to CSU.

The primary criteria for determining CSU admission eligibility have been secondary school grade point average as well as college admissions test scores (SAT or ACT). Originally, the high school grade point average (GPA) was calculated using all secondary school grades except those received for physical education and military science (ROTC) courses. Beginning in 1988, however, the CSU became concerned about the specifics of college preparation in high schools. As a result of that concern, the CSU began a lengthy process of incrementally moving its college preparatory course requirements towards alignment with those of the University of California (UC). Throughout this alignment process, care has been taken to ensure that with each incremental change the CSU has remained accessible to the upper one-third of California high school graduates. As noted above, CPEC analyses have shown that the CSU has been successful meeting its California Master Plan "accessibility goals," even while raising the university's requirements for the completion of additional college preparatory courses (See http://www.cpec.ca.gov/PressRelease/Press2008_12_Eligibility.pdf).

High School Subject Requirements

The CSU requires a minimum 15-unit pattern of courses for admission as a first-time freshman, referred to as the "a-g" requirement. Each unit is equal to a year of study in a subject area. A grade of *C* or higher is required for each course you use to meet any subject requirement.

Area	Subject	Years
a.	**History and Social Science** (including 1 year of U.S. history or 1 semester of U.S. history and 1 semester of civics or American government *AND* 1 year of social science)	2
b.	**English** (4 years of college preparatory English composition and literature)	4
c.	**Math** (4 years recommended) including Algebra I, Geometry, Algebra II, or higher mathematics (take one each year)	3
d.	**Laboratory Science** (including 1 biological science and 1 physical science)	2
e.	**Language Other than English** (2 years of the same language; American Sign Language is applicable - (This requirement may be waived for applicants, who can demonstrate fluency in a language other than English.)	2
f.	**Visual and Performing Arts** (dance, drama or theater, music, or visual art)	1
g.	**College Preparatory Elective** (additional year chosen from the University of California "a-g" list)	1
Total Required Courses		**15**

These fifteen units constitute the minimum college preparatory curriculum for both the UC and the CSU. The "a-g" course pattern has been adopted as CSU Trustee policy and is referenced in Title 5 of the California Code of Regulations at Section 40601.

"a-g" Course Approval Process

Since the 1930's, the University of California has reviewed and approved courses that may be included in a college preparatory curriculum. This UC faculty-driven process has resulted in a classification scheme known as the "a-g" subject requirements.

Specifically, secondary school courses are evaluated based on published criteria, and when they are found to be appropriate, they are included in one of the "a-g" categories reflected above.

At the time that the CSU adopted the fifteen unit "a-g" course pattern in the 1980s, the University of California already had a well-established system and procedure for reviewing and recording the approval of the thousands of California secondary school courses that meet the stated criteria. The CSU chose not to replicate and/or duplicate a process already in place with California's high schools, and CSU faculty asked that the UC continue to evaluate high school courses that meet the content requirements of "a-g" courses. However, CSU faculty participate with UC faculty to identify content requirements when new course categories are added, e.g., visual and performing arts.

Career Technical Education Courses Approved for "a-g"

Career Technical Education is an important part of secondary education. For a number of years, the UC has approved academically rigorous CTE courses in fulfillment of the "a-g" subject requirements for admission to the UC and CSU. According to the latest (October 2008) report prepared by the California Department of Education (CDE), the number of CTE courses accepted for "a-g" approval has increased dramatically since 2001-02. In 2001, UC/CSU had approved just 258 CTE courses. Over 6,509 CTE courses have been approved for "a-g" credit for 2008-09 25.3 percent of the 25,752 CTE courses offered in California schools. The California Department of Education reports that the number of approved CTE courses will continue to climb. Pursuant to SB 1543 (2006), UC faculty, in consultation with CSU faculty, have developed model uniform academic standards for CTE courses in order to provide better guidance to teachers who want their courses approved as fulfilling UC/CSU "a-g" requirements. The CSU and the UC have indicated that they intend to continue to work jointly to increase the number of high school courses in which college preparatory, i.e., theoretical, and workplace-oriented concepts, have been successfully merged.

CDE reports on the increase in the number of CTE courses approved for "a-g" since 2000-01 in its report *California High School Career Technical Education Courses Meeting University of California "a-g" Admission Requirements for 2008-09* (November 1, 2008):

School Year	Total CTE Courses Approved for "a-g"	=	Agriculture Courses	Business Courses	Health Career Courses	Home Economics Careers and Technology Courses	Industrial and Technology Education Courses	Arts, Media, & Entertainment	Other CTE Courses
2000-01	258	=	258	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded	Not Recorded

2008-09	6509	=	908	707	783	180	452	3,138	341

The largest numbers of "a-g" approved CTE courses are in the laboratory science, visual and performing arts and college preparatory elective subject areas. This is not surprising, since these disciplines align most closely with the key CTE discipline areas: agriculture, business, health care, home economics, industrial technology and arts, media and entertainment.

The following CDE chart records the increase in and relationship to all UC-approved courses and all academic and CTE courses available in California's comprehensive high schools:

School Year	Total CTE Courses Approved for "a-g"	Total Number of CTE Courses Taught	Percent of all CTE Courses Approved	Total Academic, Specialized, and CTE Courses Taught	Total Courses Approved for "a-g" in All Subject Areas	Percent of all High School Courses Approved for "a-g"
2000-01	258	29,461	.8%	641,887	187,517	29.2%
2008-09	6509	25,752	23.3%	596,128	252,348	42.3%

The CTE community, UC faculty, and CSU faculty acknowledge that some CTE courses, such as the culinary arts or carpentry, will be unlikely ever to be deemed satisfactory for "a-g" approval. This would be particularly true for majors that neither CSU nor UC offer.

However, some CTE courses related to construction, hospitality, tourism, and recreation may be acceptable to CSU because majors in these areas are offered at some CSU campuses. For example, majors in construction are offered at six CSU campuses (Fresno, Long Beach, Northridge, Pomona, Sacramento, and San Luis Obispo). The CSU offers programs in the various areas of hospitality/tourism/recreation at eight campuses (East Bay, Fullerton, Humboldt, Long Beach, Monterey Bay, San Diego, San Francisco, and San Jose).

It is also worth noting that the CSU has for some years permitted the use of appropriate agriculture courses to meet "a-g" requirement(s) when students are applying for admission to campuses where major(s) in agriculture are offered (Chico, Fresno, Pomona, San Luis Obispo). Some other recent examples of approved courses include: Biotechnology (d), Product Development (d), Virtual Enterprise (g), Sports Medicine (g), AutoPhysics (d), Fashion Design and History (f), and The History and Art of Floral Design (f).

The California Department of Education has looked at the issue of course suitability for college-level study and concluded that the approximately 10,000 CTE courses should be approved for "a-g" course credit. Thus, the CSU and UC have achieved 65% of CDE's expectation.

The UC provides a wealth of information about the course approval process, along with examples of approved and not approved courses on its "a-g" guide site (see: www.ucop.edu/doorways). Information on CTE-type courses can be found at: http://www.ucop.edu/a-gGuide/ag/course_descriptions/courses.php?list=approvedbycareer

The CSU and UC have joined with the California Community Colleges, California Department of Education, California Postsecondary Education Commission and various business and community entities in the Coalition for Multiple Pathways, which is administered by ConnectEd-The California Center for College and Career. This growing organization seeks to improve secondary education by encouraging curricula that prepare the same student for both college and career. The concept of multiple pathways is a strategy that has the advantage of combining the rigors of college-preparatory courses with the relevance of career technical courses [see: Jeannie Oakes et al., *Multiple Perspectives on Multiple Pathways: Preparing California's Youth for College, Career, and Civic Responsibility*. UCLA, 2007]. CTE courses have implications for access and equity. From the standpoint of equity, the CSU and UC recognize that a "multiple pathways" approach avoids the tracking of students into either college- or career-preparatory programs, instead preparing them for a variety of options beyond high school.

Curriculum Innovation Pilot: The Guide Project

Through a grant funded by the CDE, teams of academic and career-technical teachers will be chosen to develop model courses that integrate academic and career-technical content. The intent is to begin with the outline of an academic course and infuse relevant career-technical skills as a laboratory, field study, or practicum experience that deepens a student's understanding of its academic foundations**.** For example, a physics course might use the auto shop as a laboratory environment for students to better understand the physics concepts of force, motion, energy, and thermodynamics. At its core, the course remains a physics course, while providing students with substantial knowledge and understanding of the operation of an automobile, thus satisfying the need for both rigor and relevance.

Each team selected and funded by CDE for this project will be comprised of at least two teachers, one academic and one career-technical, who will work together to create the detailed course outline/description. Administrators, industry representatives, CSU/UC faculty members, and other team members may be recruited to strengthen the efforts of the key participants. All team members will be appropriately credentialed and will work collaboratively over several months to complete the detailed course descriptions. To assist in the completion of the course development each team will receive grants of up to $4,000.

SB 1543 (Alarcon) – High School Curriculum: High School Coursework Requirements

SB 1543 (Alarcon, 2006, Chapter 669, California Education Code) added a provision to the California Education Code requiring the CSU, and requesting the UC, to adopt model uniform academic standards for career technical education that satisfy the completion of general elective course requirements for the purposes of admission. General electives are known as Area "g" in the fifteen "a-g" college preparatory courses required for admission to the CSU and UC. SB 1543 specified that if either the UC or the CSU failed to adopt model uniform academic standards by July 1, 2008 for career technical education that would satisfy the completion of a general elective course requirement, the CSU would be required and the UC would be requested to recognize the completion of ALL high school career technical education courses as satisfying the completion of a general elective course requirement for purposes of admission. These courses would have had to meet the model curriculum standards developed by the Superintendent of Public Instruction, but there would have been no consideration for the breadth and depth of the content area presently required to qualify a course as fulfilling the general elective requirements.

The CSU and UC satisfied the requirements of SB 1543 prior to the July 1, 2008 deadline, reflecting their commitment to the principles discussed earlier. In spring 2008, the CSU Admission Advisory Council and the UC Board of Admissions and Relations with Schools approved new language that provided detailed guidance for high school administrators and teachers seeking UC/CSU approval for courses that combine rigorous academic instruction with a demanding technical curriculum and field-based learning. As required by SB 1543, the CSU and UC now use a variety of vehicles to announce this additional guidance, including a letter to the principals of California high schools, professional organizations, and relevant constituency groups, such as Regional Occupation Programs and Services, and other organizations that develop curriculum. This guidance has also been published in UC and CSU publications and was prominently featured in the UC's and CSU's regularly scheduled statewide conferences and workshops that provide information to teachers and counselors on the "a-g" course approval process. Further, the CSU and UC are working with the CDE to build on the successful work that has already begun to provide more California schools with the opportunity to create rigorous and relevant CTE courses.

Overlap Between CSU/UC "a-g" Requirements and Typical Career-Technical Education Sequence

The table below represents the differentiation between the minimum requirement for high school graduation, a typical or recommended career-technical education sequence approved by the California Board of Education, and the CSU/UC "a-g" subject area requirements.

Subject Area	HS Graduation Requirements	Recommended Career-Technical Education	CSU/UC "a-g" Subject Area Requirements
History/Social Science	3 years	3 years	2 years
English	3 years	4 years	4 years
Mathematics	2 years	2-3 years At least Algebra and Geometry; intermediate Algebra for many paths	3 years College preparatory English
Lab Science	2 years	2-4 years	2 years Biology, chemistry, physics.
Foreign Language	1 year Either foreign language or visual/performing arts	2 years	2 years Same language
Visual/Performing Arts	1 year Either foreign language or visual/performing arts	1 year	1 years
Electives: General	½ year Health	0	1 year
Electives: Career-Technical	0	2-4 years	0
Physical Education	2 years	2 years	0
SUB-TOTAL	13.5 courses	18-23 courses	15 courses
Remaining Electives	8.5 courses	0-4 courses	7 courses
Total Required for Graduation	22 courses	22 courses	22 courses

In order to graduate from high school, students must complete 13.5 courses of specified curriculum as indicated above, but 22 courses of total coursework. Students have available to them substantial opportunity (8.5 courses) to take elective courses to meet career-technical education recommendations and/or UC/CSU course requirements.

CSU and UC require the completion of 15 courses of specified coursework to become eligible for admission. Students must also complete P.E. (2 courses) and health (1/2 course) requirements for high school graduation. Adding the CSU/UC eligibility requirements with additional high school graduation requirements, students must complete 17.5 courses, which leaves 4.5 courses for career-technical education and/or other elective courses within the requisite 22 courses for high school graduation. The typical career-technical path expects students to take one CTE course per year, or 4 courses during their high school careers. **Thus, it is manageable for a student to meet all three sets of requirements (high school graduation, CTE recommendations, CSU/UC eligibility) while completing the minimum number of units for high school graduation.**

Schedules in most California public high schools include seven to eight class periods a day. Allowing one period for lunch, students have the opportunity to enroll in six to seven year-long courses, for a total of 24 courses to 28 courses. Many high schools have switched to block schedules or other alternative schedules so that schools may offer students seven or eight courses per year. In addition, students sometimes have the chance to complete coursework during summer school, further expanding their options.

Even if students enroll in only six courses a year and never attend summer school, they would complete a minimum of 24 courses in 9^{th} through 12^{th} grades. Therefore, students can complete all three sets of requirements and still have room to complete an additional two courses, for a total of 24 courses – especially if they make productive use of their senior year in high school by enrolling in a minimum of six courses.

College preparatory education and career preparatory education are often perceived as competing agendas. Many students, parents, and school counselors imagine that students must choose between preparing for college or careers. As this analysis demonstrates, this is not an accurate perception.

Preparation of Credentialed CTE Teachers

The shortage of credentialed CTE teachers is another important issue for the state. There are two types of credentials that are applicable in CTE settings. Teachers of agriculture, business, health, home economics, and industrial technology education earn *single subject credentials*, the same type of credential earned by persons who intend to teach academic courses in a

secondary school. These credentials are either a part of or supplementary to a bachelor's degree. As the following table indicates, the CSU produced 131 such credentials in 2006-2007. In addition, the CSU enrolled 44 in-service teachers in these areas in intern credential programs in 2006-2007. An intern teacher earns his/her credential while employed as a teacher of record.

Single Subject	**CSU Campuses**	**2006-07 New CTE Teachers**
Agriculture	Chico, Fresno, Pomona, SLO	30
Health	Chico, Northridge	56
Business	Fresno, Humboldt, Pomona	25
Home Economics	Fresno, Long Beach, Northridge, Sacramento, San Francisco	10
Industrial Technology	Fresno, Los Angeles	10
Total		**131**

Most CTE teachers, however, work in Regional Occupational Centers, or vocational schools, under a *designated subjects credential*. The approximately 175 different designated subjects credentials are categorized into 15 industry sectors. In contrast to those who earn single subject CTE credentials, persons who earn designated subjects credentials need only a high school diploma; they undertake a preparation program which is the equivalent of 9-12 credit hours, usually while they are employed as teachers. Presently three campuses within the CSU have approved vocational education credential programs that were just recently redesigned by the Commission on Teacher Credentialing (CTC) and renamed Career and Technical Education credentials. In 2006-2007, 551 teachers earned such credentials at CSU Long Beach and 101 earned credentials at CSU San Bernardino. The third CSU that has an approved program for designated subjects credentials (San Francisco State) produced no credentials in 2006-2007. Under new standards for the CTE designated subjects credentials, several additional CSU campuses are currently developing proposals for programs to submit to the Commission on Teacher Credentialing for its review and approval. The majority of designated subjects credentials produced in California come through programs offered by school districts and county offices of education. The CSU, however, plays a significant role even in some of these programs by providing the courses offered by these educational agencies.

Achieve and The America Diploma Network Project

Created in 1996 by the nation's governors and corporate leaders, Achieve is an independent, bipartisan, non-profit education reform organization based in Washington, D.C. that helps states raise academic standards and graduation requirements, improve assessments and strengthen accountability. In 2006, Achieve was named by *Education Week* as one of the most influential education groups in the nation. Achieve is leading the effort to make college and career readiness a national priority so that the transition from high school graduation to postsecondary education and careers is seamless.

To make college and career readiness a priority in the states Achieve launched the American Diploma Project (ADP) Network in 2005. This network has now grown to include 34 states, including California, that collectively educate nearly 85 percent of all U.S. public school students. Through the ADP Network, governors, state education officials, postsecondary leaders and business executives work together to improve postsecondary preparation by aligning high school standards, assessments, graduation requirements and accountability systems with the demands of college and careers.

An important aspect of Achieve's work is determining the parameters of a high school graduation policy that ensures that students are prepared equally for success in college and success in the workforce. Based upon extensive research and analysis, Achieve has established American Diploma Project Benchmarks and International Benchmarking that identify the courses and skills that business leaders around the world indicate are essential to ensure that students are prepared equally for college and for the workforce. According to Achieve documents, "As the world becomes increasingly connected and global competition fiercer, questions about education policy have evolved from domestic evaluations to international comparisons."

Christine Tell, Director, Achieve Alignment Institute, American Diploma Project will share the results of Achieve's research with the business community that identifies the knowledge and skills high school graduates will need to be successful both in college and in the workplace. She will define workplace expectations, describe the types of "good jobs", outline the types of blue-collar jobs that require high-level skills, and identify the skills and knowledge necessary to succeed in "good jobs."

Summary

The CSU seeks to support, strengthen, and lead responsible and researched-based efforts to integrate rigorous preparation for college and for successful careers in the workforce. As an important engine of workforce development in California, the CSU has continuing opportunities to collaborate with the University of California and others to support the

development and maintenance of challenging secondary school curricula that prepare students for both college and career.

Today's employers want to hire and retain employees who have strong academic skills that relate effectively with the realities of the workplace. In response to requests from employers and based upon appropriate research, the CSU commits to continue to engage in the following activities:

- During this decade, the UC, working collaboratively with the CSU, has made extensive progress in the approval of CTE courses. In 2000-01, the UC had approved just 258 CTE courses, less than one percent of all CTE courses offered in the state. By 2008-09, the UC had approved 6,500 CTE courses, about 23.3 percent of all CTE courses in California schools (27,750). CSU and UC will continue to collaborate to increase the number of approved CTE courses in order to achieve CDE's goal of 10,000.
- The CSU will continue to stress in all of its communications with high schools and prospective students the importance and potential applicability of rigorous CTE courses as part of successful preparation for university study.
- The CSU will continue to prepare more CTE teachers.
- The CSU will continue to participate actively with state and national organizations that seek to provide students with rigorous curricula designed to prepare students equally well for college **and** the workplace.

COMMITTEE ON EDUCATIONAL POLICY

Multi-Campus Collaborations: Strategic Language Initiative and Intelligence Community—Center of Academic Excellence

Presentation By

Gary W. Reichard
Executive Vice Chancellor and
Chief Academic Officer

Kim Oanh Nguyen-Lam
Executive Director
Strategic Language Initiative (SLI)

Mark T. Clark
Director
Intelligence Community--Center of Academic Excellence (IC-CAE)

Summary

One of the great gifts of the California State University is the ability to recognize the uniqueness of 23 individual universities, as well as the ability to provide opportunities for multi-campus collaborations. The variety among the 23 institutions allows for differing emphases that can be shared beyond the individual campus. Given a future of tight budgets, the best hope for offering the citizens of California access to a wide variety of courses and programs is through sharing and collaborating,

Two of the most robust collaborations are the Strategic Language Initiative (SLI), hosted by CSU Long Beach, and the Intelligence Community--Center of Academic Excellence (IC-CAE), hosted by CSU San Bernardino. Both of these multi-campus efforts provide CSU students with unique educational opportunities, and both are receiving national recognition for their innovative approaches and significant achievements.

Background

The Strategic Language Initiative

There exists a critical state, as well as national, need for affordable, easily available, and flexible strategic language instruction programs, to benefit defense, diplomatic, security, and business

employers. Largely untapped resources for these needs are the large heritage communities extant in metropolitan areas in both southern and northern California. With the aid of federal funding, a total of more than $3 million, the CSU Consortium for the Strategic Language Initiative (SLI) formed in 2007 to collaboratively support innovative approaches to intensive language learning that can accelerate language acquisition, and serve as models for other metropolitan consortia. The California State University is California's most qualified higher education system for conducting the SLI, due to CSU's unique demographic make-up, pedagogical mission, and acknowledged faculty expertise. The CSU serves the most linguistically diverse populations in the country, drawing both students and faculty from the large heritage communities adjacent to many CSU campuses.

The founding SLI campuses are Long Beach, Fullerton, Los Angeles, Northridge and San Bernardino. In 2009, the SLI will expand to include San Jose State University and San Francisco State University. During the past two years, the SLI program has achieved dramatic successes, and provided intensive language learning experiences for more than 100 CSU students. Preliminary assessment data collected from SLI participants showed average language development gains that significantly exceed traditional classroom and course-based programs in Arabic, Korean, Mandarin, Persian, and Russian. Compared to other models of critical language development, the SLI Model is cost-efficient and effective in advancing a large group of undergraduate and graduate students through several language proficiency levels across multiple campuses in relatively short time periods, for a fraction of the funding needed to support comparable programs.

The SLI Language Program is proficiency-based and integrates target language acquisition with students' degree program study. Selected participants must commit to fully apply themselves to the goals of the program and to follow it to completion. The SLI Program occurs over two summers and one interval academic year. Specially designed teaching and learning strategies take students with some fluency in the target language to a more advanced level where they can use the language confidently in social and professional settings. During the first Summer Intensive Phase, SLI participants are immersed in the target language through direct language instruction in the classroom and interaction with native speakers on fieldtrips/excursions to target language communities. The Individualized Learning Phase during the intervening academic year focuses on content-based language learning related to students' chosen majors. SLI participants continue to develop their target language through a combination of online learning, tutoring by graduate assistants, and mentoring by native speaker faculty/professionals for discipline-based language and vocabulary development. For the Study Abroad Phase in the following summer, SLI participants are fully immersed in the target language and culture over five to six tightly organized weeks. While abroad, students attend college-level language classes taught by local university faculty and participate in fieldwork and short-term internships. In addition to progressing towards professionally functional language skills, SLI students develop deeper transnational understandings of socio-political issues and first-hand knowledge of current affairs.

A number of students from each of SLI's four initial cohorts were offered job opportunities based on their SLI language and cultural skills. Rigorous pre- and post-testing has demonstrated that the average language gain during the 15-month period is equivalent to 2.5 to 3 years of language study in traditional classrooms.

The SLI Consortium Program provides a unique opportunity for the CSU, the largest university system in the nation, to tap into its rich and diverse pool of students and faculty to meet the needs of our nation in an increasingly global society. The SLI graduates are well ahead in today's highly competitive economy because of the combination of skills and experiences they have gained including their U.S. education and degrees, their English and target language skills, and their cross-cultural communication competence and international experience. The Strategic Language Initiative Language Program model is replicable and is positioned to be expanded throughout the CSU system. With appropriate support and funding, the SLI Consortium can bring sufficient numbers of students to a level of language competence so that they may rapidly enter the government, industry, and educational infrastructure, and become the language professionals and leaders of the future.

Intelligence Community--Center of Academic Excellence (IC-CAE)

The California State University Intelligence Community--Center of Academic Excellence is a seven-campus consortium based on a five-year, $3.75 million grant provided by the Office of the Director of National Intelligence (ODNI) in September 2006. The seven campuses include Bakersfield, Dominguez Hills, Fullerton, Long Beach, Northridge, and San Bernardino and Pomona. The program is headquartered in the National Security Studies program at CSU San Bernardino. The ODNI funds ten Intelligence Community--Centers of Academic Excellence in the United States. CSU distinguishes itself by being the only multi-campus consortium, every member of which is designated as a Hispanic Serving Institution.

The primary goal of the grant is to prepare students for careers in intelligence while increasing the diversity of the potential workforce. The program meets these goals through four objectives:

- Hosting an annual week-long High School Summer Institute;
- Providing unique curricula managed by a faculty mentor for each of the seven campuses;
- Providing a speaker series on national security, teleconferenced to each campus, and an annual consortium-wide intelligence colloquium;
- Offering "travel abroad" grants and intelligence community internship opportunities.

In its first two years, the program has been resoundingly successful. There are more than 120 active students across seven campuses who participate as Center of Academic Excellence

scholars, associates, and partners—both graduate and undergraduate. Thirty-four students went abroad to 14 countries in summers 2007 and 2008. Two Intelligence Colloquia attracted more than 300 participants: 200+ students, 25+ faculty from 10 universities, and 20+ intelligence professionals from more than 10 different agencies. Two week-long High School Summer Institutes were held at CSU Long Beach (nearly 80 High School students, 16 teachers, 8 CSU faculty, and 12 CSU student assistants).

The program has also expanded in significant ways. It has negotiated with i2, Inc. for a $6.5 million gift of software to help with training students in crime and intelligence analysis. It helped fund the development of a National Security Agency/Department of Homeland Security Information Security Center of Academic Excellence (IS CAE) program at CSU San Bernardino. It negotiated with the Institute for Analysis, National Security Agency, for three campuses of IC-CAE to work on a "Challenge Project" during 2008-2009.

In the two years of its existence, the program has helped CSU students be prepared for careers in intelligence. The list below suggests the breadth and variety of the opportunities that have come to participating students:

> Five internships during summer 2008 (Federal Bureau of Investigations, Office of Naval Intelligence, Department of Homeland Security, and Diplomatic Security Service)
>
> At least eight students hired by the Intelligence Community (Central Intelligence Agency, National Geospatial-Intelligence Agency, National Security Agency, Joint Intelligence Operations Center, Pacific Command, and Air Force Intelligence)
>
> At least six Conditional Offers of Employment (Central Intelligence Agency, National Security Agency, and Intelligence Command, U.S. Army)
>
> At least ten being considered for hire (Central Intelligence Agency, National Security Agency, National Geospatial-Intelligence Agency, Marine Corps Intelligence Activity, Office of Naval Intelligence, Federal Bureau of Investigations, and the National Counterterrorism Center)

In October 2008, the ODNI Office of the Intelligence Community Centers of Academic Excellence conducted an oversight review of the CSU program. The report sent to Chancellor Charles Reed was highly laudatory. The director of the oversight review stated that "the CSU consortium team has done an outstanding job in executing the ODNI/IC CAE grant objectives."

After describing the many logistical challenges of working with seven different campuses in one unified program, the ODNI director said:

"Dr. Clark and the CSU consortium team are recognized for exceptional performance for a successful and innovative partnership that seemed like a logistically impossible task. Each of the CAE primary investigators have made valuable contributions in support of America's National Security objectives by helping to build talent for a global marketplace. I look forward to continuing our productive and mutually beneficial partnership with the California State University System."

COMMITTEE ON EDUCATIONAL POLICY

Proficiency in English and Mathematics

Presentation By

Gary W. Reichard
Executive Vice Chancellor
and Chief Academic Officer

Introduction

The baccalaureate degree is the aim of almost all undergraduates who enter the CSU, and the CSU Board of Trustees wants to ensure that students are well prepared for collegiate learning. In the interest of ensuring that students will come to the CSU fully proficient in English and mathematics, so that they will be successful, the CSU has developed many valuable programs, such as the Early Assessment Program (EAP), Reading Institutes (RIAP), Mathematics Diagnostic Testing Program (MDTP), ALEKS, and a host of others. These strategies have helped many students to achieve proficiency and ultimately reach their academic goals.

Still, however, over 50 percent of entering CSU freshmen need remediation in English, mathematics, or both. Consequently, there is still a challenge to strengthen measures to help students to achieve proficiency as early as possible after they begin their studies in the CSU.

Background

One of the actions for which the Board of Trustees called in its January 2008 resolution on remediation was to identify and disseminate particularly effective practices, especially including "early start" programs. In response to that charge, a system-wide conference, "Proficiency in the First Year," was convened on October 30-31, 2008. At this conference, more than 150 CSU participants heard several presentations on innovative and effective ways to help underprepared freshmen become proficient in English and mathematics. Whereas most of the presentations addressed successful remediation practices during the freshman year at the university, the most intriguing were those that described successful remediation programs that take place prior to the student's freshman year—the so-called "early start" programs.

As indicated in the three examples below, creative CSU campuses have found interesting and distinctive ways to ensure that students are indeed proficient before they begin their freshman year. The challenge will be to find ways to scale up such practices so that many more freshmen will achieve full proficiency prior to the outset of their baccalaureate studies.

At Humboldt, students are given the opportunity during Freshman Orientation to take a campus-developed math placement exam that affords them the opportunity to place into a higher level math course than the one they were scheduled to take based on their ELM scores. Several weeks prior to Freshman Orientation, students are given advance notice of this option and are given the opportunity to prepare for the exam over the summer using the web-based software ALEKS. Assessment indicates that students achieved positive results in this way.

CSU Long Beach has offered a successful summer Jump Start program for nine years. This program helps students who did not pass the ELM and/or the EPT to bring both their mathematics and English skills to university levels. Students needing help with mathematics participate in an intensive four-week workshop, with students studying and receiving instruction for three hours a day. In addition, the English department offers a six-week writing course, during which students have 48 hours of in-class work. Proficiency is marked by session-ending portfolios which are read by faculty teaching across sections. At a cost of $80 per student, the summer Jump Start program has resulted in higher pass rates and higher retention rates in both math and English.

At CSU Fresno, Latino high school seniors can enroll in University 1 as part of the Fast Forward to Academic Success program. These high school students receive personal counseling and take two semesters of online courses in math and English for which they receive three units of university credit if they pass both courses. The program has increased math proficiency rates by 53% and English proficiency by 37% among the Fast Forward students.

These are only three examples. More than two-thirds of the CSU campuses offer some kind of summer bridge or jump-start program for underprepared students. Students in these programs have already taken the EPT and ELM tests and know whether they will be placed in baccalaureate-level courses or in prebaccalaureate courses. Hence the students have a chance to get prepared over the summer.

If CSU administrators knew who these students were earlier than the beginning of summer, the CSU could offer the students many more learning opportunities over a longer period of time—up to seven months—with which to improve their mathematics and English skills before they begin their freshman year. With this in mind, the CSU's *Transforming Course Design* group has suggested that the ELM and EPT test dates be moved to early spring, immediately after admissions decisions are announced, thus giving entering students a much longer period of time to take advantage of a variety of early start programs. This change would be most beneficial to those students who failed the exams by only a few points.

In 1994, the CSU Board of Trustees undertook a serious study of students' proficiencies in mathematics in English. Since then, there have been many studies and many innovations:

credit-bearing courses, stretch courses, jump-start programs, innovations in assessment, articulating expectations, mastery learning, online opportunities, aligning standards and expectations, and mainstreaming. In the short run, what is needed is to identify and replicate those that produce the greatest degree of success. In the longer run, our goal should be, through continued work in collaboration with K-12, to ensure that students eligible for admission to the CSU are fully proficient before they enter the CSU.

COMMITTEE ON EDUCATIONAL POLICY

San José State University Davidson College of Engineering: Zero Emissions Vehicle

Presentation By

Charles B. Reed
Chancellor

Jon S. Whitmore
President
San José State University

Tai-Ran Hsu
Professor of Mechanical and Aerospace Engineering
San José State University

Summary

A valuable component in undergraduate engineering education in the CSU is an opportunity to work alongside faculty members in research and class projects that deal with real world problems and replicate project teams found in industry.

Starting as a class project in the 2005-06 academic year and continuing into the current academic year, about 65 students in the Charles W. Davidson College of Engineering at San José State University have designed, constructed and improved a Zero EMissions Vehicle (ZEM). ZEM is a two-seat gas-free, emissions-free urban vehicle powered by human pedaling and an electric motor. The motor is driven by silicone batteries that can by charged by 110-volt sources and by solar collection panels mounted on the vehicle's roof and hood. The ZEM vehicle is suitable for urban commuting, small business uses and shuttle service in highly congested urban areas.

Professor Tai-Ran Hsu challenged his class to create an affordable, zero-emissions vehicle that could provide transportation and address pollution issues in urban settings of developing nations such as China, India and Mexico.

Local industry sponsors donated key components. SunPower of San José gave four solar panels and CleanPower Battery Technologies of Santa Clara provided some of the batteries.