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ABSTRACT

This document, from the University of California, Davis, reports that California's three-tiered higher education system is committed to both open-access and selective admissions. Community college to four-year institution transfer programs are being pressed into service to meet both anticipated population growth and increased demand and to accomplish racially and ethnically diverse access. Research regarding community college attendance for bachelor's degree (BA) aspirants shows that those with high school GPAs above 3.5 achieved a BA at a 75% rate when they began studies at a four-year institution, and at a 37% rate when they started at a community college (Kinnick and Kempner). Tidal Wave 2, the term for the anticipated population growth and increased demand that will affect college enrollment, could increase community college enrollment by 36%. Community college and university presidents in California share the goal of increasing the number of community college students transferring to the University of California (UC) by 50% between 1998-99 and 2005-06. Students with Transfer Articulation Agreements (TAAs), contracts made between the university and community college students that include a prescribed curriculum and a required performance standard, are more likely to enroll in UCs, and are slightly more likely to graduate than other transfers (82% to 80% at UC Davis). (Contains 4 tables, 4 figures, and 35 references.) (NB)

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Take the Community College Route to a Selective Public University Degree

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Take the Community College Route to a Selective Public University Degree

Steve Chatman

Stated simply, California faces two exceptional circumstances: rapidly increasing demand for postsecondary instruction and the possibility of an increasingly less diverse student body due to Proposition 209's elimination of race in admission. In response to increasing demand, California will not simply grow institutions. Instead the state expects its current institutions to work more effectively, efficiently and collaboratively. Similarly, California is working to mitigate the effects of Proposition 209's impact on diversity by implementing a variety of outreach programs to encourage participation among historically underserved populations. One of the areas of potential overlap, where both diversity and demand pressures might be addressed, is community college transfer. In particular, the University of California is looking to California's community college system for help in meeting both enrollment challenges and diversity goals. Why will the University of California turn to community colleges as part of a larger strategy to meet enrollment demand? What does research tell us about the likely effect of that strategy on California's college-going population? What information is currently available to inform discussion about community college to university transfer? And, what can we learn from transferring students at UC Davis to improve the educational experience of community college transfers?

This paper is composed of three sections. The first section will provide a political context, California's postsecondary structure and guiding principles, and a research context regarding college choice, degree aspiration, and degree completion as it applies to the decision to take a community college route to a four-year degree. The second section will review existing information regarding community college to University of California transfer attendance patterns and academic outcomes. The third section will focus on the experience of community college transfers at the University of California, Davis in an effort to identify factors associated with increased satisfaction and greater success.

Section 1: Political and Higher Education Research Context

Population Growth and Increased Demand for Higher Education in California

California's demographic crystal ball shows a tidal wave of demand for postsecondary education that is reminiscent of the baby boom and population explosion experienced in California from the 1950's through 1970's. It has been labeled Tidal Wave II. Like the earlier tidal wave, the traditional college going population will grow quickly and, added to population growth, a concomitant increase in college going rate is expected. The California Postsecondary Education Commission forecasts that postsecondary enrollment will experience a 36% increase from 1998 to 2010. That is an increase of 702,000 students due to a combination of population growth (516,801) and increased postsecondary participation, primarily by Latinos. California's three public postsecondary segments will respond to varying degrees. The community colleges are expected to grow by about 36%, the California State University's by 37%, and the University of California by 32%.

Among strategies to meet this demand are to sow and grow new campuses, to expand existing campuses, and to make more effective use of existing resources. The University of California will utilize all three. There will be one new campus, Merced, those campuses that are not impacted by current enrollment limits or their communities will grow larger, and all campuses will use existing facilities and other resources more effectively, especially summer sessions. An additional strategy is to build on cooperative relationships with community colleges. Stated more precisely, current University

of California Partnership Agreement objectives (May 19, 2000) include a commitment to expand transfer from California community colleges to the University of California campuses by 6% annually over seven years (from 10,150 in 1998-99 to 15,300 in 2005-06). To understand this strategy, or to understand much else about public higher education in California, one should review the 1960 *Master Plan for Higher Education.*

California's Master Plan
Access to Postsecondary Education: Freshman and Transfer Admission

Faced with the prospect of incredible growth in the traditional college-going age group in the 1950's, 60's and 70's – 200,000 in 1950, 500,000 in 1960, and 1,000,000 by 1970 -- California enacted a structural solution to balance the competing goals of egalitarian service and demands for excellence (Smelser & Almond, 1974). The resulting *1960 Master Plan for Higher Education* created a conceptual edifice with three main entrances and a two connecting doors. The three main entrances correspond to the three-tier system where the top 1/8th qualifying for admission to the Universities, the top 1/3rd to the State Universities, and any high school graduate, or adult who might benefit, qualifying for admission to the public community colleges. Perhaps the most interesting architectural elements are the connecting doors that see much use as residents move from the community colleges to the State Universities and to the Universities of California. The community college transfer route to four-year school attendance is encouraged by laws and agreements that give higher priority to community college transfers and by statewide and local programs to facilitate the process. These programs include Transfer Articulation Agreements between community college students and Universities that guarantee future admission if the conditions of course taking and performance are satisfied, ASSIST, a statewide web-based repository of articulation information, and outreach Transfer Center Partnerships (*Enhancing Student Transfer: A Memorandum of Understanding Between the California Community Colleges and the University of California; 1991 Statement of Common Principles*; SB 121).

The genius of California's three-tier structure is that it codified institutional missions by specifying the role and scope of each sector and setting relative admission standards. This has served to limit mission creep and to maintain strong public support. The admissions standards are especially effective in promoting the California postsecondary dialectic of open-access and quality/selectivity. One key to the Master Plan's success in sustaining these guiding values of competitive excellence and populist egalitarianism (Neil Smelser, 1974) is the stipulation that 60% of four-year institution undergraduate instruction will be upper-division. The 60% standard, combined with community college preference in transfer admissions, produces a viable community college to UC route. In sum, Californians expect outstanding higher education options -- geographically accessible, inexpensive, openly enrollment postsecondary education and research universities that can complete successfully with top public and independent institutions -- and they demand a reasonable route by which any citizen can achieve a bachelor's degree.

To reiterate policies as they apply to the University of California, access standards were established in 1960 to admit the top 12.5% of graduating high school students. Admission is competitive and the standards are selective even though implementation varies by UC campus. Taking UC Davis as an example of UC practices and standards, it combines SATI, or the ACT, 3 SATII Achievement Tests, and high school GPA to compute an academic index used to admit about 60% of the freshman class. The remaining 40% are admitted through consideration of additional factors but very nearly all must meet UC minimum eligibility criteria.

UC Davis reported a fall 2000 freshman acceptance rate of 63% and UC Davis is mid-range in selectivity -- less selective than UC Berkeley but more selective than some. Admission is by major and some majors are very competitive indeed. A more certain route to admission at University of

California campuses is to take advantage of transfer admission agreements and perform well while taking the prescribed community college curriculum. Once again using UC Davis as an example, the acceptance rate for transfer applicants in fall 2000 was 71%. It was 63% for self-selected freshmen. Stated differently, UC Davis reviewed over 25,000 applications for about 4,300 freshman slots and 6,000 transfer applications for about 2,000 slots.

Oversimplified, UC policy requires that transferring students complete 60 semester units (90 quarter units) with a cumulative GPA of 2.40 to be admissible (some disciplines are more selective). In addition, agreements among the higher education sectors have resulted in an established general education curriculum that is recognized as meeting general education requirements statewide (IGETC -- Intersegmental General Education Transfer Curriculum) and there are several guaranteed transfer admission programs. In sum, California provides an affordable higher education access route for all high school graduates and has worked to create effective transfer relationships. It is very possible for any resident high school graduate to receive a bachelor's degree from the University of California.

The pattern of transfer that will be emphasized in this paper is the traditional pattern of community college attendance for lower-division coursework followed by transfer to a four-year institution -- The LURT pattern as identified by Bach et al. (2000). The author recognizes that modern higher education transcripts can look more like patchwork quilts as students "swirl" through institutions (de los Santos & Wright, 1990) with need and opportunity often displacing institutional brand loyalty (Adelman, 1992), but that is not the typical case for transfer from community colleges to research universities or state universities in California. The large majority of community college students transferring to public universities do so after having completed general education requirements and transfer with junior standing. Of course, they do so because they have no choice. The University of California requires a minimum transcript of 90 quarter units (60 semester units) with a 2.4 GPA and a C or better in required English composition, mathematics, and four other transferable courses or completion of the IGETC. IGETC courses satisfy UC lower-division breadth or general education requirements. (Transferable Course Agreements are on-line at www.assist.org for the 113 public community colleges in California.)

California's Diversity Challenge

California's public institutions can no longer directly consider race or ethnicity in admissions decisions (Proposition 209) and yet the state and its institutions remain committed to diverse representation. Both the state and postsecondary institutions are devoting considerable resources to improving the likelihood that students from under-represented groups and from impoverished circumstances will have access. Whatever one imagines the long-term consequences of Proposition 209 to be, even its opponents would hope that 209 will be more successful than affirmative action programs. Results for 1970-1990 actually show a declining percentage of the total minority population graduating (Astone & Nunex-Wormack, 1990). Setting aside Proposition 209 arguments and following the numbers, the University of California faces the frightening prospect of increasingly looking less like California as population growth will be greatest among groups that have been least likely to qualify for UC admission.

Gieser, Ferri, and Kowarsky (2000), using California State Department of Finance projections, report that the number of high school graduates will increase by about 27% in less than a decade (from 300,000 in 2000 to 380,000 by 2008), but that growth will not occur uniformly across racial/ethnic groups. The Latino population will increase most rapidly and will overtake White students as the largest single group in California high schools by 2008. UC eligibility rate ($1/8^{th}$ or 12.5%) by racial/ethnic group has been highest for Asian students (30%), followed by Whites (13%), Latinos (4%) and African Americans (3%). When differential growth forecasts by racial/ethnic group are

applied to historic eligibility rates, the 2008 UC eligible pool will look very different from the graduating high school population in California.

	CA High School Graduates	UC Eligible Pool	Difference
African American	8%	2%	-6%
Asian	10%	30%	+20%
Latino	40%	15%	-25%
White	37%	47%	+10%
Other	5%	6%	+1%

The situation is actually worse than depicted because high school racial/ethnic composition is of high school graduates and does not consider that high school dropout rates are higher among Latino and African American students. Without substantial intervention, the University of California will look less and less like California and may find less and less support for its mission. It is initially appealing to look to the community college transfer function to help mitigate this possible future.

For a variety of financial and social reasons, historically underrepresented racial and ethnic groups enroll in community colleges in greater concentrations and more generally, lower-income students are more likely to enroll in community colleges. These historical patterns may be exacerbated recently by rapidly increasing educational attendance costs and changes to assistance programs. There is evidence of increasing representation of low-income students at public two-year colleges and declining representation of middle- and upper-income students due to tuition increases outpacing inflation and inadequate financial aid response (McPherson & Shapiro, 1994). Programs targeted to improve community college to university transfer, especially for underrepresented populations, should increase the diversity of the university and given the selective nature of admission to California's public research universities, community college enrollment and transfer presents a more certain alternative route for these students.

Research Regarding Community College Attendance for Bachelor Aspirants

It is the case that high school seniors who aspire to the bachelor's degree are more likely to reach that goal if they begin attendance at a four-year institution. Among the several literature reviews and replications available, Kinnick and Kempner's 1988 study of high school through college attendance patterns in Oregon is an exemplar. Using a stratified sample of over 2,000 high school seniors who stated postsecondary attendance intentions in 1974, they mailed questionnaires to these former seniors in the fall of 1985 and achieved a 67% response rate. In addition, they conducted 19 telephone interviews with students who were high achieving, expected to earn a bachelor's degree, and attended a community college within a year following high school graduation. Kinnick and Kempner (1988) confirmed the findings of several researchers who have noted an advantage to freshman enrollment at a four-year institution, notably Astin (1977), and like Astin, learned that the four-year advantage was greater for the most able high school seniors. In Kinnick and Kempner's study, those with high school grade point averages above 3.5 achieved bachelor degrees at a 75% rate when they began study at a 4-year institution and a 37% rate when they began at a community college. For those interested in further study, the Kinnick et al. (1998) article offers a succinct review of community college transfer research and in particular the phenomenon of students with bachelor's aspirations being less likely to achieve that goal if they initially matriculate at a 2-year institution. Also recommended are Astin's papers summarized by the author in *What Matters in College?* (1993).

This institutional type affect can be found despite controls for individual ability, aspirations, and family background. Noting the established differential, some researchers have questioned the

efficacy of promoting community college attendance as a more cost effective, more accessible alternative. In any event, it is probably more profitable to concentrate resources to learn why there should be an advantage associated with initial enrollment at a bachelor granting institution than to revisit the issue, as it is unlikely to change significantly in California. However, there is a danger in following the pragmatists' path. Karabel's (1977) uses a social stratification theoretical position to argue that community colleges perpetuate a system of unequal access to outcomes while expounding the virtues of access to opportunity -- in effect, that community colleges serve to place bachelor's degree seeking lower class and minority students on a more problematic educational track while telling them that it is just as good.

Factors Associated College Choice, Degree Aspiration, and Degree Completion

In California, the most effective route to a UC degree for 7/8^{ths} of the high school population is to enroll in a community college, complete the IGETC general coursework (see application materials for exceptions), and apply for admission as a transfer. That can also be an excellent route for the remaining 1/8th who could initially attend a UC campus, perhaps not their first choice, but elect to postpone UC matriculation for a variety of reasons. To review some of the findings associated with choice, aspiration and degree completion, Hossler and Gallagher's (1987) three phase framework will be used: predisposition, search, and choice with special attention to racial/ethnic and social class variations.

Predisposition, Search, and Choice

Hurtado, Inkelas, Briggs, and Rehe (1997) report significant racial/ethnic differences in predisposition, postsecondary application behaviors, and patterns of attendance. Asians report the highest aspirations, apply to the most schools, are most likely to take admissions test, *et cetera*. Latinos hold the lowest aspirations and are least likely to participate in behaviors consistent with 4-year college attendance. African Americans and Whites behave similarly. To illustrate, Asians expect to attend graduate or professional school at the highest rate (47%) followed by African Americans (35%), Whites (32%), and Latinos (31%). High school seniors when asked to report the type of postsecondary institution that they are most likely to attend follow a similar pattern: 26% of Hispanics listed 2-year academic community college, followed by 18% of white students, 17% of African Americans, and 15% of Asians.

Using these same NELS and BPS records, other researchers have found differential sensitivity to choice actions by non-traditional students (Bishop and Van Dyk, 1997) and have pushed back predisposition formation before high school. Somers, Cofer, and VanderPutten (1999), found evidence of the importance of students' and parents' aspirations, family income, and parents' education, especially that of fathers, and a variety of other factors by the 8th grade.

Not surprisingly, cost to attend is an important consideration for many community college students. Heller (1997) extended Leslie and Brinkman's (1987) price-response analysis to community college populations and discovered greater price sensitivity due to over-representation of lower-income and minority students in community colleges. (See also Freeman, 1997.) In addition to the environmental factors identified by these researchers Perna (2000) suggests that differences in expectations about future labor market opportunities by African Americans, Hispanics, and Whites affect the decision to attend college. More specifically, he asserts that econometric principles of social and cultural capital can be used to explain differences in perception of the value of college attendance by racial/ethnic groups. It logically follows that contribution to social and cultural capital might also help to explain why racial and ethnic groups differ when deciding type of college or degree to pursue.

What factors are associated with bachelor's degree attainment for students who initially enroll at community colleges? For the 19 students interviewed by Kinnick and Kempner (1988), it was high income, clear goals, high motivation, contact with 4-year school before transfer, and rigorous community college coursework. To this list, others would add community college grade point average (Townsend, McNerny, & Arnold, 1993), hours transferred, and associate's degree attainment (Saupe & Long, 1996). Do community college transfers succeed at rates comparable to native students? Eimers and Mullen (1997) report that they do not. After controlling for credit hours earned (transferred or local) and grade point average (community college or local), native students graduate at a higher rate.

Summary of the Political *Milieu*

California has enjoyed strong public support for a three tier system of postsecondary institutions that offers something for everyone, from egalitarian and local access at its 113 community colleges, moderately selective regional baccalaureate programs at 22 state universities, and selective admission at 8 nationally ranked universities. The mission and admission standards of each tier are codified by the 1960 Master Plan. The Master Plan promotes access to the bachelor's degree by community college students through clear articulation, moderate academic performance requirements, preferential admission, and adherence to a published 60:40 ratio for upper- to lower-division instructional production.

California is now facing two challenges, a surge in demand for postsecondary education resulting from population growth and increased participation rates, especially by Latino students, and demand for increased inclusion of underrepresented minority students in spite of state law prohibiting the use of race/ethnicity in admission. Each of the three sectors will respond to demand by increasing in size and the University of California will add a 9th campus at Merced. The community colleges will increase enrollment by about 36%, California State University's by 37%, and the University of California by 32%. To respond to concerns about racial composition at the Universities, California is spending millions in outreach activities directed at underserved school systems and students who might not consider the University within their reach.

Community colleges can help the University meet both growth and diversity challenges. Among strategies being pursued by the University of California Office of the President to increase community college applications and transfers generally and of underrepresented minority students specifically, are identifying and directly contacting top community college students, various recruitment events, and moving admission notification earlier on the calendar. University and Community College presidents share the goal of increasing the number of community college students transferring to the University of California by 50% from 1998-99 to 2005-06. More recently, the University of California Academic Senate has joined the effort by passing Regulation 476 that allows dual admission – effectively a UC admission offered to high school senior applicants conditioned upon community college attendance and satisfactory performance. The Regulation will be considered by the UC Regents and will be made University policy if passed.

Summary of Research

There is evidence that high school seniors aspiring to the bachelor's degree are more likely to attain that objective if they initially enroll at a four-year institution and that is especially true for the most able seniors. This effect has been found repeatedly despite controls for individual ability, aspiration, and family background. It is, however, not a charge of poor educational preparation leveled at community colleges. There continues to be much unexplained variance.

There is evidence of important racial/ethnic differences in predisposition to attend college, postsecondary application behaviors, and patterns of attendance. Recent evidence suggests that predisposition differences form well before high school and are associated with family background variables, especially father's education. In addition, lower-income and minority students are more price sensitive and are more likely to attend geographically close institutions (Chatman, 1998).

Among factors associated with increased likelihood of transfer from community college and graduation from a 4-year institution are high income, clear goals, high motivation, early aspiration, continued attendance, contact with 4-year school before transfer, and a rigorous program of study while enrolled at the community college. To these can be added several quantitative predictors: junior college grade point average, hours transferred, and perhaps associate's degree attainment.

While increasing reliance upon community college to university transfer is an expedient solution for the state, the advantages and disadvantages to residents who aspire to the bachelor's degree and beyond should be considered. The second section will review existing information regarding community college to University of California transfer attendance patterns and academic outcomes, especially for the University of California, Davis.

Section 2: Local Context -- Existing Evidence Regarding Transfer

Transfer Enrollment and Enrollment Composition

Public postsecondary education in California is working to increase the number of community college to University of California transfers and especially to increase the number of underrepresented minority students transferring. A review of community college transfer data suggests that the task might be formidable. The first challenge can be viewed as that of increasing the number of transferring students. The trend is not encouraging. Whether or not the number of community college transfers to the University of California has increased over the past several years depends upon the base year selected. Compared to the early 1990's, enrollment in 1999 was up by about 17%. Compared to 1995, it was down about 4%. Recall that the *Memorandum of Understanding* between the California Community College and the University of California requires an annual growth rate from 1998-2005 of about 6%, somewhat higher than experienced from 1998 to 1999. In sum, the trend suggests that significantly increasing transfer will be a challenge. The challenge has been recognized by higher education and there are several new initiatives to facilitate and encourage transfer. But even if California is able to increase the number of transfers, it might prove more difficult to increase relative participation among underrepresented minority students. That is the second problem, increasing underrepresented minority participation.

The proportion of community college transfers to the University of California from 1990 to 1999 who were underrepresented minorities ranged from 16% to 20%. The proportion of students enrolled in community colleges (fall, 2000) who are underrepresented minorities is a substantially larger 33%. It is clearly the case that the racial/ethnic composition of transferring students differs from that of the community college population. Without intervention there is little reason to believe that increasing community college transfers to the University of California will increase enrollment composition of underrepresented minorities at the University. The proportion of community college transfers to the UC's who are underrepresented minorities is similar to the proportion of UC eligible high school seniors who are underrepresented minorities (about 17%). This pattern also applies to UC Davis.

Go to Table 1

Approximately 1/3rd of new students enrolling at UC Davis each year are transfer students and this proportion has been relatively stable for at least 15 years. Transfer is a very important source of new students. Unfortunately, the proportion of transfers who are underrepresented minorities is a stubbornly consistent 12% (SARI, 2000) -- a figure very comparable to that for the undergraduate student body (about 13%). There is little reason to believe that simply increasing the number of community college transfers will increase the proportion of underrepresented minorities in attendance at UC Davis. Facts about UC Davis's community college transfers that might be important to institutions judging comparability of this situation to their own include the following.

- Community college transfers are older than the undergraduate student body on average but still fairly young, 23 years old on average, and the large majority are less than 25 years old (78%).
- Most community college transfers, 54%, come from the local region (Sacramento and Yolo counties) and an additional 20% are from the San Francisco Bay area. Community college transfers are more likely to attend area universities after transfer. Over the last decade the top 10 community college sending institutions for UC Davis have been American River College, Diablo Valley College, Sacramento City College, De Anza College, Santa Rosa Junior College, Sierra College, Solano Community College, San Joaquin Delta College, City College of San Francisco, and the College of San Mateo.
- The average transfer or admission GPA for matriculating students is about 3.3.

Over the past 20 years, the number of junior-level transfer students from community college has increased sharply.

Go to Figure 1

Graduation Rate for Community College Transfers

First, it should be noted that, at least at UC Davis, the graduation rate of transfer students from California's three sectors is very comparable. For all transfers entering from 1984 through 1995, the overall graduation rates were 83% for UC, 82% for CSU, and 80% for California Community College transfers (SARI No. 79, 2000). The difference by sector reported by the University of California Office of the President (2001), was slightly larger. Across the University of California system, the four-year graduation rate of native juniors is about 10% higher than that of community college transfers (89% vs. 78%) and the difference is slightly more for UC Davis (90% vs. 76%) and about 5% lower than the graduation rate for all UC Davis transfers (81%). Community college bachelor's recipients at UC Davis take slightly longer to graduate on average (2.4 vs. 2.2 years or 7.6 vs. 7.1 quarters), but the grade point average of native and community college transfers is very comparable (3.1 vs. 3.0). (These data are from a series of tables prepared by UCOP researchers, Clune and Machung, 2001.) Given the rarity of transfers from four-year institutions, the small differences observed could easily be explained by a variety of atypical factors. In sum, there is no evidence that transfers to UC Davis from community colleges perform significantly more poorly than transfers from other sectors. Transfers from all sectors share a relative disadvantage when compared to native students.

Go to Table 2

A similar comparison can be made using locally reported figures over a more extended period (20 years) from a standard Student Affairs Research report, *Persistence and Graduation Rate Tables* (2000). It is clear from this longer viewpoint that the cumulative graduation rate for community college transfer students has been reasonably stable over this 20-year period (Table 2). Graduation rate

increases rapidly through the 8th quarter, and then increases slowly before reaching a plateau of nearly 84% at about the 12th quarter. While these patterns apply to the University generally, there are differences in graduation rate for transfer students by race/ethnicity, by sending institution, by major, and by prior contact or participation in special transfer programs.

Go to Figure 2

- White students graduate at a rate about 2% above the average, Asian transfers graduate at the average rate, and underrepresented minority students graduate at a rate about 7% below average (SARI No. 79, 2000).
- By academic division, the graduation rates of transfer students for the past decade have been 76% for Agriculture, 82% for Biological Sciences, 82% for Letters and Science, and 85% for Engineering.
- The graduation rate for transfers from most institutions is consistent with the campus rate of 81% with a couple of exceptions among the top 20 community college providers. Transfers to from Santa Rosa Junior College and Marin Community College graduate from UC Davis at a comparatively high 87%.

(These data regarding graduation rate by sending institution and academic program are from a June 2000 web-based application [www.sariweb.ucdavis.edu].)

Graduation rates are also higher for students with Transfer Articulation Agreements (TAAs). Transfer Articulations Agreements are "contracts" made between the University and individuals attending any of at least 56 community colleges. The conditions stipulated in the contract include a prescribed curriculum and a required performance standard. If the student satisfies the conditions, they are guaranteed admission. UC Davis started the TAA program in 1986 and the proportion of transfer students entering with TAAs has increased from 16% in 1987-88 to 40% in 1998-99. TAAs are more likely to enroll, once admitted, and are slightly more likely to graduate (82% vs. 80%).

Summary

Recall that this section started with a caution that reliance upon community college to university transfer should consider the advantages and disadvantages of beginning at the community college for residents who aspire to the bachelor's degree or beyond. The section first set that question aside and examined the viability of reaching state goals for demand and diversity. Responding to the dual challenges of increasing demand and diversity goals after Proposition 209 by greatly increasing the number of transfer students will prove difficult. First, the number of transfer students has not been increasing as quickly as California's enrollment. Second, the racially/ethnic composition of community college transfer students to UC campuses tends to be much more similar to the overall composition of UC campuses than of California Community Colleges. Reaching *Memorandum of Understanding* goals will require special efforts. (That is not a particularly insightful or unique observation as there are many programs being implemented and others planned.) The section then turned to existing evidence about likelihood of degree completion and presented evidence that community college transfers graduate from University of California campuses, and UC Davis, at lower rates than native students. Several factors were identified as associated with variance in graduation rate, none of which suggested that community college preparation was inferior, but the fact remains that transfer students complete their degrees at a lower rate. Why should that be the case?

Among researchers who have considered this question, Astin (1993) writes about the difficulty of forming "anything resembling a 'peer group' out of the hodgepodge of students" (p. 416) served by community colleges. Differences in life circumstances, age, attendance patterns, aspirations, and the

lack of residential facilities hinder peer group identification and involvement. However, the extent to which differences in lower-division involvement impact upper-division experience after transfer is not clear. The same can be said of other theories, but what is clear is that any theory recognizing the impact of social systems on development, "attachment" (e.g., Chickering, Perry, Tinto), would predict a more difficult upper division experience for transferring juniors than for junior who began as freshmen at UC Davis. Nearly all freshmen live in the dorms, they share curricular requirements, they are very nearly all of the same age, they share the desire to make friends, *et cetera*. In sum, they spend a great deal of time together during a period when they are very actively seeking friendship.

The third section of this paper will present results from three sources. Four projects, two quantitative and two qualitative, will be used to determine the existence of differences in engagement by native and community college transfers: a survey of recent alumni, a survey of the undergraduate population, focus group discussions with transferring students, and follow-up individual interviews with transfers one year later.

Section 3: Results and Discussion

Survey of Recent Baccalaureate Recipients

The University of California, Davis periodically surveys baccalaureate recipients in the first year following graduation. The most recent survey was conducted in 2000. Administration was by mail with preliminary letter, census mailing, and two follow-ups. A 46% response rate was attained (n=1,106) and respondents were similar to all graduates across a variety of measures: sex, race/ethnicity, status at admission, college of major, and mean GPA. The alumni survey allows comparison of fundamental outcome variables of employment and postgraduate attendance and a variety of satisfaction measures. Postgraduate outcomes can be used to address the question whether the value of a UCD degree, as viewed by the external community, is equivalent for alumni who began as transfers as is true for students who began as freshmen. Do transfer students completing bachelor's degrees earn less or enroll in graduate and professional schools less often? Items assessing educational progress, type and frequency of faculty interactions, and satisfaction with the educational experience can be used to identify whether transfers and native bachelor's recipients' experiences differ. The joint distribution of transfer students among bachelor degree recipients did not differ by college (X^2 =5.43 [df=3]) or by race/ethnicity. Gender was also insignificant (X^2 =4.13 [df=2]; 0.56 [df=1]).

Go to Table 3

The litany of post-baccalaureate similarities is much longer than differences. Transfers and native students do not differ in:

post-baccalaureate enrollment (X^2=6.879 [df=3])
earnings (X^2=4.606 [df=.595]),
employer's sector (e.g., business/industry, education, government) (X^2=5.856 [df=4]),
degree aspirations (X^2=7.78 [df=8]),
employment (X^2 0.714 [df=2]), or
attending first-choice graduate or professional school (X^2 2.009 [df=2]).

Transfers and natives likewise do not differ on 30 of the 32 survey items listed as Table 1. There are only two items where the groups differ (.001): satisfaction with UC Davis in general and preparation received in interpersonal skills. Transfer students were less satisfied with UC Davis in general and rated preparation received in interpersonal skills lower.

Go to Figure 3

It is possible to learn something of the nature of these differences by noting what they are not. They are not a reflection of post-baccalaureate outcomes, dissatisfaction with faculty interactions or the academic experience generally, or lesser preparation in a variety of general skill areas. In sum, the differences suggest a nonacademic social issue. It should be noted that the literature regarding earnings of bachelor degree recipients who began at community college versus native four-year students is inconsistent (see Pascarella and Terenzini's *How College Affects Students*, p. 507). For UC Davis graduates, there is not a significant difference.

	Began as Freshmen	Transferred to UC, Davis
Less than $20,000	7%	8%
$20,000-$29,999	19%	19%
$30,000-$39,999	34%	40%
$40,000-$49,999	22%	15%
$50,000-$59,999	9%	9%
$60,000-$69,999	6%	6%
$70,000 and Higher	4%	3%
	471	180

Survey of Currently Enrolled Students

The UCD Office of Student Affairs Research is nearing completion of a census survey of the undergraduate population. There are five versions of the survey to distribute items assessing college and university characteristics across respondents and minimize student survey burden, but all forms share an academic component. Contact has been exclusively electronic -- all invitations and reminders were sent by e-mail and the survey is only available in a web version. At the time of the analysis reported here, response rate was about 45% or about 8,500. Response rate is now just over 50% and the analyses reported here will be repeated at a future date. Even though no change in results is expected, change is possible. For purposes of comparison, the native student population was limited to students who had earned at least 85 units. Therefore, the responses of upper division students are being compared. Analysis of variance with group and college of major main and interaction effects was performed and a .001 significance level is used.

Go to Table 4

As reported in Table 4, there were five instances where the responses of transfer students and native students differed. Native students are more satisfied with UC Davis in general, are more satisfied with their academic experience overall, have a better sense of belonging, have developed more strong friendships with other students, and work collaboratively with fellow students on course projects more frequently. It is similarly important to note areas of no difference. Transfer and native students are equally satisfied with instruction, interact with faculty similarly, have developed productive relationships with other students in their major, are satisfied with the social and cultural experience, *et cetera.* It is clear that the social attachment of transfer students is less than of native students.

Go to Figure 4

Recall that the literature review ended with the suggestion that attachment issues might explain lower bachelor degree completion rates for students beginning at 2-year institutions despite a host of statistical controls. The data reported here support that hypothesis and more precisely, that transfer students have more difficulty becoming socially integrated. Academic integration appears as strong among UC Davis transfers as among natives. It is quite possible that social integration differences underlie observed differences in graduation rates and in satisfaction with UC Davis in general (e.g., Tinto, 1987; Cabrera, Nora, and Castañeda, 1993).

Focus Groups and Individual Interviews

UC Davis's Office of Student Affairs Research conducted five focus groups with recent transfers in spring, 1999. The focus groups averaged eight students and two observers. Most of the volunteers lived locally or in University housing, were female (75%), and about half were White. Participants were asked about choice and pre-enrollment perception of UCD, participation in pre-transfer programs (e.g., TOPS or TAA), experience in the first two quarters of enrollment, and any advice they had to offer.

Nearly all of these students had aspired to a bachelor's degree for as long as they could recall. Students decided to attend the community college for practical (e.g., cost), personal (e.g., private family situation), and academic reasons (e.g., not ready for giant classes, unsure of major). Reasons for selecting UCD included proximity, location (e.g., safe, small town), academic reputation, and as a second choice when not admitted to Berkeley. Those students who participated in pre-transfer programs recommended them highly, but it was clear that many transfers were unaware of the opportunities. For the transferring students participating in focus groups, the academic adjustment was not difficult, with the exception of a few students who found the quarter system challenging. They found the social adjustment more difficult and those who lived in University housing for transfer students recommended it for others.

Focus group participants were invited to return for a personal interview one year later, spring 2001, and about 10 sessions were scheduled. The structured interviews validated observations made from the transition focus groups. Following are a few biographical vignettes representing the variety of circumstances and experiences shared in the interviews. Two of them describe using the community college open-access and UC transfer preference to gain admission, one an international student and the other a CSU student. One describes a young man with no academic aspirations until he enrolled in a CC summer school class, and several students remind us that public University educations are expensive for some and that the freshman year experience at a large public university can be intimidating.

International Angie

Don't tell anyone, but there is way for international students to enroll at UC without the hassles, intense scrutiny, and dismal likelihood of freshman international student admission. An alternative is to move to California, enroll at the local community college, complete an associate's degree, and transfer to the UC of your choice. While a TAA guarantee is not available to international students, the chance of admission is much better. Angie heard of the possibility while in Hong Kong from family and friends of others who had taken the CC to UC route.

As a well-educated bilingual student, Angie was able to adjust to a schedule of work and CC attendance in San Francisco. It took her 2 ½ years to complete her associate's, and she will graduate from Davis in 2. Angie had some trouble adjusting to the pace of a quarter system and very much prefers the semester structure. Socially, she joined an academic club but would have liked to be in a sorority.

If given the choice to attend UC Davis upon arrival to the US, would she have? Yes, but that was not a possibility. Like other Davis CC transfers, Angie is self-confident, goal-oriented, and optimistic.

Practical, Tentative Gillian

After paying for private secondary school, Gillian's parents were none too keen on going into debt so that she could attend a UC campus directly from high school. And in all honesty, the thought of going from a high school class of about 100 to a chemistry class of hundreds was intimidating. A reasonable solution was to enroll at the local community college.

Academically, Gillian was an excellent high school prospect with an SAT of about 1250 and a 4+ GPA due to A's earned in honors and advanced placement courses. She applied to and was admitted by three UC campuses (Davis, Santa Barbara, and San Diego) and two independent institutions. At her community college, Gillian was fortunate to meet an outstanding counselor on the last day of eligibility to create a TAA. The counselor helped her plan appropriately so that she could finish her associate's in two, make a successful transfer, and will graduate with a bachelor's degree after two years at Davis. Gillian has had a rich academic experience including serving as an intern for her congressman. After Davis, she will work for a year in state government, take the LSAT, and applying to law school.

Gillian's social experience also went very well. She lived in campus housing for transfers and attributes much of her instant affinity to that experience. Gillian knew that housing was at a premium and completed and returned her housing application the day she received it. As she said, "I enjoyed the first year and really, really enjoyed this year." Gillian never felt like an outsider.

Would she do it the same way again if given the chance? Yes, she would. She thought that her education was excellent. Gillian reports that you can challenge yourself at a community college or sit back – you get what you put into it. A special problem she observed for fellow community college students was that most worked and work occasionally took precedence.

What might we do to make the experience better? Help those community college students planning to transfer to a UC find each other while at the CC.

Self-reliant Jody

Jody always knew that she was financially responsible for her own college education. Both parents had worked to put themselves through college and expected the same of Jody even though they could well afford to support her financially. In high school, Jody was college prep. She took AP courses, made high grades, and with a 1200+ SAT, was most likely UC eligible. But Jody never applied because she feared incurring the loan required to pay for lower-division instruction at a UC campus. Jody made the decision to take a community college to UC degree route while a high school student. After visiting UC campuses in the region, she decided upon Davis largely because it appeared safer from physical violence and crime than Berkeley. It was Jody who learned about and created a Davis TAA that she then completed in two years. Two years after transfer, Jody is graduating with a bachelor's degree even though she did an academic enrichment quarter at UCDC (Washington, DC based intemship). Academically, Jody has done well and could serve as a role model.

Jody's social life has been difficult and it may be the cause of statements that are at least superficially contradicting. Here are two examples. She found community college faculty to be better instructors and felt that she had better general education instruction at the community college but, if she had it to do over, she would attend UC Davis all four years. Jody considers herself an outsider but she routinely joins campus organizations. In sum, she hates social Davis and is very close with a peer group that she says feels the same. The peer group members are also transfer students who feel like outsiders. How did these transfers find each other? Jody says that transfers have an aura. They are the ones that are sitting alone, that don't know anyone.

On many levels, Jody has been remarkably successful and is clearly self-confident and goal oriented. After taking a year off to reduce her debt and take an academic breather, she plans to enroll in law school in 2002. I have no doubt that she will. It is easy to admire Jody for her accomplishments, but as easy to feel sympathy for her social experience and poor attachment to UC Davis.

What does Jody tell her younger sister who is facing the same choice as Jody for the same financial reasons? She tells her to borrow the money and start at the four-year school of her choice.

Saved by CC Summer School Kelly

As a high school student, Kelly took the college prep route and college admissions tests but had no postsecondary aspiration. In fact, he had very little in the way of academic aspirations and nearly dropped out of high school to hang with his friends. That would have been very unfortunate because Kelly is intellectually gifted and will complete a dual major in mathematics and philosophy after just over 2 years at Davis. After graduation he will start graduate school in computer science. What type of student was Kelly in high school? Kelly was quantitatively very strong and verbally very weak. He scored a 4 on AP Calculus BC and a 780 quantitative reasoning score on the SAT, but his SAT verbal was in the 400s. Would he have been UC eligible? Maybe, but it hardly mattered as he did not apply to a postsecondary school of any type.

The experience that changed Kelly's life was an English literature summer class at the community college. More precisely, it was the students in that summer class, mostly older people (some as ancient as 40 or 50), who shared life experiences, the joy of learning, and encouraged Kelly to continue his education. It worked. Kelly completed an associate's degree at the community college in two years and used TAA and TOP to guarantee his place at Davis.

In describing his transition to UCD, Kelly reports that his first quarter was academically easier than at the CC. In explaining the difference, he blames poor advice to take a lighter load for a first quarter. For Kelly, a lighter load was not very challenging.

Kelly has also adjusted well socially. At Davis, Kelly lived in an apartment with someone he knew through his home community. He has not joined clubs or formal activities but likes to play pick-up basketball and is very happy about his social life. He did express some concern that all his friends are mathematics or philosophy majors.

If Kelly could start again he would attend UCD as a freshman but his reason has nothing to due with quality of social life or academic instruction. He explains that a transfer student does not have the luxury of mixing upper- and lower-division courses. A transfer student takes all upper-division courses.

In many ways both Kelly and UC Davis have been lucky that he enrolled in a CC English literature class during the summer after high school. Kelly was a talented young man with few aspirations whose parents know nothing about college. One wonders how many Kellies are lost.

Purely Personal Shawn

Why would a young man whose applications were accepted at UC Davis, Berkeley, San Diego, and Santa Barbara enroll at a community college? The reasons were personal and had something to do with his family and that is all Shawn will say about that subject. He will say that his father encouraged CC enrollment.

Other than a one year delay attributed to bad advising, Shawn's undergraduate degree program has been on track, and he will complete a bachelor's after two years at Davis. Following graduation, Shawn will serve in a UC Davis faculty member's laboratory for one year before applying to medical school.

Shawn feels no self-pity and very little sympathy for students who fail to make a successful transition. Shawn said, "People make a big deal about transfer but it's not like you're moving to another country." He has many very positive things to say about social and academic opportunities at Davis, and especially the chance to do research with faculty.

Would he do it over? Shawn found that to be a tough question. He sees clear advantages to establishing friendships as freshmen and it is harder to build relationships with faculty from whom you might one day need a reference. Also, Shawn found the academic level of courses to be more difficult at Davis and did not feel well prepared. He was also somewhat overwhelmed by the lecture halls that seated hundreds. All things considered, he would probably start at UC Davis.

Shawn repeatedly mentioned one person as he described his transition to UC Davis even though he did not directly acknowledge that person's contributions. Shawn had a friend and roommate who showed him the ropes. From learning how to approach a quarter course or pushing him to join campus groups (Shawn belongs to several) to helping him find a position in a faculty member's lab, this friend smoothed the transition.

CSU Transfer Terry

I wondered whether CSU students realized that they could transfer to a UC campus if they enrolled in a CC first. Terry did not set out to do so but took that route none-the-less – CSU for two years, community college for one class, and transfer to UC Davis by taking advantage of the priority given community college transfers.

As a high school senior, Kelly did not want to enroll at UC Davis because she wanted to go someplace different and further from home than Davis. After applying to several CSU and UC campuses, and being accepted to two UC's, Kelly selected a CSU because it was small, brand new, and she thought that it was formally related to a special institute in the same community – it wasn't. When the CSU was unable to offer her degree program after two years, she went home to Sacramento.

Kelly found the social transition to UC Davis to be difficult. It seemed that everyone knew each other and it was hard to break into cliques. Kelly is outgoing, has joined several clubs, is active in pubic service tutoring, and has created a satisfying social experience for herself.

If she had it to do over, would she do the same again? Kelly is unsure but hypothesizes that she would have enrolled at the community college first. How did she learn of this back door to UC Davis? When she approached UCD about transfer, a counselor described the option.

Collectively, the focus groups and structured interviews validate observations made from analysis of student survey data. Community colleges prepared these students well academically but the

social transition was difficult for most. Having a friend in attendance, living in transfer student housing, and joining clubs and activities made the transition easier.

Summary

California is committed to a three-tier higher education structure that promulgates both open-access and selective admission options. It is a system that has served California well for 40 years and encourages community college to four-year institution transfer through various programs, policies that give preference to community college transfers, and a performance standard that demands that 60% of the instruction at public four-year institutions be upper division. Community college to four-year transfer programs are being pressed into service to meet both a new wave of demand and to accomplish racially and ethnically diverse access. Achieving these two goals will likely prove difficult given historic transfer and attendance rates by minority students. There is another concern.

Research shows that bachelor's degree aspirants are less likely to achieve the bachelor's degree if they begin at two-year colleges and comparison of graduation rates for transfer and native juniors supports the finding. Once the bachelor's is attained, there are no differences of practical importance. For example, both groups are employed at equivalent rates, earn equivalent salaries, aspire to post-baccalaureate degrees and enroll in graduate or professional schools at the same rates, and are admitted to their first-choice school as often, *et cetera*. Transfer and native alumni also rate the instruction they received and faculty interactions the same. However, they are not equally satisfied with their overall experience as a student. Results from a survey of currently enrolled undergraduate students validate the observation that transfer and native students are equally satisfied with their academic experience but are less satisfied overall and that the difference is clearly due to social experiences.

The charge to the University would seem clear but the response will take time. The division of Student Affairs at UC Davis is undergoing thematic review in 2001-02 and the theme to be addressed by all units is student transfer. That is a good first step.

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Table 1: Community College Transfers to the University of California (Fall Term) BACK

Fall Term	E Total	xpanded Asian	African American	Latino	Native American	Other	White	Under-Represented	Non-Resident Alien	No Response
1990	7,421	1,212	210	796	101	108	4,366	1,107	300	328
1991	7,464	1,229	208	923	107	78	4,191	1,238	311	417
1992	8,244	1,523	215	995	94	127	4,393	1,304	356	541
1993	8,857	1,948	226	1,068	89	143	4,468	1,383	405	510
1994	8,997	2,258	283	1,193	108	172	4,203	1,584	422	358
1995	9,021	2,448	310	1,249	112	164	3,898	1,671	450	390
1996	8,798	2,410	249	1,168	99	166	3,801	1,516	469	436
1997	8,638	2,361	241	1,078	80	225	3,690	1,399	520	443
1998	8,345	1,925	181	1,044	78	183	3,220	1,303	483	1,231
1999	8,696	2,119	221	1,143	70	219	3,735	1,434	518	671
Actual 2000 CC Enrollment (for comparison)										
	1,587,119	239,967	109,241	396,462	14,772	28,741	631,600	520,475		
Distribution of Racial/Ethnic Groups Among Resident Students of Known Ethnicity										
1990		18%	3%	12%	1%	2%	64%	16%		
1991		18%	3%	14%	2%	1%	62%	18%		
1992		21%	3%	14%	1%	2%	60%	18%		
1993		25%	3%	13%	1%	2%	56%	17%		
1994		27%	3%	15%	1%	2%	51%	19%		
1995		30%	4%	15%	1%	2%	48%	20%		
1996		31%	3%	15%	1%	2%	48%	19%		
1997		31%	3%	14%	1%	3%	48%	18%		
1998		29%	3%	16%	1%	3%	49%	20%		
1999		28%	3%	15%	1%	3%	50%	19%		
Actual 2000 CC Enrollment (for comparison)										
		15%	7%	25%	1%	2%	40%	33%		
Enrollment Relative to 1995										
1990	-18%	-50%	-32%	-36%	-10%	-34%	12%	-34%		
1991	-17%	-50%	-33%	-26%	-4%	-52%	8%	-26%		
1992	-9%	-38%	-31%	-20%	-16%	-23%	13%	-22%		
1993	-2%	-20%	-27%	-14%	-21%	-13%	15%	-17%		
1994	0%	-8%	-9%	-4%	-4%	5%	8%	-5%		
1995	0%	0%	0%	0%	0%	0%	0%	0%		
1996	-2%	-2%	-20%	-6%	-12%	1%	-2%	-9%		
1997	-4%	-4%	-22%	-14%	-29%	37%	-5%	-16%		
1998	-7%	-21%	-42%	-16%	-30%	12%	-17%	-22%		
1999	-4%	-13%	-29%	-8%	-38%	34%	-4%	-14%		

California Postsecondary Education Commission, Student Profiles, 2000, 4-5(A). Fall 2000 enrollment figures were taken from CCC Statewide Student Population Profile.

Figure1: Number of UCD Community College Transfer Students (1980-99)

Figure 2: Graduation Rate of Community College Transfer Students (1980-95)

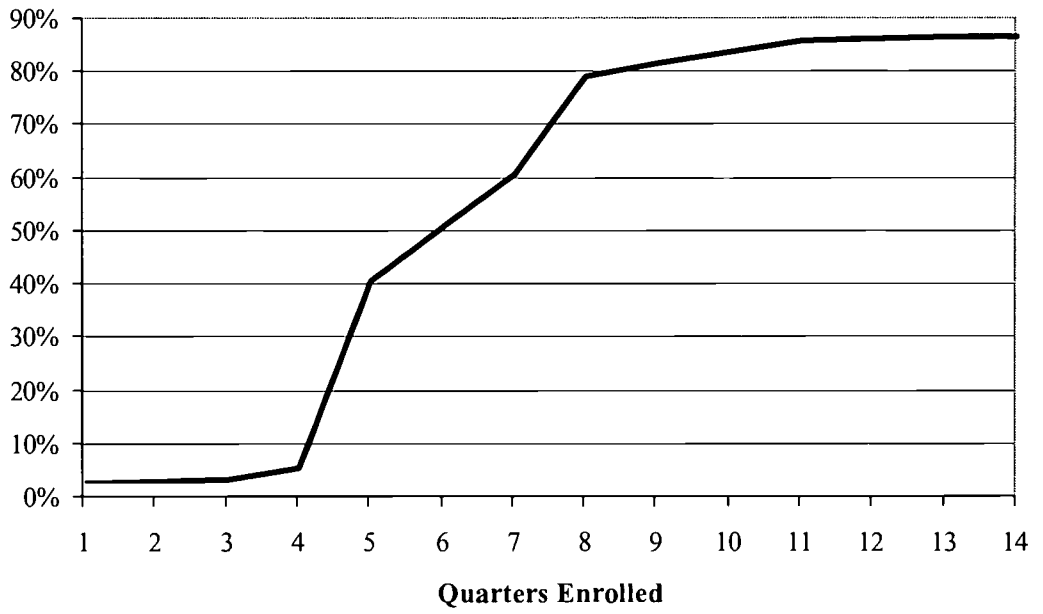


Table 2: Junior Level UC Davis Community College Transfer Enrollment, Persistence, and Graduation (1980-1999)

	Quarters Enrolled														
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
							Graduation Rate (Cumulative)								
80		0%	0%	0%	2%	38%	49%	56%	76%	77%	79%	80%	81%	81%	81%
81		0%	0%	0%	3%	48%	58%	67%	81%	81%	82%	83%	83%	83%	84%
82		0%	0%	1%	3%	40%	50%	60%	75%	76%	78%	79%	79%	79%	79%
83		0%	0%	0%	2%	40%	51%	59%	79%	81%	83%	86%	86%	86%	87%
84		0%	0%	1%	3%	39%	50%	58%	75%	79%	79%	82%	83%	83%	83%
85		0%	0%	0%	2%	39%	46%	56%	74%	76%	79%	80%	82%	82%	82%
86		0%	0%	0%	1%	35%	48%	62%	78%	81%	83%	85%	85%	86%	86%
87		0%	0%	0%	1%	29%	40%	53%	76%	80%	82%	85%	85%	85%	85%
88		0%	0%	0%	2%	31%	41%	52%	76%	80%	82%	84%	85%	85%	85%
89		0%	0%	0%	3%	32%	41%	51%	75%	78%	81%	83%	83%	84%	84%
90		0%	0%	1%	3%	33%	43%	54%	77%	80%	82%	85%	85%	85%	85%
91		0%	0%	1%	5%	41%	52%	65%	80%	82%	84%	85%	86%	86%	86%
92		0%	0%	4%	8%	44%	54%	62%	79%	82%	83%	85%	85%	85%	85%
93		0%	0%	1%	3%	37%	49%	58%	77%	79%	82%	84%	84%	84%	84%
94		0%	0%	1%	3%	39%	49%	60%	78%	81%	83%	85%	86%	86%	86%
95		0%	0%	0%	2%	33%	48%	56%	76%	79%	80%	83%	83%	83%	83%
96		0%	0%	1%	3%	38%	49%	58%	75%	78%	78%	80%	81%		
97		0%	0%	1%	3%	39%	50%	58%	73%	74%					
98		0%	0%	0%	4%	45%	48%								
Average		**0%**	**0%**	**1%**	**3%**	**38%**	**48%**	**58%**	**77%**	**79%**	**81%**	**83%**	**84%**	**84%**	**84%**

Source: Persistence and Graduation Rate Tables (Student Affairs Research and Information, 2000)

Table 3: Comparison of Responses by Transfer and Native Alumni to Selected Baccalaureate Degree Recipients Survey Items

BACK

		Native Students >84 Units										Transfer Students													
	Scale	AGRIC		BIOS		ENGR		L&SC				AGRIC		BIOS		ENGR		L&SC				Group		College	
		Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	F	Sig.	F	Sig.
UC Davis in general	5 VS	4.38	218	4.38	179	4.19	85	4.40	302	4.37	784	4.17	76	4.27	55	3.73	22	4.33	126	4.23	279	14.7	0.000	7.5	0.000
Overall academic experience	5 VS	4.21	217	4.21	179	4.04	85	4.22	302	4.19	783	4.07	75	4.11	55	3.73	22	4.20	127	4.11	279	6.1	0.014	4.4	0.005
Preparation for post-graduate education	5 VW	4.34	71	4.25	96	4.28	25	4.22	120	4.26	312	4.38	16	4.43	28	4.20	5	4.38	50	4.38	99	0.3	0.585	0.1	0.951
Preparation for present position	5 VW	3.84	176	3.89	111	3.87	80	3.71	232	3.80	599	3.79	67	3.53	38	3.64	22	3.83	96	3.75	223	2.2	0.134	0.3	0.842
Satisfaction with current position	5 VS	3.96	181	3.93	114	4.00	81	3.92	237	3.94	613	4.09	70	3.85	39	4.18	22	3.88	99	3.97	230	0.3	0.583	1.3	0.279
Meet with faculty during office hours	4 VO	2.35	212	2.35	175	2.63	80	2.40	296	2.40	763	2.60	75	2.48	54	2.74	19	2.54	118	2.56	266	6.3	0.012	2.0	0.112
Talked with faculty informally out of class	4 VO	1.96	210	1.87	174	2.00	80	2.05	296	1.98	760	2.05	75	2.07	54	2.11	19	2.18	118	2.12	266	3.6	0.057	1.4	0.228
Worked on research or creative projects with faculty	4 VO	1.89	210	2.24	175	1.91	80	1.83	296	1.95	761	2.11	75	2.08	53	2.11	19	1.99	118	2.05	265	1.5	0.226	2.3	0.072
Talked about personal matters with faculty	4 VO	1.41	211	1.38	173	1.26	80	1.41	296	1.39	760	1.53	75	1.43	53	1.32	19	1.56	118	1.51	265	3.2	0.073	2.1	0.102
Sought academic advise from faculty	4 VO	2.15	211	1.99	175	1.95	80	2.14	296	2.09	762	2.23	75	2.02	53	2.26	19	2.26	117	2.20	264	4.2	0.040	2.7	0.047
Discussed graduate schools or career plans with faculty	4 VO	1.88	211	1.95	175	1.65	80	1.89	296	1.88	762	2.04	75	1.91	53	1.63	19	1.91	117	1.93	264	0.2	0.666	2.6	0.050
Preparation received in:																									
Interpersonal skills	4 EX	2.67	208	2.61	165	2.40	83	2.84	282	2.69	738	2.47	72	2.28	50	2.10	21	2.67	113	2.49	256	11.4	0.001	8.9	0.000
Computer skills	4 EX	2.64	213	2.38	160	2.98	83	2.29	277	2.49	733	2.63	73	2.34	50	2.77	22	2.28	108	2.43	253	0.9	0.356	13.1	0.000
Problem-solving skills	4 EX	2.97	216	3.15	177	3.24	84	2.94	289	3.03	766	2.87	77	3.08	53	3.05	22	2.84	124	2.91	276	3.5	0.063	4.8	0.002
Quantitative skills	4 EX	2.89	204	3.03	178	3.17	84	2.71	276	2.89	742	2.99	72	2.96	52	3.20	20	2.65	113	2.85	257	0.0	0.999	11.9	0.000
Research skills	4 EX	3.07	212	3.02	173	2.74	80	2.97	294	2.98	759	3.11	74	3.13	53	2.80	20	3.20	124	3.13	271	2.6	0.110	2.8	0.038
Speaking skills	4 EX	2.48	210	2.44	167	2.46	83	2.55	285	2.50	745	2.55	73	2.24	51	2.00	21	2.58	109	2.45	254	3.7	0.056	4.3	0.005
Writing skills	4 EX	2.90	214	2.92	176	2.65	84	3.14	298	2.97	772	2.96	76	2.80	54	2.23	22	3.23	123	2.99	275	2.3	0.133	19.1	0.000
Leadership skills	4 EX	2.44	200	2.40	164	2.19	79	2.55	275	2.44	718	2.30	71	2.16	49	1.83	18	2.47	111	2.31	249	6.1	0.013	5.7	0.001
Cross-cultural skills	4 EX	2.57	188	2.64	156	2.49	72	2.83	278	2.68	694	2.50	64	2.42	45	2.16	19	2.76	109	2.58	237	4.2	0.040	6.6	0.000
Testing/grading system	5 VS	3.85	213	3.96	180	3.95	85	3.81	298	3.87	776	3.72	74	3.84	55	3.73	22	3.89	125	3.82	276	2.5	0.115	0.7	0.562
Course content in major field	5 VS	3.92	216	4.16	179	3.91	82	4.00	299	4.01	776	3.99	75	4.22	55	3.73	22	4.06	126	4.05	278	0.0	0.997	4.8	0.002
Faculty instruction in major field	5 VS	4.03	216	4.05	180	3.89	84	4.04	301	4.02	781	4.09	76	4.11	55	3.77	22	4.17	127	4.10	280	0.2	0.626	2.3	0.077
TA instruction in major field	5 VS	3.74	217	3.71	179	3.46	83	3.66	301	3.67	780	3.75	76	4.00	55	3.09	22	3.67	127	3.71	280	0.0	0.840	8.1	0.000
Use of info. technology in instruction	5 VS	3.57	216	3.50	179	3.58	83	3.29	301	3.45	779	3.61	76	3.55	55	3.55	22	3.44	126	3.52	279	0.4	0.503	3.4	0.016
Out-of-class availability of instructors	5 VS	3.88	217	3.72	176	3.79	84	3.89	302	3.84	779	3.71	73	3.75	55	3.45	22	3.90	126	3.78	276	2.8	0.097	2.8	0.039
Attitude of faculty toward students	5 VS	3.98	217	3.87	179	3.86	85	3.88	300	3.90	781	4.00	75	3.93	55	3.36	22	4.07	126	3.97	278	0.6	0.436	4.1	0.007
Academic advising	5 VS	3.66	216	3.60	179	3.25	85	3.53	300	3.55	780	3.76	76	3.60	55	3.41	22	3.52	126	3.59	279	0.6	0.459	2.9	0.034
Class size relative to type of course	5 VS	3.56	216	3.26	178	3.47	85	3.54	302	3.47	781	3.61	76	3.25	55	3.64	22	3.54	127	3.51	280	0.4	0.541	3.8	0.010
Availability of courses	5 VS	3.52	217	3.42	180	3.24	84	3.58	300	3.49	781	3.54	76	3.49	55	3.62	21	3.53	127	3.53	279	1.6	0.207	0.6	0.630
Library facilities and services	5 VS	4.28	218	4.32	179	4.02	85	4.29	302	4.26	784	4.28	75	4.38	55	4.00	22	4.42	126	4.34	278	0.6	0.439	5.2	0.001
Computer facilities and services	5 VS	3.86	218	3.93	179	3.53	85	3.73	301	3.79	783	3.66	76	4.09	55	4.00	22	3.82	127	3.84	280	2.9	0.088	3.1	0.028

No interactions were significant (.001).

Note: Scales were VS (very dissatisfied to very satisfied), EX (Poor to Excellent), VO (Never to Very Often), VW (Poorly to Very Well)

Table 4: Comparison of Responses by Transfer and Native Upper Classmen to Selected Undergraduate Survey Items

BACK

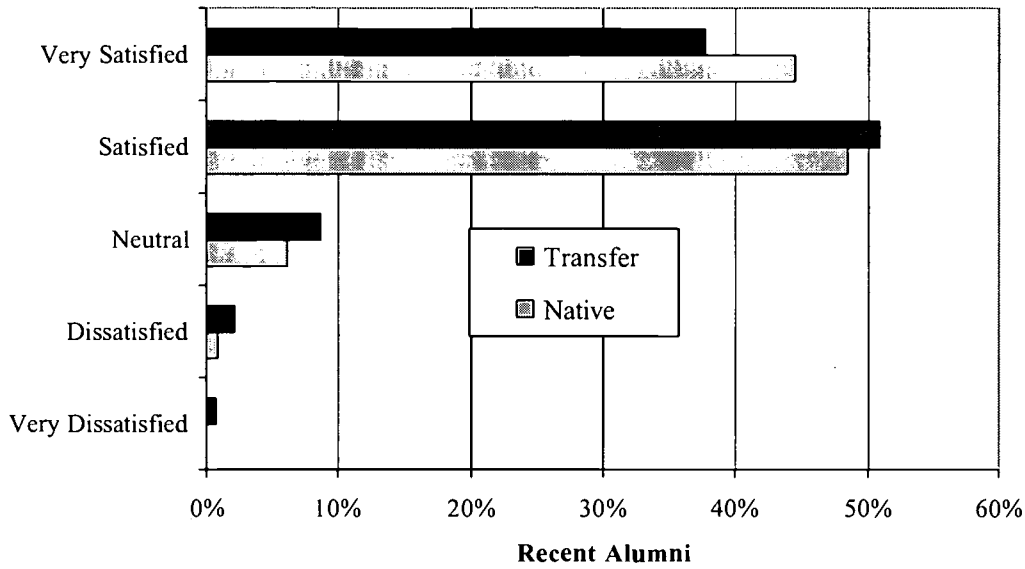
		Native Students >84 Units										Transfer Students													
	Scale	AGRIC		BIOS		ENGR		L&SC				AGRIC		BIOS		ENGR		L&SC				Group		College	
		Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	F	Sig.	F	Sig.
Overall academic experience	5 SAT	3.84	772	3.68	548	3.63	431	3.81	1,120	3.77	2,871	3.72	490	3.51	276	3.42	162	3.76	755	3.67	1,683	21.8	0.000	20.7	0.000
Gotten to know a faculty member well	4 FRQ	1.95	775	1.86	548	1.84	432	1.97	1,120	1.93	2,875	1.89	495	1.88	277	1.87	163	1.96	758	1.92	1,693	0.C	0.848	5.0	0.002
Met with faculty during office hours	4 FRQ	2.20	775	2.20	548	2.31	432	2.28	1,119	2.25	2,874	2.22	497	2.30	276	2.44	161	2.33	757	2.30	1,691	9.4	0.002	8.5	0.000
Talked with faculty informally out of class	4 FRQ	1.88	773	1.82	548	1.83	430	1.94	1,114	1.89	2,865	1.93	496	1.90	278	1.88	162	1.94	759	1.92	1,695	2.9	0.089	3.0	0.029
Worked with faculty on research or creative projects	4 FRQ	1.51	767	1.86	544	1.42	430	1.46	1,107	1.54	2,848	1.49	487	1.63	273	1.47	161	1.42	746	1.48	1,667	4.6	0.032	24.8	0.000
Talked with faculty about personal matters	4 FRQ	1.40	770	1.43	546	1.25	431	1.50	1,116	1.42	2,863	1.36	493	1.43	276	1.29	162	1.42	755	1.39	1,686	1.1	0.300	13.1	0.000
Sought academic advice from faculty	4 FRQ	1.97	771	2.00	545	1.86	430	2.03	1,116	1.98	2,862	2.06	496	2.00	278	1.93	163	2.01	753	2.01	1,690	1.9	0.169	3.0	0.028
Discussed graduate schools or career plans with faculty	4 FRQ	1.71	771	1.84	547	1.53	431	1.81	1,109	1.75	2,858	1.76	491	1.78	276	1.62	161	1.70	751	1.72	1,679	0.1	0.785	9.2	0.000
Worked collaboratively with fellow students on course projects	4 FRQ	2.62	773	2.31	545	2.91	432	2.35	1,114	2.50	2,864	2.40	495	2.11	275	2.92	161	2.18	751	2.30	1,682	25.1	0.000	95.7	0.000
Received prompt feedback from faculty on academic performance	4 FRQ	2.35	759	2.25	522	2.27	420	2.47	1,083	2.36	2,784	2.40	487	2.27	264	2.27	154	2.47	734	2.40	1,639	0.4	0.531	15.9	0.000
Understood that faculty had high expectations for performance	4 FRQ	2.96	758	3.01	533	2.88	426	2.97	1,103	2.96	2,820	3.00	491	3.00	274	2.82	158	3.03	752	3.00	1,675	0.1	0.806	5.2	0.001
Learned in a way that took advantage of your individual talents and style of learning	4 FRQ	2.40	755	2.40	535	2.30	421	2.41	1,097	2.39	2,808	2.32	493	2.27	273	2.39	157	2.36	744	2.34	1,667	2.5	0.111	0.8	0.477
I have developed strong friendships with other students.	5 AGR	4.32	141	4.31	112	4.08	98	4.33	219	4.28	570	3.81	102	3.65	57	3.63	32	3.46	168	3.61	359	67.9	0.000	1.9	0.135
I have developed productive relationships with other students in my major	5 AGR	4.03	143	3.90	110	3.99	97	3.71	218	3.88	568	4	102	3.60	58	3.81	32	3.48	168	3.62	360	8.5	0.004	5.9	0.001
Opportunities for involvement in campus activities	5 SAT	3.74	153	3.63	118	3.41	76	3.58	228	3.61	575	3.35	108	3.46	57	3.48	27	3.18	131	3.31	323	8.6	0.003	1.9	0.131
Your sense of belonging on this campus	5 SAT	3.67	145	3.64	112	3.68	98	3.68	220	3.67	575	3.61	105	3.31	59	3.42	33	3.31	170	3.41	367	12.2	0.000	1.4	0.249
Opportunities for student involvement on University academic and administrative committees	5 SAT	3.48	130	3.38	97	3.29	85	3.42	192	3.41	504	3.37	90	3.18	49	3.00	24	3.20	145	3.23	308	7.4	0.007	2.0	0.111
Overall social and cultural experience	5 SAT	3.69	154	3.46	97	3.51	82	3.62	226	3.60	559	3.51	88	3.35	48	3.36	28	3.48	145	3.46	309	3.3	0.069	1.4	0.244
Concern for students as individuals	5 SAT	3.04	156	3.03	110	3.33	73	3.04	216	3.08	555	3.20	84	3.20	50	3.24	34	3.17	141	3.19	309	1.2	0.265	0.8	0.520
Would you recommend UC Davis to a friend who is seeking a college degree in your major?	5 YorN	4.09	162	4.06	109	4.04	74	3.94	216	4.02	561	3.98	87	3.74	50	3.74	35	3.91	147	3.88	319	6.7	0.010	1.0	0.405
If you could start over again, would you go to UC Davis?	5 YorN	3.87	156	4.05	102	3.80	94	3.89	221	3.90	573	3.87	93	3.96	57	3.69	35	3.79	152	3.83	337	0.9	0.346	1.5	0.201
How would you evaluate your entire educational experience at UC Davis?	4 RAT	3.25	155	3.06	120	2.95	77	3.15	229	3.13	581	2.90	112	2.95	59	3.00	30	2.94	136	2.93	337	7.0	0.008	0.5	0.649
How satisfied are y ou with UC Davis in general?	5 SAT	4.06	154	3.93	99	4.00	84	4.00	224	4.00	561	3.82	92	3.67	49	3.45	29	3.79	146	3.75	316	20.0	0.000	1.6	0.178

There were no significant interaction (<.001).

Note: Response rate is currently at 46% after 4 mailings, but data collection continues. These figures may change.

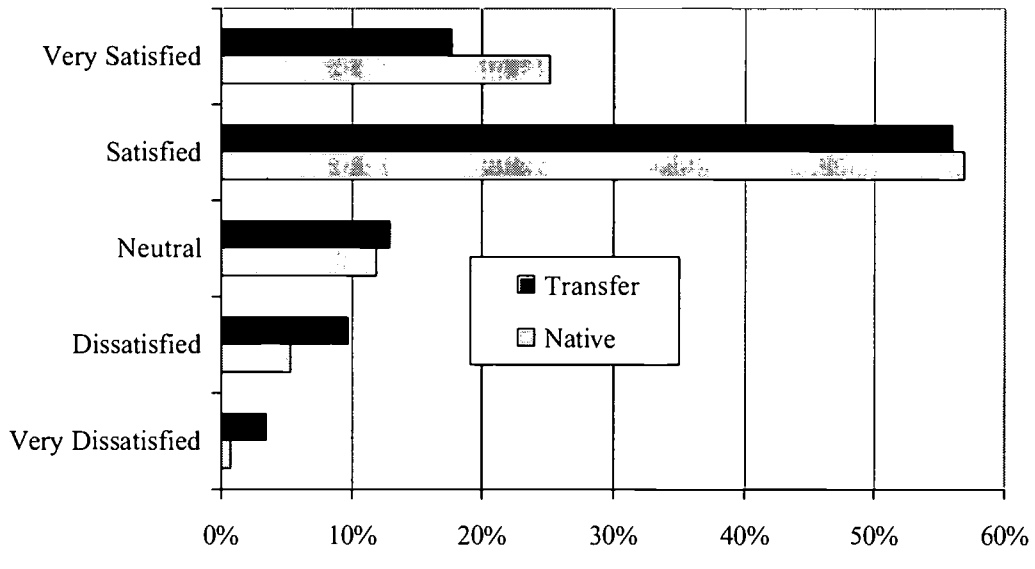
BACK

Figure 3: How satisfied are you now with the following aspects of UC Davis? UC Davis in general



BACK

Figure 4: How satisfied are you with UC Davis in general?



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