Contra Costa Community College District
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BOARDreport

The Governing Board Believes In Open Lines of Communication with Employees and the Community

Contra Costa Community College District
pathways to success

Governing Board Meeting of May 30, 2007

The Contra Costa Community College District (CCCCD) Governing Board met at the George R. Gordon Education Center on May 30, 2007. The regular meeting began with a closed session at 5:00 p.m., followed by an open session at 7:00 p.m. Highlights of the meeting follow:

Accountability Reporting for the Community Colleges (ARCC)

Vice Chancellor Technology Systems Planning and Support Mojdeh Mehdizadeh summarized the attached report. The Accountability Reporting for Community Colleges (ARCC) is the new State-mandated framework to assess the effectiveness of the community college system as a whole and each individual college's progress and achievements. The ARCC indicators are:

- student progress and achievement in degree/certificate/transfer programs;
- student progress and achievement in vocational/occupational/workforce development programs;
- pre-collegiate improvement in basic skills and ESL; and
- statewide participation rates in post-secondary education

New Classification Descriptions

In **Board Report No. 86-A**, the Governing Board approved five new classification descriptions. Three of the classification descriptions are for associate vice chancellor positions (Chief Financial Officer; Human Resources Officer; and Chief Information Officer). The other two classification descriptions approved were: Bond Budget Controls Manager and Director, Facilities Services.

Board Finance Committee

In **Board Report No.87-B**, language describing the composition and term limits for the Board Finance Committee was approved.

Contra Costa College Mission Statement

In **Board Report No. 87-A**, a revised mission statement for Contra Costa College was approved,

Special Board Meeting

A special Board meeting will be held on Tuesday, June 5, 2007, to review and approve the contract for the new president of Diablo Valley College and to amend and approve the contracts for the Contra Costa College and Los Medanos College presidents.

Board Meeting Adjournment

The meeting was adjourned in memory of Kit Delege, a retired bookstore employee from Contra Costa College; Jeanne James, a retired custodial supervisor; and James Ardini, a retired physics instructor, both from Diablo Valley College.

Upon approval at the next regular meeting, complete Governing Board minutes for this meeting will be posted at: http://www.4cd.net/governing_board/minutes06_07.asp.

THE NEXT REGULAR MEETING OF THE GOVERNING BOARD WILL BE HELD ON JUNE 27, 2007, AT 5:00 P.M. AT THE GEORGE R. GORDON EDUCATION CENTER, 500 COURT STREET, MARTINEZ, CALIFORNIA

Contra Costa Community College District

pathways to success

Accountability Reporting for the California Community Colleges (ARCC): Focus on Results

May 2007

Contra Costa Community College District
Presented to the Board of Trustees on
May 30, 2007

TABLE OF CONTENTS

(CCCCD's report has been adapted from the systemwide report. Gaps in the pagination reflect areas of the systemwide report that have been intentionally omitted. To view the entire systemwide report, go to: http://www.cccco.edu/divisions/tris/rp/ab_1417/ARCC_Report_2007.pdf)

College Performance Indicators, Profile Summary, Peer Grouping, and College Responses (Alphabetical by College)

Appendices

Executive Summary

Introduction

In 2004, Assembly Bill 1417 triggered the creation of a performance measurement system for the California Community Colleges (CCC). That legislation and ensuing budget action authorized the California Community Colleges System Office (CCCSO) to design and implement a performance measurement system that contained performance indicators for the system and its colleges. As per Legislative intent, the CCCSO collaborated with the system's colleges and advisory structure, a panel of national experts, the Legislative Analyst's Office, the Department of Finance, and the Secretary of Education to formulate this comprehensive system that has become known as "ARCC" (Accountability Reporting for the Community Colleges). In recognizing that this initial report required the CCCSO to test innovative ideas about performance measurement and to use a massive state database, the CCCSO completed the 2007 ARCC report as a pilot report for the Legislature.

Systemwide Performance

This report will benefit policy makers by detailing many of the critical contributions that the California Community Colleges have made in recent years. The most notable findings at the state level include the following:

- Community college students who earned a vocational degree or certificate saw their wages jump from $25,600 (for the last year before receipt of the award) to $47,571 three years after earning their degree, an increase of 86%.

- A large number of Californians access and use the CCC system; participation rates are high, with 66 out of every 1,000 people in the state enrolled in a CCC in 2005-2006.

- The system enrolls more than one-third of all 18-19 year olds in California, with participation rates of 352.5 per 1,000 for 2005-2006.

- In 2005-2006, the system transferred more than 94,000 students. The California State University (CSU) system continues as the most frequent transfer destination for community college students with the enrollment of 52,642 students from the community colleges. More than 13,000 community college students enrolled in the University of California (UC) system, the state's most selective public higher education system. This figure continues a three-year trend of increasing transfers to the UC system.

- For the first time, we report transfers to in-state-private institutions and all out-of-state institutions, and these account for 15,466 and 12,848 transfers in 2005-2006, respectively.

- In 2005-2006, the system contributed to the state's critical health care labor force, as more than 7,000 students earned degrees or certificates in nursing.

- The system's contribution in 2005-2006 to the state's workforce included more than 63,000 associate degrees and certificates in vocational/occupational areas.

College Level Performance

The bulk of the ARCC report covers each college's performance on six critical indicators. A seventh indicator, which deals with English as a Second Language (ESL), is a prototype here for the final ESL indicator that will appear in the 2008 ARCC report. In addition, the CCCSO and the colleges have begun working on measures of performance in the noncredit curriculum, and the 2008 ARCC report will initiate coverage of this important element of the community college mission.

The table below lists the six indicators for which ARCC has complete data. These numbers are percentages of success among target populations that the colleges and the CCCSO jointly defined. As a quick snapshot of how the system has done on these indicators, this table displays the figures for the year in which the most recent data are available.

College Level Performance Indicator	State Rate
1. Student Progress & Achievement	52.0%
2. Completed 30 or More Units	70.3%
3. Fall to Fall Persistence	69.3%
4. Vocational Course Completion	77.3%
5. Basic Skills Course Completion	60.4%
6. Basic Skills Course Improvement	50.4%

Because the ARCC indicators have unique definitions, we cannot compare these indicators to those generated for other states or by other studies of the California Community Colleges. The evaluation of individual college performance requires the use of the extensive tabulations that we cover next.

Each of the 109 colleges covered in this pilot report has six pages of information to facilitate and stimulate discussions about college performance within each community. In these six pages per college, the report shows (1) the three-year trend for each of the six indicators; (2) the college profile (i.e., its enrollment demographics); (3) a comparison of its performance with a peer group (i.e., colleges that have similar environments that affect an indicator); and (4) a self-assessment by each college. Together, this information provides readers with a fair and comprehensive picture of the achievements at any community college—a picture that simple scorecards or rankings would fail to present.

Introduction to the 2007 ARCC Report

Background

This report on a set of performance indicators for the California Community Colleges (CCC) meets a legislative requirement that resulted from Assembly Bill 1417. The details of the legislation appear in Appendix F of this report. For clarity's sake, we have named this new reporting system *Accountability Reporting for the Community Colleges* (or *ARCC*). As required by the Legislature, the CCC System Office (CCCSO) will produce this report each year and disseminate it so that each college will share it with its local board of trustees. The System Office will also make the report available to state government policymakers and the public at large.

The report's objectives are to make policymakers, local college officials, and elected boards aware of system and college performance in six specific areas of effort and to inform the public about overall system performance. Because the 2007 report is a pilot phase in ARCC, a seventh performance indicator, improvement in ESL (English as a Second Language), will not be usable for evaluation purposes until we have completed the 2008 report. In fact, it will help the reader of this report to remember that the entire 2007 report functions as a pilot phase to prepare the state for the first definitive report in 2008. Joint efforts by the colleges and the System Office are currently under way to improve the quality of the performance data, and many of the colleges will have changes to their data in 2008.

Furthermore, readers will observe that this pilot report omits coverage of noncredit courses. The System Office and the Legislature agree that reporting on noncredit instruction needs further examination, and the 2008 ARCC report will begin to address performance in the area of noncredit instruction as required by Senate Bill 361 (Scott, Statutes of 2006, Chapter 631).

This 2007 report drew upon the contributions of many parties. The framework for ARCC used the expertise of a team of researchers from the Research and Planning Group for the California Community Colleges (i.e., the RP Group), a panel of nationally recognized researchers on college performance, a statewide technical advisory workgroup, and staff at the System Office. We list in Appendix G the individuals who played these important roles in helping to formulate the ARCC.

How to Use This Report

We acknowledge that a variety of people will see this pilot report, and we recognize that these viewers will differ widely in their reading objectives and in their familiarity with the report's topic. With this in mind, we have tried to design the report so that policy makers at both the state and local levels will have a clear presentation of essential performance indicators for the system and for each community college within it. The body of the report emphasizes tables of summary data that provide snapshots of system and college level performance. Readers should read the brief introductions to each of these sections (system and college level) to understand their contents. These introductions cover the framework for ARCC, and they should help most readers to understand the performance indicators cited in this report. Appendix E, which presents a short list of terms and abbreviations, may also help the general reader. However, as we noted earlier, readers should act cautiously with the 2007 report's results, given the pilot nature of this report.

We recognize that researchers, analysts, and college officials will require documentation of the methodology for the performance indicators in this report. Such technical details appear in three of the appendices. Appendix B (methods for calculating the indicators), Appendix C (regression analyses for the peer grouping), and Appendix D (cluster analyses for the peer grouping) specifically address methodological issues, and they tend to require technical knowledge on the part of the reader.

The report's first section covers the system's overall performance over time, and this will help readers to see the broad context of the system's performance. The extensive section that follows system performance lists the community colleges alphabetically and presents six pages of information for each college. The first two pages for each college display how that college performed over time on seven basic indicators. Of the seven indicators shown on these first two pages, we emphasize that the sixth one, the ESL improvement rate, should not be used in any evaluation because of the incomplete information that existed for the ESL indicator during this pilot year. Therefore, year-to-year figures for six of these performance indicators should give readers a good idea of how any given college has done during the past few years, especially in terms of its progress, if any, in areas that are generally recognized as critical in community colleges.

The third and fourth pages for each college display basic demographic data for the college's enrollment. This information will help readers understand the student population served by that college. For many readers, such information can indicate relevant aspects of a college's effectiveness (i.e., who does the college serve?), plus it can provide additional context for the reported performance indicators.

The fifth page for each college shows the "peer grouping" information for the college. On this page, readers will find a comparison of a college's performance on each of the six indicators. For each performance indicator, we have performed a statistical analysis (peer grouping) to identify other California Community Colleges that most closely resemble the college in terms of environmental factors that have linkage to (or association with) the performance indicator. Interested readers should refer to Appendix A to see the names of the colleges that comprise each peer group. We emphasize that the peer group results are rough guides for evaluating college level performance because each college may have unique local factors that we could not analyze statistically for the peer group identification.

In fact, the sixth page for each college shows each college's own self-assessment, and this brief statement from the college administration may note, among other things, such unique factors that our statistical analysis may have missed. Therefore, readers should carefully review this self-assessment because it may help to explain the performance figures for a college.

The best use of this report will require the integration of information from various parts of the report. Judgments about the performance of any particular college should especially pay attention to the sections on year-to-year performance, peer group comparison, enrollment demographics, and the college self-assessment. A focus upon only one of these pieces of information will probably provide an incomplete evaluation of college performance, and this may lead one to make unfair judgments about an institution. Consequently, we hope that users of this report maintain this multi-dimensional viewpoint (from the different report sections) as they draw their conclusions or as they communicate about the report to other people.

Readers should also note that the report refers to the System Office (abbreviated as CCCSO) and to the Chancellor's Office (abbreviated as CCCCO). These titles represent one and the same entity, and staff people have been using the two titles interchangeably in their communications.

Additional information about ARCC is available at the following website:
http://www.cccco.edu/divisions/tris/rp/ab_1417/ab_1417.htm

If you have any questions or comments about the report, please e-mail them to: arcc@cccco.edu.

ARCC 2007 Report: An Introduction to the Systemwide Indicators

The AB 1417 Performance Framework for the California Community Colleges (the March 2005 report to the Legislature pursuant to AB 1417) specified that community college performance data would be aggregated and analyzed at two levels: the individual college level (college core indicators) and across the community college system (systemwide indicators). The Accountability Reporting for the Community Colleges (ARCC) program was developed from the AB 1417 performance framework.

Tables 1 through 17 and Figures 1 through 8 in the following section of the 2007 ARCC report present results for the seven performance indicators chosen for **systemwide** accountability reporting. These performance indicators are organized into four major categories:

- Student Progress and Achievement – Degree/Certificate/Transfer
- Student Progress and Achievement – Vocational/Occupational/Workforce Development
- Pre-Collegiate Improvement – Basic Skills and ESL
- Participation Rates.

The seven performance indicators presented in this section are:

1. The annual number and percentage of baccalaureate students graduating from UC and CSU who attended a California Community College
2. The annual number of Community College transfers to four-year institutions
3. The transfer rate to four-year institutions from the California Community College System
4. The annual number of degrees/certificates conferred by program
5. The increase in total personal income as a result of receiving a vocational degree/certificate
6. The annual number of basic skills improvements
7. Statewide participation rate (by selected demographics).

The time periods and data sources differ across performance indicators so it is important to pay attention to the dates and information specified in the column headings and titles for each table or figure. The Data Source and Methodology for each of the indicators can be found in Appendix B. A brief Results summary immediately follows the table(s) or figure(s) for each indicator.

Note that these systemwide indicators are not simply statewide aggregations of the college level indicators presented elsewhere in this report. Some systemwide indicators cannot be broken down to a college level or do not make sense when evaluated on a college level. For example, students may transfer or attend courses across multiple community colleges during their studies and their performance outcomes must be analyzed using data from several community colleges rather than from an individual college.

ARCC 2007 Report: Systemwide Indicators

Student Progress and Achievement: Degree/Certificate/Transfer

Figure 1:
Annual Number of California State University (CSU) and University of California (UC) Baccalaureate Students from 2000-2001 to 2005-2006 Who Attended a California Community College (CCC)

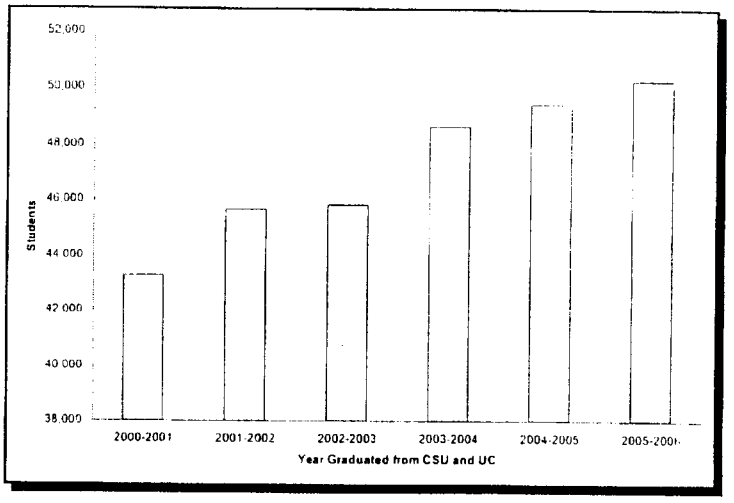


Table 1:
Annual Number of California State University (CSU) and University of California (UC) Baccalaureate Students from 2000-2001 to 2005-2006 Who Attended a California Community College (CCC)

Year Graduated From CSU or UC

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Total BA/BS (CSU & UC)	93,050	96,179	98,837	104,320	107,630	110,990
Total Who Attended CCC	43,253	45,641	45,826	48,657	49,439	50,248
CSU and UC Percent	46.5%	47.5%	46.4%	46.6%	45.9%	45.3%

Table 2:
Annual Number and Percentage of CSU Baccalaureate Students from 2000-2001 to 2005-2006 Who Attended a CCC

Year Graduated From CSU

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Total BA/BS from CSU	59,983	61,463	61,712	65,741	66,768	69,350
Total Who Attended CCC	33,790	35,792	35,315	37,329	37,316	38,365
CSU Percent	59.3%	58.2%	57.2%	56.8%	55.9%	55.3%

Table 3:
Annual Number and Percentage of UC Baccalaureate Students from 2000-2001 to 2005-2006 Who Attended a CCC

Year Graduated From UC

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Total BA/BS from UC	33,067	34,716	37,125	38,579	40,862	41,640
Total Who Attended CCC	9,463	9,849	10,511	11,328	12,123	11,883
UC Percent	28.6%	28.4%	28.4%	29.4%	29.7%	28.5%

Results:

Figure 1 presents an increasing six-year trend of the annual number of California State University (CSU) and University of California (UC) baccalaureate students who attended a California Community College (CCC). Table 1 shows the number of CSU and UC baccalaureate students, and of those, the total who attended a CCC. The table also reflects the percentage of graduates who originally attended a CCC across the six-year period. The percentage slightly decreases in 2002-2003 and 2004-2005. Table 2 displays the annual number and percentage of CSU students and Table 3 portrays the UC students.

For Methodology and Data Source, see Appendix B.

ARCC 2007 Report: Systemwide Indicators

Student Progress and Achievement: Degree/Certificate/Transfer

Figure 2:
Annual Number of California Community College Transfers to Four-Year Institutions from 2000-2001 to 2005-2006

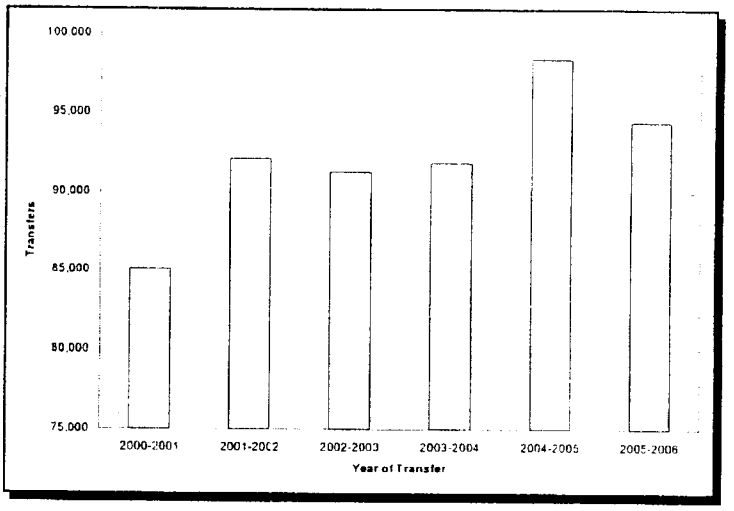


Table 4:
Annual Number of California Community College Transfers to Four-Year Institutions from 2000-2001 to 2005-2006

Year of Transfer

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Total Transfers	85,035	92,082	91,246	91,870	98,414	94,418

Table 5:
Annual Number of California Community College Transfers to California State University (CSU), University of California (UC), In-State Private (ISP) and Out-of-State (OOS) Four-Year Institutions

Year of Transfer

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
CSU	47,900	50,473	50,746	48,321	53,695	52,642
UC	11,215	12,291	12,780	12,580	13,211	13,462
ISP	15,302	17,838	16,548	19,117	18,179	15,466
OOS	10,618	11,480	11,172	11,852	13,329	12,848

Results:

Figure 2 and Table 4 feature the annual number of California Community College (CCC) transfers to four-year institutions across six years. Although there is a general increase over time, the overall number of transfers declines in 2002-2003 and 2005-2006. Table 5 displays the annual number of transfers for four segments: California State University (CSU), University of California (UC), In-State Private (ISP) and Out-of-State (OOS) four-year institutions.

For Methodology and Data Source, see Appendix B.

ARCC 2007 Report: Systemwide Indicators

Student Progress and Achievement: Degree/Certificate/Transfer

Figure 3:
Annual Number of California Community College Transfers to California State University (CSU) from 2000-2001 to 2005-2006

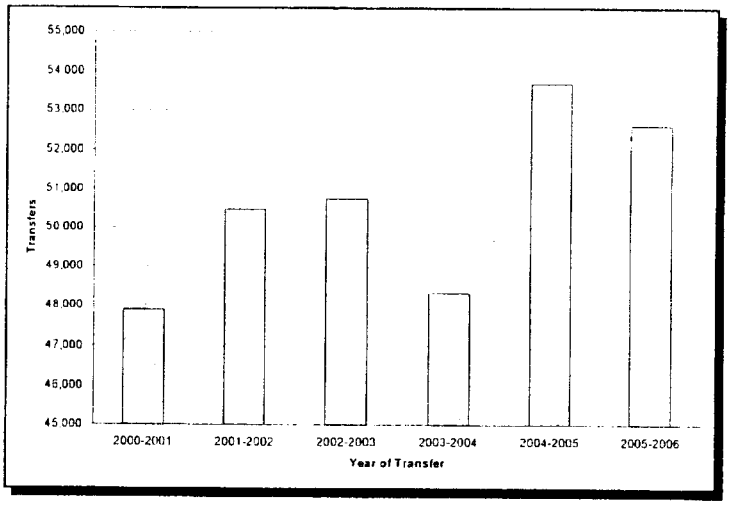


Table 6:
Annual Number of California Community College Transfers to California State University (CSU) from 2000-2001 to 2005-2006

Year of Transfer

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
CSU Transfers	47,900	50,473	50,746	48,321	53,695	52,642

Results:

Figure 3 and Table 6 and display the annual number of California Community College (CCC) transfers to California State University (CSU). The number of transfers increases from 2000-2001 to 2002-2003 before decreasing in 2003-2004. A substantial increase of transfers is evident in 2004-2005 followed by a slight decline in 2005-2006.

For Methodology and Data Source, see Appendix B.

Student Progress and Achievement: Degree/Certificate/Transfer

Figure 4:
Annual Number of California Community College Transfers to the University of California (UC) from 2000-2001 to 2005-2006

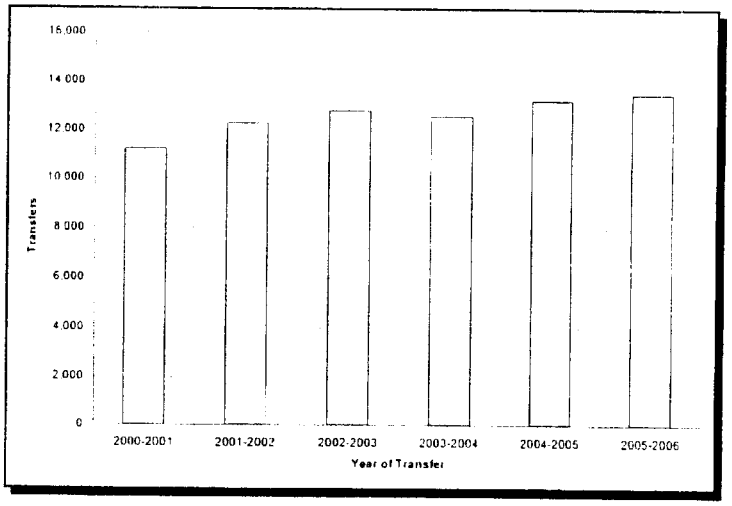


Table 7:
Annual Number of California Community College Transfers to the University of California (UC) from 2000-2001 to 2005-2006

Year of Transfer

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
UC Transfers	11,215	12,291	12,780	12,580	13,211	13,462

Results:

Figure 4 and Table 7 illustrate the annual number of California Community College (CCC) transfers to University of California (UC). With the exception of a slight decrease in 2003-2004, the numbers of transfers increase over the six-year period from 2000-2001 to 2005-2006.

For Methodology and Data Source, see Appendix B.

Student Progress and Achievement: Degree/Certificate/Transfer

Figure 5:
Annual Number of California Community College Transfers to In-State Private (ISP) and Out-of-State (OOS) Four-Year Institutions from 2000-2001 to 2005-2006

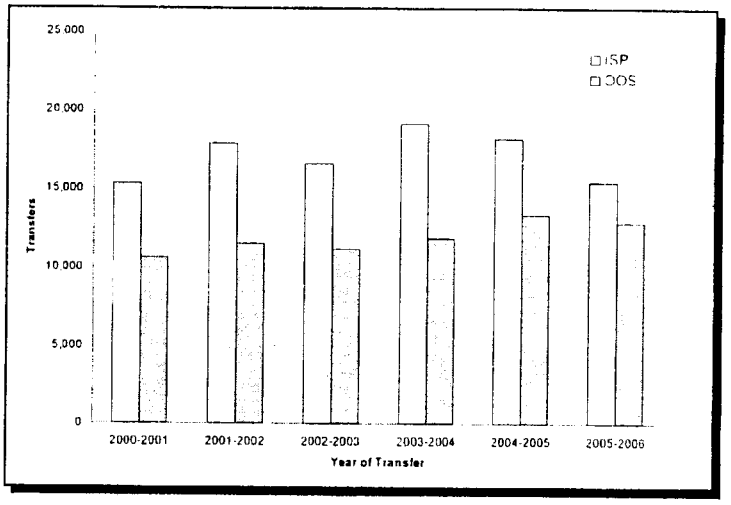


Table 8:
Annual Number of California Community College Transfers to In-State Private (ISP) and Out-of-State (OOS) Four-Year Institutions from 2000-2001 to 2005-2006

Year of Transfer

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
ISP Transfers	15,302	17,838	16,548	19,117	18,179	15,466
OOS Transfers	10,618	11,480	11,172	11,852	13,329	12,848

Results:

The annual number of California Community College (CCC) transfers to In-State Private (ISP) and Out-of-State (OOS) four-year institutions is displayed in Figure 5 and Table 8. The numbers for transfers decline for both segments for the most recent academic year, 2005-2006.

For Methodology and Data Source, see Appendix B.

Student Progress and Achievement: Degree/Certificate/Transfer

Table 9:
Transfer Rate to Four-Year Institutions

Percentage of first time students with a minimum of 12 units earned who attempted transfer-level Math or English during enrollment who transferred to a four-year institution within six years.

	1998-1999 to 2003-2004	1999-2000 to 2004-2005	2000-2001 to 2005-2006
Transfer Rate	40.9%	40.9%	40.7%

Results:

Table 9 reflects the statewide transfer rate to four-year institutions for three different cohorts of first-time students. The cohorts include students with at least 12 units earned who attempted transfer-level Math or English during the six-year enrollment period. The transfer rate is consistent at 40.9% for the 1998-1999 and 1999-2000 cohorts. The rate of transfer to four-year institutions for the 2000-2001 cohort decreased to 40.7%.

For Methodology and Data Source, see Appendix B.

ARCC 2007 Report: Systemwide Indicators

Student Progress and Achievement: Vocational / Occupational / Workforce Development

Table 10: Annual Number of Vocational Awards by Program from 2003-2004 to 2005-2006
(Program Title based on four-digit TOP Code, Alphabetical Order)

Includes Certificates Requiring Fewer Than 18 Units

Program Title	Total Credit Awards			AA/AS Degrees			Certificates (Credit)		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
Accounting	2,308	2,472	2,500	968	1,060	995	1,340	1,412	1,505
Administration of Justice	5,814	5,969	5,612	1,686	1,675	1,736	4,128	4,294	3,876
Aeronautical and Aviation Technology	555	353	383	125	61	59	430	292	324
Agricultural Power Equipment Technology	216	33	39	10	4	11	206	29	28
Agriculture Business, Sales and Service	45	71	44	23	65	38	22	6	6
Agriculture Technology and Sciences, General	45	20	36	35	17	17	10	3	19
Animal Science	467	472	502	273	289	317	194	183	185
Applied Photography	187	174	191	66	65	63	121	109	128
Architecture and Architectural Technology	224	263	304	101	115	129	123	148	175
Athletic Training and Sports Medicine	7	20	25	7	14	18		6	7
Audio/Visual Technician	6						6		
Automotive Collision Repair	91	125	134	3	16	16	88	109	118
Automotive Technology	1,648	1,906	2,071	235	301	300	1,413	1,605	1,771
Aviation and Airport Management and Services	84	168	223	54	112	139	30	56	84
Banking and Finance	61	57	68	31	26	26	30	31	42
Biotechnology and Biomedical Technology	78	132	167	17	38	36	61	94	131
Business Administration		2,288	2,419		1,971	2,129		317	290
Business and Commerce, General	3,666	1,303	1,229	3,095	1,068	984	571	235	245
Business Management	1,595	1,446	1,737	904	767	920	691	679	817
Cardiovascular Technician	92	133	152	30	25	29	62	108	123
Chemical Technology	6	8	15	5	2		1	6	15
Child Development/Early Care and Education	6,597	7,494	7,943	1,783	1,932	1,926	4,814	5,562	6,017
Civil and Construction Management Technology	501	404	416	86	88	82	415	316	334
Commercial Art	43	28	27	31	16	15	12	12	12
Commercial Music	202	257	265	35	44	48	167	213	217
Community Health Care Worker		1	2					1	2
Computer Information Systems		805	612		451	409		344	203
Computer Infrastructure and Support		580	560		223	229		357	331
Computer Software Development	697	551	347	252	219	133	445	332	214

ARCC 2007 Report: Systemwide Indicators

Table 10 *(continued)*

Program Title	Total Credit Awards			AA/AS Degrees			Certificates (Credit)		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
Construction Crafts Technology	846	870	914	76	85	95	770	785	819
Cosmetology and Barbering	1,187	1,409	1,365	46	58	71	1,141	1,351	1,294
Custodial Services	14						14		
Dance			2						2
Dental Occupations	773	817	833	268	314	336	505	503	497
Diagnostic Medical Sonography	48	52	55	15	9	13	33	43	42
Diesel Technology	104	183	195	23	28	43	81	155	152
Digital Media		616	536		229	203		387	333
Drafting Technology	523	540	579	169	171	190	354	369	389
Educational Aide (Teacher Assistant)	92	45	55	24	18	17	68	27	38
Educational Technology			4			2			2
Electro-Diagnostic Technology	36						36		
Electro-Mechanical Technology	20	34	33	4	10	6	16	24	27
Electro-Neurodiagnostic Technology		1	11					1	11
Electrocardiography		14	23					14	23
Electronics and Electric Technology	1,086	891	991	376	314	287	710	577	704
Emergency Medical Services	2,367	2,310	1,895	65	2	2	2,302	2,308	1,893
Engineering Technology, General	32	17	36	21	11	28	11	6	8
Environmental Control Technology (HVAC)	360	359	339	50	57	49	310	302	290
Environmental Technology	404	439	267	18	27	22	386	412	245
Family and Consumer Sciences, General	120	126	108	115	125	108	5	1	
Family Studies		26	16		18	10		8	6
Fashion	333	427	422	100	138	135	233	289	287
Film Studies		62	123		31	72		31	51
Fire Technology	2,591	3,011	2,904	702	830	896	1,889	2,181	2,008
Food Processing and Related Technologies			64			32			32
Forestry	28	31	48	20	19	27	8	12	21
Geography		49	57		12	17		37	40
Gerontology	49	37	45	14	11	15	35	26	30

ARCC 2007 Report: Systemwide Indicators

Table 10 *(continued)*

Program Title	Total Credit Awards			AA/AS Degrees			Certificates (Credit)		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
Graphic Art and Design	656	404	390	240	167	166	416	237	224
Health Information Technology	300	297	278	95	98	90	205	199	188
Health Occupations, General	49	4	9	9	1	2	40	3	7
Health Professions, Transfer Core Curriculum	88	184	150	88	104	146			4
Horticulture	569	499	517	172	138	141	397	361	376
Hospital and Health Care Administration			1						1
Hospital Central Service Technician	18	14	18				18	14	18
Hospitality	278	284	325	100	92	83	178	192	242
Human Services	1,842	1,673	1,639	474	441	462	1,368	1,232	1,177
Industrial Systems Technology and Maintenance	18	58	68	4	15	8	14	43	60
Information Technology, General	1,792	306	218	792	14	6	1,000	292	212
Instrumentation Technology	4	6	3	3	4	1	1	2	2
Interior Design and Merchandising	388	390	432	125	126	149	263	264	283
International Business and Trade	171	151	166	65	62	47	106	89	119
Journalism	76	66	77	57	51	55	19	15	22
Labor and Industrial Relations	18	16	17	3	4	6	15	12	11
Laboratory Science Technology	29	12	20	13	7	11	16	5	9
Legal and Community Interpretation		19	25		3	1		16	24
Library Technician (Aide)	191	174	149	34	33	39	157	141	110
Logistics and Materials Transportation	54	76	60	2	2	1	52	74	59
Manufacturing and Industrial Technology	832	830	831	112	108	121	720	722	710
Marine Technology	50	2	33	4	1	7	46	1	26
Marketing and Distribution	343	273	284	98	83	100	245	190	184
Mass Communications		6	3		6	2			1
Massage Therapy		82	62		11	15		71	47
Medical Assisting	670	949	876	129	135	125	541	814	751
Medical Laboratory Technology	22	16	62	14	9	18	8	7	44
Mortuary Science	78	89	58	14	40	23	64	49	35
Natural Resources	53	46	48	27	30	29	26	16	19

ARCC 2007 Report: Systemwide Indicators

Table 10 *(continued)*

Program Title	Total Credit Awards			AA/AS Degrees			Certificates (Credit)		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
Nursing	6,551	6,859	7,080	4,068	4,342	4,726	2,483	2,417	2,354
Nutrition, Foods, and Culinary Arts	1,028	1,156	1,195	126	143	139	902	1,013	1,056
Occupational Therapy Technology	15	21	21	15	21	21			
Ocean Technology	1	6	9	1	3	4		3	5
Office Technology/Office Computer Applications	2,306	1,774	2,122	612	549	541	1,694	1,225	1,581
Optical Technology			1						1
Orthopedic Assistant	11	8	6	5	4	2	6	4	4
Other Agriculture and Natural Resources	32	9	4	14	4	1	18	5	3
Other Architecture and Environmental Design	10	3	1	1			9	3	1
Other Business and Management	19	176	276	6	113	216	13	63	60
Other Commercial Services	2	44	37				2	44	37
Other Education	189	4	1	81		1	108	4	
Other Engineering and Related Industrial Technologies	155	55	49	73	42	31	82	13	18
Other Family and Consumer Sciences	1						1		
Other Fine and Applied Arts	270	31	15	109	3	1	161	28	14
Other Health Occupations	146	131	104	21			125	131	104
Other Information Technology	1,085	95	96	339		4	746	95	92
Other Media and Communications	218	19	14	50			168	19	14
Other Public and Protective Services	112	52	61	14	1		98	51	61
Paralegal	761	898	885	328	385	396	433	513	489
Paramedic		373	402		85	75		288	327
Pharmacy Technology	155	152	176	42	43	52	113	109	124
Physical Education	1	87	96	1	10	10		77	86
Physical Therapist Assistant	71	76	67	71	76	66			1
Physicians Assistant	68	81	67	4	18	18	64	63	49
Plant Science	23	12	14	20	8	10	3	4	4
Polysomnography		9	1					9	1
Printing and Lithography	77	87	89	18	12	16	59	75	73
Psychiatric Technician	353	475	504	29	41	45	324	434	459

ARCC 2007 Report: Systemwide Indicators

Table 10 *(continued)*

Program Title	Total Credit Awards			AA/AS Degrees			Certificates (Credit)		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
Public Administration	14	31	44	13	9	14	1	22	30
Radiation Therapy Technician		15	9		15	9			
Radio and Television		230	310		125	152		105	158
Radio, Motion Picture, and Television	381			175			206		
Radiologic Technology	534	598	679	315	379	426	219	219	253
Real Estate	463	502	593	109	168	198	354	334	395
Recreation	16		3	12			4		3
Respiratory Care/Therapy	251	420	511	171	275	353	80	145	158
School Health Clerk		2						2	
Sign Language		134	153		64	73		70	80
Special Education	42	32	48	8	8	12	34	24	36
Speech/Language Pathology and Audiology	31	45	55	22	31	37	9	14	18
Surgical Technician	43	36	46	2	5	13	41	31	33
Technical Communication	30	24	18	2	4	4	28	20	14
Technical Theater	43	21	29	14	7	8	29	14	21
Travel Services and Tourism	307	286	257	66	55	48	241	231	209
Viticulture, Enology, and Wine Business		36	28		17	18		19	10
Water and Wastewater Technology	97	98	164	16	31	43	81	67	121
World Wide Web Administration		45	65		16	16		29	49
Total	**60,749**	**61,993**	**63,167**	**21,608**	**22,188**	**23,133**	**39,141**	**39,805**	**40,034**

Results:

Table 10 reflects the breadth of the System's vocational programs. This table shows the numbers of awards issued by 135 vocational programs across the three most recent academic years, organized alphabetically by program title. The columns under "Total Credit Awards" (i.e., columns 2, 3, and 4) are the sums of degrees plus certificates for the specified years. Totals for all programs are presented in the last row of the table. Degrees represent about 36 to 37 percent of the credit awards issued, with certificates making up the remaining 63 to 64 percent.

For Methodology and Data Source, see Appendix B.

ARCC 2007 Report: Systemwide Indicators

Student Progress and Achievement: Vocational / Occupational / Workforce Development

Table 11: "Top 25" Vocational Programs in 2005-2006, by Volume of Total Awards
(Program Title based on four-digit TOP Code)
Includes Certificates Requiring Fewer Than 18 Units

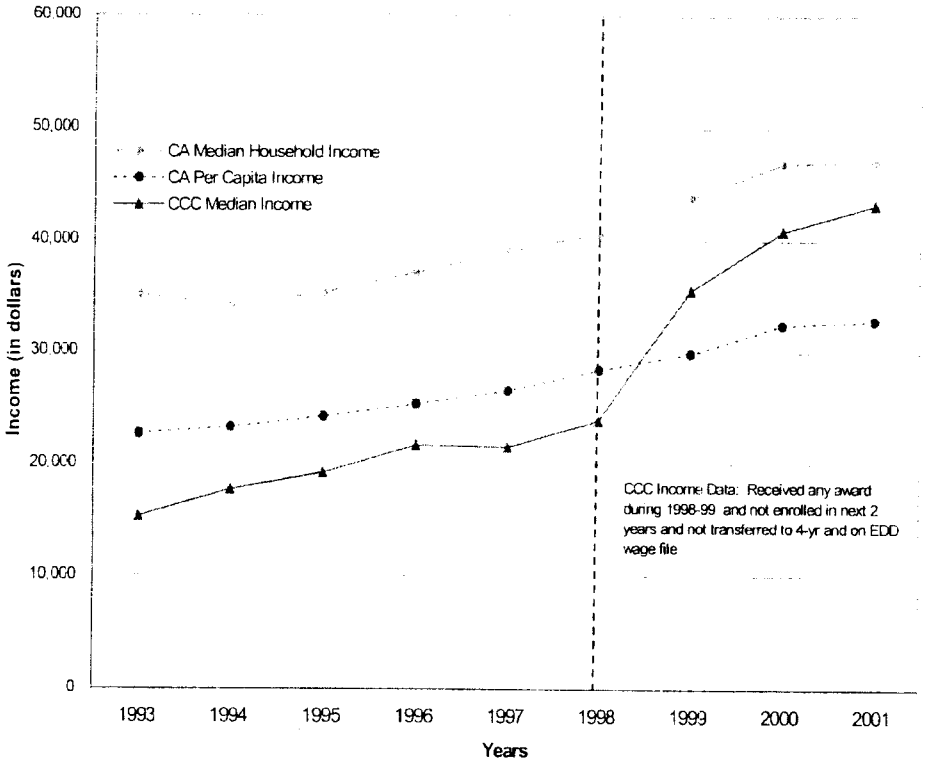
	Program Title	Total Credit Awards 2005-2006	AA/AS Degrees 2005-2006	All Certificates (Credit) 2005-2006
1	Child Development/Early Care and Education	7,943	1,926	6,017
2	Nursing	7,080	4,726	2,354
3	Administration of Justice	5,612	1,736	3,876
4	Fire Technology	2,904	896	2,008
5	Accounting	2,500	995	1,505
6	Business Administration	2,419	2,129	290
7	Office Technology/Office Computer Applications	2,122	541	1,581
8	Automotive Technology	2,071	300	1,771
9	Emergency Medical Services	1,895	2	1,893
10	Business Management	1,737	920	817
11	Human Services	1,639	462	1,177
12	Cosmetology and Barbering	1,365	71	1,294
13	Business and Commerce, General	1,229	984	245
14	Nutrition, Foods, and Culinary Arts	1,195	139	1,056
15	Electronics and Electric Technology	991	287	704
16	Construction Crafts Technology	914	95	819
17	Paralegal	885	396	489
18	Medical Assisting	876	125	751
19	Dental Occupations	833	336	497
20	Manufacturing and Industrial Technology	831	121	710
21	Radiologic Technology	679	426	253
22	Computer Information Systems	612	409	203
23	Real Estate	593	198	395
24	Drafting Technology	579	190	389
25	Computer Infrastructure and Support	560	229	331

Results:

As shown in Table 11, Child Development/Early Care and Education programs issued the highest total number of awards in 2005-2006 (i.e., degrees plus certificates), primarily in the form of certificates. Nursing programs issued the second highest number of awards (degrees plus certificates), followed by Administration of Justice programs. The highest number of AA/AS degrees was issued in Nursing, followed by Business Administration.

For Methodology and Data Source, see Appendix B.

Figure 6: Income Trend for Students Attaining Degree or Certificate in 1998-1999 (N = 4,253)



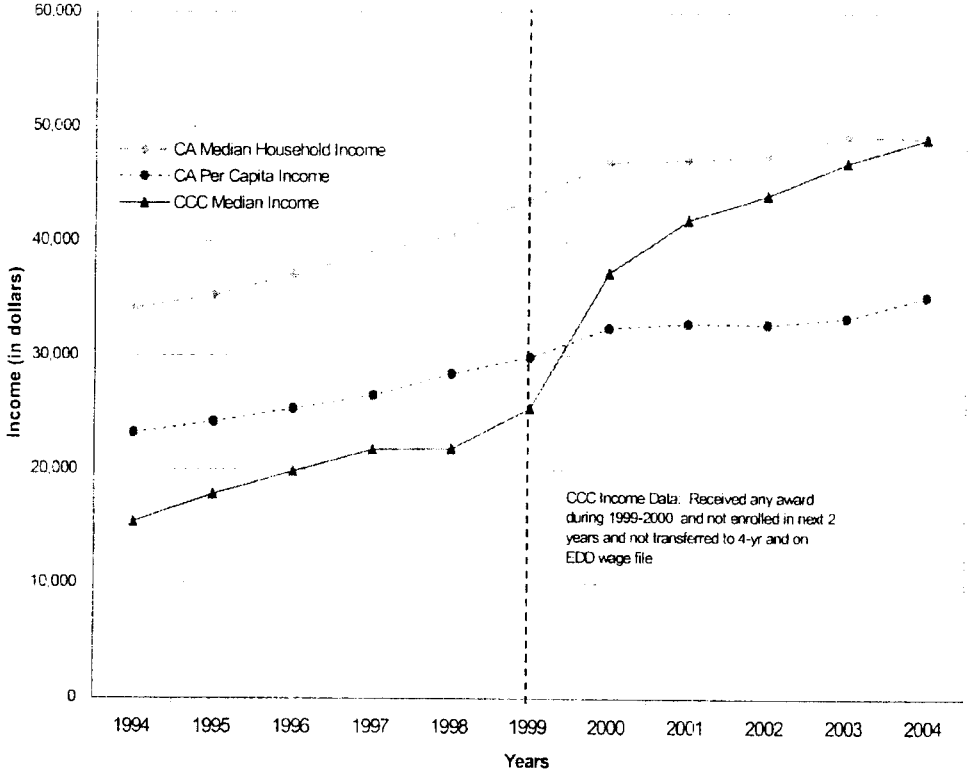
	1993	1994	1995	1996	1997	1998	1999	2000	2001
CA Median Household Income	35,100	34,100	35,300	37,100	39,000	40,600	43,800	46,900	47,177
CA Per Capita Income	22,635	23,203	24,161	25,312	26,490	28,374	29,828	32,463	32,882
CCC Median Income	15,337	17,715	19,188	21,626	21,464	23,841	35,565	40,850	43,206

Results:

The trend lines for CCC Median Income in Figures 6, 7, and 8 suggest that students receiving awards from community college programs generally experience wage gains in the years following vocational award attainment for which wage data are available. While there are several important caveats to the CCC Median Income trends shown in these figures, the lines indicate a noticeable "jump" in median income that occurs following receipt of an award. This "jump" takes place for all three wage cohorts (1998-1999, 1999-2000 and 2000-2001). The wage trends continue at that higher level across the years for which we have post-award wage data. We include trend lines for California Median Household Income and California Per Capita Income to provide additional perspective on wage gains following award attainment. The award year for each cohort is indicated by the dashed vertical line in each figure.

For Methodology and Data Source, see Appendix B.

Figure 7: Income Trend for Students Attaining Degree or Certificate in 1999-2000 (N = 4,127)



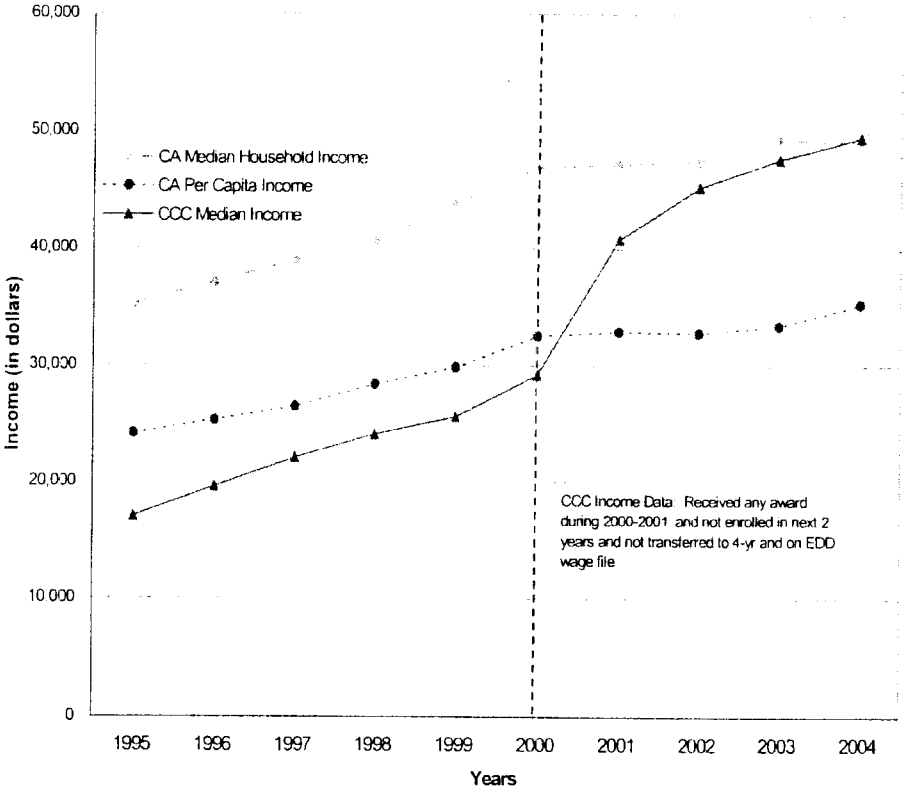
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CA Median Household Income	34,100	35,300	37,100	39,000	40,600	43,800	46,900	47,177	47,500	49,320	49,185
CA Per Capita Income	23,203	24,161	25,312	26,490	28,374	29,828	32,463	32,882	32,803	33,406	35,278
CCC Median Income	15,378	17,840	19,824	21,750	21,797	25,360	37,287	41,925	44,084	46,955	49,083

Results:

The trend lines for CCC Median Income in Figures 6, 7, and 8 suggest that students receiving awards from community college programs generally experience wage gains in the years following vocational award attainment for which wage data are available. While there are several important caveats to the CCC Median Income trends shown in these figures, the lines indicate a noticeable "jump" in median income that occurs following receipt of an award. This "jump" takes place for all three wage cohorts (1998-1999, 1999-2000 and 2000-2001). The wage trends continue at that higher level across the years for which we have post-award wage data. We include trend lines for California Median Household Income and California Per Capita Income to provide additional perspective on wage gains following award attainment. The award year for each cohort is indicated by the dashed vertical line in each figure.

For Methodology and Data Source, see Appendix B.

Figure 8: Income Trend for Students Attaining Degree or Certificate in 2000-2001 (N = 4,853)



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CA Median Household Income	35,300	37,100	39,000	40,600	43,800	46,900	47,177	47,500	49,320	49,185
CA Per Capita Income	24,161	25,312	26,490	28,374	29,828	32,463	32,882	32,803	33,406	35,278
CCC Median Income	17,059	19,591	22,094	24,099	25,600	29,211	40,845	45,284	47,571	49,534

Results:

The trend lines for CCC Median Income in Figures 6, 7, and 8 suggest that students receiving awards from community college programs generally experience wage gains in the years following vocational award attainment for which wage data are available. While there are several important caveats to the CCC Median Income trends shown in these figures, the lines indicate a noticeable "jump" in median income that occurs following receipt of an award. This "jump" takes place for all three wage cohorts (1998-1999, 1999-2000 and 2000-2001). The wage trends continue at that higher level across the years for which we have post-award wage data. We include trend lines for California Median Household Income and California Per Capita Income to provide additional perspective on wage gains following award attainment. The award year for each cohort is indicated by the dashed vertical line in each figure.

For Methodology and Data Source, see Appendix B.

Pre-Collegiate Improvement: Basic Skills and ESL

Table 12: Annual Number of Credit Basic Skills Improvements

The number of students completing coursework at least one level above their prior basic skills enrollment within the three-year cohort period.

	2001-2002 to 2003-2004	2002-2003 to 2004-2005	2003-2004 to 2005-2006
Number of Students	124,362	128,408	125,670

Results:

As Table 12 indicates, the statewide annual number of students completing credit coursework at least one level above their prior credit basic skills enrollment coursework peaked for the middle cohort (2002-2003 to 2004-2005), but declined by 2,738 students for the latest cohort (2003-2004 to 2005-2006).

For Methodology and Data Source, see Appendix B

ARCC 2007 Report: Systemwide Indicators

Participation Rates

Table 13:
Systemwide Participation Rate Per 1,000 Population

	2003-2004	2004-2005	2005-2006
Systemwide Participation Rate	67.7	66.0	66.2

Table 14:
Participation Rates by Age Group Per 1,000 Population

	2003-2004	2004-2005	2005-2006
Under 18	14.5	14.1	15.5
18 to 19	354.7	353.5	352.5
20 to 24	257.3	252.5	248.5
25 to 29	124.4	121.6	122.1
30 to 34	79.5	75.8	75.2
35 to 39	62.0	59.5	59.6
40 to 49	52.2	49.0	48.2
50 to 64	35.5	33.7	34.0

Table 15:
Participation Rates by Gender Per 1,000 Population

	2003-2004	2004-2005	2005-2006
Female	75.9	73.9	73.7
Male	59.5	58.1	58.6

Table 16:
Participation Rates by Ethnicity Per 1,000 Population

	2003-2004	2004-2005	2005-2006
Asian	95.7	91.1	89.4
Black/African American	75.0	74.1	74.5
Hispanic	55.1	54.0	54.3
Native American	85.0	77.3	72.1
Pacific Islander	128.3	125.2	126.7
White	58.2	56.3	56.4

Results:

These participation rates show how the community colleges provide access to higher education for all segments of the state's population. The participants include substantial numbers from all categories of age, gender, and race/ethnicity.

For Methodology and Data Source, see Appendix B.

Participation Rates

Table 17: Participation Rates by Age, Gender, and Ethnicity Per 1,000 Population

Age	Gender	Ethnicity	2003-2004	2004-2005	2005-2006
Under 18	Female	Asian	30.6	30.3	33.3
Under 18	Female	Black/African American	16.5	16.9	19.3
Under 18	Female	Hispanic	8.8	9.4	10.8
Under 18	Female	Native American	18.5	17.1	17.2
Under 18	Female	Pacific Islander	29.6	28.0	31.0
Under 18	Female	White	17.5	16.5	17.3
Under 18	Male	Asian	24.7	24.8	27.0
Under 18	Male	Black/African American	12.4	11.8	13.8
Under 18	Male	Hispanic	6.6	6.9	7.9
Under 18	Male	Native American	13.3	12.8	12.2
Under 18	Male	Pacific Islander	24.2	21.9	24.4
Under 18	Male	White	13.4	12.2	12.6
18 to 19	Female	Asian	525.9	508.8	503.7
18 to 19	Female	Black/African American	374.4	374.9	372.8
18 to 19	Female	Hispanic	311.9	314.8	315.2
18 to 19	Female	Native American	366.7	354.1	331.8
18 to 19	Female	Pacific Islander	809.6	796.4	802.0
18 to 19	Female	White	367.0	358.4	348.2
18 to 19	Male	Asian	484.2	477.5	477.0
18 to 19	Male	Black/African American	306.0	310.0	317.2
18 to 19	Male	Hispanic	245.5	249.8	257.7
18 to 19	Male	Native American	288.5	272.1	253.8
18 to 19	Male	Pacific Islander	702.0	763.9	812.0
18 to 19	Male	White	312.0	309.9	305.2

Table 17 *(continued)*

Age	Gender	Ethnicity	2003-2004	2004-2005	2005-2006
20 to 24	Female	Asian	415.1	401.6	388.3
20 to 24	Female	Black/African American	290.0	286.0	274.6
20 to 24	Female	Hispanic	217.5	215.6	213.5
20 to 24	Female	Native American	296.2	267.2	235.3
20 to 24	Female	Pacific Islander	510.3	504.0	505.6
20 to 24	Female	White	273.2	266.3	256.2
20 to 24	Male	Asian	374.0	361.4	352.1
20 to 24	Male	Black/African American	219.1	210.2	203.8
20 to 24	Male	Hispanic	157.5	156.6	160.1
20 to 24	Male	Native American	231.8	205.5	192.3
20 to 24	Male	Pacific Islander	477.5	469.9	477.5
20 to 24	Male	White	234.7	229.1	223.1
25 to 29	Female	Asian	196.9	188.0	184.3
25 to 29	Female	Black/African American	185.0	184.9	176.6
25 to 29	Female	Hispanic	107.5	104.1	104.7
25 to 29	Female	Native American	194.8	174.1	169.3
25 to 29	Female	Pacific Islander	210.5	207.5	200.5
25 to 29	Female	White	127.0	126.0	128.4
25 to 29	Male	Asian	157.8	145.5	138.4
25 to 29	Male	Black/African American	116.2	117.0	114.7
25 to 29	Male	Hispanic	77.4	74.6	75.5
25 to 29	Male	Native American	159.6	143.7	126.1
25 to 29	Male	Pacific Islander	193.8	175.4	178.6
25 to 29	Male	White	106.1	106.3	109.2

Table 17 *(continued)*

Age	Gender	Ethnicity	2003-2004	2004-2005	2005-2006
30 to 34	Female	Asian	123.4	115.3	111.1
30 to 34	Female	Black/African American	128.0	124.5	123.1
30 to 34	Female	Hispanic	73.4	70.3	68.8
30 to 34	Female	Native American	123.3	116.8	104.0
30 to 34	Female	Pacific Islander	121.7	119.0	120.3
30 to 34	Female	White	75.8	72.3	71.2
30 to 34	Male	Asian	87.9	80.2	77.2
30 to 34	Male	Black/African American	78.9	76.1	78.6
30 to 34	Male	Hispanic	50.1	48.5	49.3
30 to 34	Male	Native American	109.6	100.0	98.3
30 to 34	Male	Pacific Islander	113.5	108.4	110.2
30 to 34	Male	White	61.5	59.5	59.9
35 to 39	Female	Asian	90.5	86.6	85.0
35 to 39	Female	Black/African American	102.3	99.3	100.4
35 to 39	Female	Hispanic	60.3	57.4	55.6
35 to 39	Female	Native American	91.9	89.9	88.7
35 to 39	Female	Pacific Islander	87.4	79.1	86.1
35 to 39	Female	White	60.9	58.3	58.3
35 to 39	Male	Asian	57.4	53.2	53.4
35 to 39	Male	Black/African American	58.7	58.6	61.3
35 to 39	Male	Hispanic	39.6	37.6	37.4
35 to 39	Male	Native American	78.0	75.4	79.0
35 to 39	Male	Pacific Islander	87.2	78.9	86.1
35 to 39	Male	White	45.4	44.5	45.9

Table 17 *(continued)*

Age	Gender	Ethnicity	2003-2004	2004-2005	2005-2006
40 to 49	Female	Asian	70.6	65.7	63.5
40 to 49	Female	Black/African American	82.6	78.0	75.7
40 to 49	Female	Hispanic	51.0	48.1	46.8
40 to 49	Female	Native American	81.7	71.5	62.5
40 to 49	Female	Pacific Islander	73.9	69.6	70.2
40 to 49	Female	White	55.2	51.0	50.0
40 to 49	Male	Asian	41.1	37.3	35.6
40 to 49	Male	Black/African American	48.6	48.3	49.1
40 to 49	Male	Hispanic	31.0	29.5	29.5
40 to 49	Male	Native American	67.5	58.1	54.2
40 to 49	Male	Pacific Islander	66.5	60.9	57.7
40 to 49	Male	White	35.8	33.8	33.6
50 to 64	Female	Asian	44.3	41.6	41.6
50 to 64	Female	Black/African American	43.7	42.3	42.8
50 to 64	Female	Hispanic	29.3	28.4	27.9
50 to 64	Female	Native American	54.8	48.6	45.7
50 to 64	Female	Pacific Islander	43.8	38.2	36.9
50 to 64	Female	White	39.1	37.0	37.3
50 to 64	Male	Asian	29.0	26.7	26.0
50 to 64	Male	Black/African American	29.4	28.7	30.6
50 to 64	Male	Hispanic	18.3	17.8	17.9
50 to 64	Male	Native American	40.7	36.6	34.5
50 to 64	Male	Pacific Islander	36.2	38.0	34.7
50 to 64	Male	White	24.4	22.9	23.1

Results:

For Methodology and Data Source, see Appendix B.

ARCC 2007 Report: An Introduction to the College Level Indicators

The *AB 1417 Performance Framework for the California Community Colleges* (the March 2005 report to the Legislature pursuant to AB 1417) specified that community college performance data would be aggregated and analyzed at two levels: the individual college level (college core indicators) and across the community college system (systemwide indicators). The Accountability Reporting for the Community Colleges (ARCC) program was developed from the AB 1417 performance framework.

The following section of the 2007 ARCC report presents results for the performance indicators chosen for **college level** accountability reporting, accompanied by the college self-assessment. Colleges are organized alphabetically (by college name). However, colleges that have "College of the..." in their titles will be found under "C."

Results for each college are presented in Tables 1.1 to 1.10. The methodology for performance indicators and college profile demographics is found in Appendix B. Appendix C specifies the uncontrollable variables and regression methodology. A list of the peer groups appears in Appendix A. Finally, Appendix D contains the methodology for peer grouping.

Tables 1.1 to 1.10 are organized under three main categories: College Performance Indicators, College Profile Summaries, and College Peer Grouping. College Performance Indicators are further categorized as Degree/Certificate/Transfer, Vocational/Occupational/Workforce Development, and Pre-Collegiate Improvement (Basic Skills and ESL).

The tables present the following data for each college:

1. Student Progress and Achievement Rate
2. Percent of Students Who Earned at Least 30 Units
3. Persistence Rate
4. Annual Successful Course Completion Rate for Credit Vocational Courses
5. Annual Successful Course Completion Rate for Credit Basic Skills Courses
6. Improvement Rates for Credit ESL Courses
7. Improvement Rates for Credit Basic Skills Courses
8. College profile summaries (e.g., headcounts, percentages of student enrollments by various demographics)
9. Summary of the college's peer groups for each indicator

For some performance indicators, a few colleges will lack a peer group. This is indicated by missing values in Table 1.10. Also, for some colleges, there may be a peer group but no figure for a particular indicator. Both situations occurred in the ARCC peer grouping analysis as a result of insufficient data at the time of this report's release. Naturally, some of these situations relate to newly established colleges that lack the operating history to produce sufficient data for the ARCC analyses.

The individual College Self-Assessment is included on the page that immediately follows Table 1.10 (College Peer Grouping).

This college level section includes data for each of the 109 colleges in the system at the time of this report, although data for some earlier time periods may be missing for the newer colleges. Most of the college level tables include data for the three most recent academic years (2003-04, 2004-05, and 2005-06); however, the time periods may differ for a few of the indicators. Thus, it is important to note the years specified in the titles or column headings for the tables.

Please note the following about the data for improvement rates for ESL courses: Different methods of ESL course coding across colleges and anomalies in the existing ESL data mean that ESL data lack reliability. **Thus, ESL improvement rates presented in this report are shown only to illustrate how future tables will appear.** For example, ESL improvement rate data are missing for several of the colleges. This is more likely due to ESL course coding rather than to the absence of ESL courses. Planned data quality checks and future coding changes should improve this metric for analysis and inclusion in future ARCC reports.

Because analysts of state level policy often need to know how the entire system has performed on specific indicators, we report the total system rates on the ARCC college level indicators in the table below. The rates in this table use the total number of students in the state that qualified for a specific cohort as the denominator. The numerator likewise uses the total number of outcomes in the state. Analysts should avoid using the rates in this table to evaluate the performance of an individual college because these overall rates ignore the local contexts that differentiate the community colleges. Evaluation of individual college performance should focus upon the college level information that appears on the separate pages that follow. On those pages, Tables 1.1 to 1.10 for each college and the college's self-assessment explicitly enable analysts to evaluate a college in an equitable manner.

College Level Performance Indicator	State Rate
1. Student Progress & Achievement (2000-01 to 2005-06)	52.0%
2. Completed 30 or More Units (2000-01 to 2005-06)	70.3%
3. Fall to Fall Persistence (Fall 2004 to Fall 2005)	69.3%
4. Vocational Course Completion (2005-06)	77.3%
5. Basic Skills Course Completion (2005-06)	60.4%
6. Basic Skills Course Improvement (2003-04 to 2005-06)	50.4%

ARCC 2007 Report: College Level Indicators

Contra Costa College

Contra Costa Community College District

College Performance Indicators

Student Progress and Achievement: Degree/Certificate/Transfer

Table 1.1: Student Progress and Achievement Rate

Percentage of first-time students who showed intent to complete and who achieved any of the following outcomes within six years: Transferred to a four-year college; or earned an AA/AS; or earned a Certificate (18 units or more); or achieved "Transfer Directed" status; or achieved "Transfer Prepared" status. (See explanation in Appendix B.)

	1998-1999 to 2003-2004	1999-2000 to 2004-2005	2000-2001 to 2005-2006
Student Progress and Achievement Rate	46.4%	44.8%	50.4%

Table 1.1a: Percent of Students Who Earned at Least 30 Units

Percentage of first-time students who showed intent to complete and who earned at least 30 units while in the California Community College System. (See explanation in Appendix B.)

	1998-1999 to 2003-2004	1999-2000 to 2004-2005	2000-2001 to 2005-2006
Percent of Students Who Earned at Least 30 Units	64.5%	64.8%	67.1%

Table 1.2: Persistence Rate

Percentage of first-time students with a minimum of six units earned in a Fall term and who returned and enrolled in the subsequent Fall term anywhere in the system. (See explanation in Appendix B.)

	Fall 2002 to Fall 2003	Fall 2003 to Fall 2004	Fall 2004 to Fall 2005
Persistence Rate	59.6%	62.4%	66.4%

ARCC 2007 Report: College Level Indicators

Contra Costa College

Contra Costa Community College District

College Performance Indicators

Student Progress and Achievement: Vocational/Occupational/Workforce Development

Table 1.3: Annual Successful Course Completion Rate for Credit Vocational Courses

See explanation in Appendix B.

	2003-2004	2004-2005	2005-2006
Annual Successful Course Completion Rate for Vocational Courses	73.0%	71.5%	72.4%

Pre-Collegiate Improvement: Basic Skills and ESL

Table 1.4: Annual Successful Course Completion Rate for Credit Basic Skills Courses

See explanation in Appendix B.

	2003-2004	2004-2005	2005-2006
Annual Successful Course Completion Rate for Basic Skills Courses	51.0%	58.4%	58.5%

Table 1.5: Improvement Rates for ESL and Credit Basic Skills Courses

See explanation in Appendix B.

	2001-2002 to 2003-2004	2002-2003 to 2004-2005	2003-2004 to 2005-2006
ESL Improvement Rate *	31.3%	8.6%	12.3%
Basic Skills Improvement Rate	40.1%	39.9%	39.6%

* Based on inter-institutional differences in the coding of data from ESL programs and other anomalies in the existing ESL data, the ESL Improvement Rates presented in this table lack reliability, and, therefore, rates are shown only for illustrative purposes. Planned changes to data coding, among other strategies, should improve the quality of this indicator in future ARCC reports.

ARCC 2007 Report: College Level Indicators

Contra Costa College

Contra Costa Community College District

College Profile

Table 1.6:
Annual Unduplicated Headcount and Full-Time Equivalent Students (FTES)

	2003-2004	2004-2005	2005-2006
Annual Unduplicated Headcount	13,651	13,083	13,025
FTES*	5,808	5,360	5,865

Source: Chancellor's Office, Management Information Systems and 320 Report

*FTES data for 2003-2004 and 2004-2005 are based on the FTES recalculation. FTES data for 2005-2006 are based on the FTES annual data. The 2005-2006 recalculation data were not available at the time of this report.

Table 1.7:
Age of Students at Enrollment

	2003-2004	2004-2005	2005-2006
Under 18	11.1%	11.4%	10.7%
18 - 24	36.7%	38.0%	38.3%
25 - 49	38.2%	37.2%	37.1%
Over 49	13.7%	13.0%	13.6%
Unknown	0.4%	0.4%	0.3%

Source: Chancellor's Office, Management Information Systems

Table 1.8:
Gender of Students

	2003-2004	2004-2005	2005-2006
Female	59.4%	58.5%	59.0%
Male	35.4%	34.9%	34.8%
Unknown	5.1%	6.6%	6.2%

Source: Chancellor's Office, Management Information Systems

Contra Costa College

Contra Costa Community College District

College Profile

Table 1.9:
Ethnicity of Students

	2003-2004	2004-2005	2005-2006
Asian	13.6%	13.5%	13.9%
Black/African American	26.8%	27.4%	27.3%
Filipino	6.6%	6.6%	6.8%
Hispanic	25.5%	25.8%	25.0%
Native American	0.5%	0.4%	0.5%
Other Non-White	2.6%	3.0%	3.1%
Pacific Islander	0.8%	0.9%	0.6%
White	18.7%	17.7%	17.5%
Unknown/Decline to State	4.9%	4.7%	5.3%

Source: Chancellor's Office, Management Information Systems

ARCC 2007 Report: College Level Indicators

Contra Costa College

Contra Costa Community College District

College Peer Grouping

Table 1.10: Peer Grouping

	Indicator	College's Rate	Peer Group Average	Peer Group Low	Peer Group High	Peer Group
A	Student Progress and Achievement Rate	50.4	45.9	30.3	53.3	*A1*
B	Percent of Students Who Earned at Least 30 Units	67.1	69.3	55.6	78.6	*B2*
C	Persistence Rate	66.4	66.6	52.1	78.9	*C2*
D	Annual Successful Course Completion Rate for Credit Vocational Courses	72.4	73.8	66.2	85.6	*D1*
E	Annual Successful Course Completion Rate for Credit Basic Skills Courses	58.5	62.2	51.3	73.0	*E2*
F	Improvement Rate for Credit Basic Skills Courses	39.6	50.9	39.6	57.1	*F3*

Note: Please refer to Appendix B for the specifications of these rates. The technical details of the peer grouping process are available in Appendix D.

ARCC 2007 Report: College Level Indicators

Contra Costa College

Contra Costa Community College District

College Self-Assessment

Contra Costa College (CCC), the oldest of the three campuses of the Contra Costa Community College District (CCCCD), has as its service area the western part of the county and is located within the cities of Richmond and San Pablo.

The college's student profile is highly diverse with 27% African American, 25% Hispanic, 21% Asian and 17% Caucasian and the remainder Pacific Islander/Native American or unknown. The proportion of enrollment of all these ethnicities matches or slightly exceeds that of the western part of the county while the Caucasion student population is significantly less. Population growth in the service area will remain stable with a slight increase from Hispanics and Asians. Many residents have special needs including English language acquisition and financial aid.

Public high school graduates from West County represent the smallest percent of students in the county to continue furthering their education. Through our outreach efforts we have been able to increase the percentage of these students coming to the college by 5% since 2001. Our students bring with them some of the lowest Academic Preparedness Index (API) scores in the State. Though the college receives students with lower API scores it repeatedly transfers students within the median of the entire 109 colleges in the system.

The college either exceeds or is in the upper percentile of four of the six performance indicators. The college was above average, compared by peer review in:
1. Student progress and achievement rate (significant improvement in last three years).
2. Percent of students who earned at least 30 units (significant improvement in last three years).
3. Percent of students who earned at least 30 units (significant improvement in last three years).
4. Annual successful course completion rate for credit vocational courses.

The college has made efforts to improve successful course completion and retention in basic skills. Basic skills courses were organized into one department with a single focus- serving students who need assistance in improving English and math. The college also received a Title III grant that created a computerized intervention model integrating counselors and faculty to support students who are identified as at risk. The grant also provides for supplemental instruction. These efforts have resulted in improvement in retention and success. The college still faces low rates of movement from basic skills courses to college level compared with other peer colleges.

The college is developing an educational and facilities master plan as well as updating its strategic plan. Strategies addressing performance indicators affecting student persistence, success and the attainment of student goals will be included. Ongoing improvements to courses and programs that are the result of the college's student learning outcomes effort further improves a student's opportunity to succeed. The colleges' facility modernization will upgrade the ability to deliver instruction and student services. The college continues to achieve national attention for its excellence in science education and its Middle College High School.

ARCC 2007 Report: College Level Indicators

Diablo Valley College
Contra Costa Community College District

College Performance Indicators

Student Progress and Achievement: Degree/Certificate/Transfer

Table 1.1: Student Progress and Achievement Rate

Percentage of first-time students who showed intent to complete and who achieved any of the following outcomes within six years: Transferred to a four-year college; or earned an AA/AS; or earned a Certificate (18 units or more); or achieved "Transfer Directed" status; or achieved "Transfer Prepared" status. (See explanation in Appendix B.)

	1998-1999 to 2003-2004	1999-2000 to 2004-2005	2000-2001 to 2005-2006
Student Progress and Achievement Rate	63.5%	66.6%	66.3%

Table 1.1a: Percent of Students Who Earned at Least 30 Units

Percentage of first-time students who showed intent to complete and who earned at least 30 units while in the California Community College System. (See explanation in Appendix B.)

	1998-1999 to 2003-2004	1999-2000 to 2004-2005	2000-2001 to 2005-2006
Percent of Students Who Earned at Least 30 Units	70.6%	73.8%	73.7%

Table 1.2: Persistence Rate

Percentage of first-time students with a minimum of six units earned in a Fall term and who returned and enrolled in the subsequent Fall term anywhere in the system. (See explanation in Appendix B.)

	Fall 2002 to Fall 2003	Fall 2003 to Fall 2004	Fall 2004 to Fall 2005
Persistence Rate	78.5%	75.5%	77.2%

ARCC 2007 Report: College Level Indicators

Diablo Valley College

Contra Costa Community College District

College Performance Indicators

Student Progress and Achievement: Vocational/Occupational/Workforce Development

Table 1.3: Annual Successful Course Completion Rate for Credit Vocational Courses

See explanation in Appendix B.

	2003-2004	2004-2005	2005-2006
Annual Successful Course Completion Rate for Vocational Courses	79.3%	78.5%	80.8%

Pre-Collegiate Improvement: Basic Skills and ESL

Table 1.4: Annual Successful Course Completion Rate for Credit Basic Skills Courses

See explanation in Appendix B.

	2003-2004	2004-2005	2005-2006
Annual Successful Course Completion Rate for Basic Skills Courses	60.8%	61.9%	64.3%

Table 1.5: Improvement Rates for ESL and Credit Basic Skills Courses

See explanation in Appendix B.

	2001-2002 to 2003-2004	2002-2003 to 2004-2005	2003-2004 to 2005-2006
ESL Improvement Rate *	%	%	22.2%
Basic Skills Improvement Rate	58.7%	52.7%	55.4%

* Based on inter-institutional differences in the coding of data from ESL programs and other anomalies in the existing ESL data, the ESL Improvement Rates presented in this table lack reliability, and, therefore, rates are shown only for illustrative purposes. Planned changes to data coding, among other strategies, should improve the quality of this indicator in future ARCC reports.

Diablo Valley College

Contra Costa Community College District

College Profile

Table 1.6:
Annual Unduplicated Headcount and Full-Time Equivalent Students (FTES)

	2003-2004	2004-2005	2005-2006
Annual Unduplicated Headcount	35,606	33,230	33,117
FTES*	18,150	14,237	15,424

Source: Chancellor's Office, Management Information Systems and 320 Report

*FTES data for 2003-2004 and 2004-2005 are based on the FTES recalculation. FTES data for 2005-2006 are based on the FTES annual data. The 2005-2006 recalculation data were not available at the time of this report.

Table 1.7:
Age of Students at Enrollment

	2003-2004	2004-2005	2005-2006
Under 18	8.9%	8.0%	9.0%
18 - 24	51.6%	54.1%	54.2%
25 - 49	31.0%	29.4%	28.7%
Over 49	8.5%	8.4%	8.1%
Unknown	0.1%	0.1%	0.1%

Source: Chancellor's Office, Management Information Systems

Table 1.8:
Gender of Students

	2003-2004	2004-2005	2005-2006
Female	52.9%	52.4%	52.2%
Male	44.4%	44.8%	44.7%
Unknown	2.7%	2.8%	3.0%

Source: Chancellor's Office, Management Information Systems

ARCC 2007 Report: College Level Indicators

Diablo Valley College

Contra Costa Community College District

College Profile

Table 1.9:
Ethnicity of Students

	2003-2004	2004-2005	2005-2006
Asian	13.4%	13.1%	12.5%
Black/African American	5.4%	5.7%	6.0%
Filipino	5.7%	5.9%	5.7%
Hispanic	11.8%	12.1%	12.5%
Native American	0.7%	0.7%	0.6%
Other Non-White	3.0%	3.1%	3.2%
Pacific Islander	0.6%	0.7%	0.8%
White	50.2%	49.9%	49.2%
Unknown/Decline to State	9.2%	8.9%	9.5%

Source: Chancellor's Office, Management Information Systems

ARCC 2007 Report: College Level Indicators

Diablo Valley College

Contra Costa Community College District

College Peer Grouping

Table 1.10: Peer Grouping

	Indicator	College's Rate	Peer Group Average	Peer Group Low	Peer Group High	Peer Group
A	Student Progress and Achievement Rate	66.3	58.1	50.3	66.3	*A3*
B	Percent of Students Who Earned at Least 30 Units	73.7	75.6	73.7	78.0	*B4*
C	Persistence Rate	77.2	74.4	71.0	77.2	*C5*
D	Annual Successful Course Completion Rate for Credit Vocational Courses	80.8	74.6	66.7	85.6	*D2*
E	Annual Successful Course Completion Rate for Credit Basic Skills Courses	64.3	62.2	51.3	73.0	*E2*
F	Improvement Rate for Credit Basic Skills Courses	55.4	50.9	39.6	57.1	*F3*

Note: Please refer to Appendix B for the specifications of these rates. The technical details of the peer grouping process are available in Appendix D.

ARCC 2007 Report: College Level Indicators

Diablo Valley College

Contra Costa Community College District

College Self-Assessment

Diablo Valley College has grown steadily in size and reputation since its establishment in 1949. The main campus is located in Pleasant Hill with a satellite campus in San Ramon. The primary service area of the college is central Contra Costa County. Additionally, 40% of the students commute from outside the service area. Courses are offered online and in traditional formats. The college has a large contingency of 800 international students from more than 60 countries. Several study abroad programs complement the college's offerings.

DVC has been a primary "feeder" college to the University of California, Berkeley; California State University, East Bay; and St Mary's College. Annually, the college ranks in the top five transfer institutions in the state. The college offers a comprehensive occupational program, with over 3,000 students enrolled in 98 associate degree and certificate programs.

The population of the County has grown steadily at the rate of 1.8% annually. To serve this growing population, the college has embarked on a major program of building and remodeling of its facilities.

Student diversity has increased steadily. The proportion of enrolled African-American, Asian, and Hispanic students exceeds their proportion in the service area population, while the proportion of White students falls below their representation in the service area population. Faculty and staff diversity falls far below that of students and the college is developing plans to address this issue. Changes in student demographics have implications for all programs.

The continuous reaffirmation of accreditation and the college's emphasis on assessing student learning outcomes complement the program review process and the work of the college in facilitating transfer. DVC has demonstrated high levels of performance on five out of six accountability indicators.

- The student progress and achievement rate is the highest among the college's peers and it reflects the college's leading role as a transfer institution.
- The percent of students who earned at least 30 units is slightly below the average for the peer group, but it has increased over the past three years, reflecting the addition of a number of associate degree and certificate programs.
- The persistence rate is the highest among the college's peers, although it declined slightly in 2004-05. This decline is mostly due to lower enrollment resulting from the higher tuition in 2003.
- The completion rate for vocational courses stood at a rate higher than the group average. This rate has increased in the past three years due to the addition of new programs.
- The completion rate for basic skills has increased steadily in the past three years and currently stands above the group average.
- The ESL improvement rate surpassed that of the peer group. However, the rate declined in the past three years due to changes in student demographics brought about by the budget cuts of 2003 along with the fee increase.

In summary, DVC takes great pride in its performance and the continued success of its students.

ARCC 2007 Report: College Level Indicators

Los Medanos College
Contra Costa Community College District

College Performance Indicators

Student Progress and Achievement: Degree/Certificate/Transfer

Table 1.1: Student Progress and Achievement Rate

Percentage of first-time students who showed intent to complete and who achieved any of the following outcomes within six years: Transferred to a four-year college; or earned an AA/AS; or earned a Certificate (18 units or more); or achieved "Transfer Directed" status; or achieved "Transfer Prepared" status. (See explanation in Appendix B.)

	1998-1999 to 2003-2004	1999-2000 to 2004-2005	2000-2001 to 2005-2006
Student Progress and Achievement Rate	42.9%	43.7%	42.8%

Table 1.1a: Percent of Students Who Earned at Least 30 Units

Percentage of first-time students who showed intent to complete and who earned at least 30 units while in the California Community College System. (See explanation in Appendix B.)

	1998-1999 to 2003-2004	1999-2000 to 2004-2005	2000-2001 to 2005-2006
Percent of Students Who Earned at Least 30 Units	59.7%	66.2%	61.9%

Table 1.2: Persistence Rate

Percentage of first-time students with a minimum of six units earned in a Fall term and who returned and enrolled in the subsequent Fall term anywhere in the system. (See explanation in Appendix B.)

	Fall 2002 to Fall 2003	Fall 2003 to Fall 2004	Fall 2004 to Fall 2005
Persistence Rate	59.5%	59.4%	57.9%

ARCC 2007 Report: College Level Indicators

Los Medanos College
Contra Costa Community College District

College Performance Indicators

Student Progress and Achievement: Vocational/Occupational/Workforce Development

Table 1.3: Annual Successful Course Completion Rate for Credit Vocational Courses

See explanation in Appendix B.

	2003-2004	2004-2005	2005-2006
Annual Successful Course Completion Rate for Vocational Courses	78.8%	77.7%	78.8%

Pre-Collegiate Improvement: Basic Skills and ESL

Table 1.4: Annual Successful Course Completion Rate for Credit Basic Skills Courses

See explanation in Appendix B.

	2003-2004	2004-2005	2005-2006
Annual Successful Course Completion Rate for Basic Skills Courses	56.3%	58.1%	57.6%

Table 1.5: Improvement Rates for ESL and Credit Basic Skills Courses

See explanation in Appendix B.

	2001-2002 to 2003-2004	2002-2003 to 2004-2005	2003-2004 to 2005-2006
ESL Improvement Rate *	%	50.0%	26.1%
Basic Skills Improvement Rate	38.7%	35.0%	44.1%

* Based on inter-institutional differences in the coding of data from ESL programs and other anomalies in the existing ESL data, the ESL Improvement Rates presented in this table lack reliability, and, therefore, rates are shown only for illustrative purposes. Planned changes to data coding, among other strategies, should improve the quality of this indicator in future ARCC reports.

ARCC 2007 Report: College Level Indicators

Los Medanos College

Contra Costa Community College District

College Profile

Table 1.6:
Annual Unduplicated Headcount and Full-Time Equivalent Students (FTES)

	2003-2004	2004-2005	2005-2006
Annual Unduplicated Headcount	14,198	14,086	13,976
FTES*	7,053	6,355	6,726

Source: Chancellor's Office, Management Information Systems and 320 Report

*FTES data for 2003-2004 and 2004-2005 are based on the FTES recalculation. FTES data for 2005-2006 are based on the FTES annual data. The 2005-2006 recalculation data were not available at the time of this report.

Table 1.7:
Age of Students at Enrollment

	2003-2004	2004-2005	2005-2006
Under 18	9.2%	8.4%	8.7%
18 - 24	41.8%	43.2%	44.1%
25 - 49	41.1%	40.2%	39.4%
Over 49	7.8%	8.1%	7.5%
Unknown	0.2%	0.1%	0.2%

Source: Chancellor's Office, Management Information Systems

Table 1.8:
Gender of Students

	2003-2004	2004-2005	2005-2006
Female	56.5%	56.1%	55.4%
Male	40.4%	41.2%	41.0%
Unknown	3.1%	2.8%	3.6%

Source: Chancellor's Office, Management Information Systems

ARCC 2007 Report: College Level Indicators

Los Medanos College

Contra Costa Community College District

College Profile

Table 1.9:
Ethnicity of Students

	2003-2004	2004-2005	2005-2006
Asian	5.7%	5.8%	5.4%
Black/African American	13.6%	14.0%	14.6%
Filipino	6.0%	6.1%	6.0%
Hispanic	21.8%	22.6%	22.8%
Native American	0.9%	0.8%	0.9%
Other Non-White	2.5%	2.5%	2.9%
Pacific Islander	0.8%	0.8%	0.9%
White	44.0%	42.7%	41.2%
Unknown/Decline to State	4.6%	4.8%	5.3%

Source: Chancellor's Office, Management Information Systems

ARCC 2007 Report: College Level Indicators

Los Medanos College

Contra Costa Community College District

College Peer Grouping

Table 1.10: Peer Grouping

	Indicator	College's Rate	Peer Group Average	Peer Group Low	Peer Group High	Peer Group
A	Student Progress and Achievement Rate	42.8	51.3	42.8	59.3	*A6*
B	Percent of Students Who Earned at Least 30 Units	61.9	65.4	56.5	72.8	*B1*
C	Persistence Rate	57.9	69.3	57.6	78.8	*C3*
D	Annual Successful Course Completion Rate for Credit Vocational Courses	78.8	74.6	66.7	85.6	*D2*
E	Annual Successful Course Completion Rate for Credit Basic Skills Courses	57.6	62.2	51.3	73.0	*E2*
F	Improvement Rate for Credit Basic Skills Courses	44.1	50.9	39.6	57.1	*F3*

Note: Please refer to Appendix B for the specifications of these rates. The technical details of the peer grouping process are available in Appendix D.

ARCC 2007 Report: College Level Indicators

Los Medanos College

Contra Costa Community College District

College Self-Assessment

Los Medanos College, established in 1974 and one of three colleges of the Contra Costa Community College District, serves an increasingly diverse population of students that continues to reflect the ethnic composition of the community as well as its changes. Latino students have increased as white students have decreased in proportion. Student unduplicated headcount has remained relatively constant with a slight decrease per academic year, ranging from 14,198 in 2003-2004 to 13,976 in 2005-2006. The slight decrease in enrollment over the past three years may be attributed to the lengthy construction period of new facilities.

To better serve the needs of its population and improve the learning environment, Los Medanos College is in the process of completing construction of three new buildings, library, math and science, which adds 109,132 scuare feet to its facility, and remodeling its existing plant to mitigate its extremely high space utilization rates.

The College has also increased and improved outreach; established an Honors Transfer program; provided additional counseling; developed and implemented new curricula; offered additional professional development opportunities, focusing on Student Learning Outcomes; and developed "learning communities" in order to improve student achievement and persistence rates.

The College has demonstrated significant success in student achievement in the vocational course completion rate and certificate attainment. Contributing factors for the success include strong partnerships with business and industry, short-term courses, job placement contacts, informal advising and improved program "packaging."

Los Medanos College has responded to its concerns about low rates in various achievement indicators such as achievement of degrees, certificates and transfers; the proportion of students who earned at least 30 units; persistence; and the improvement rates in Basic Skills by recently updating its master plan for the next ten years, where institutional and program strategies are emphasized that address student persistence, course completion and educational goal attainment along with the establishment, implementation and evaluation of Student Learning Outcomes.

To address the performance indicators, Los Medanos College has made student improvement an institutional priority. Specifically, Los Medanos College has devoted significant institutional and grant resources (Title III and Title V) to its developmental education and English as a Second Language programs. Within the last five years, the developmental education program has implemented innovative outcome-based curriculum, integrated student support services into the pre-collegiate classroom, sponsored intensive professional development, and developed a systematic program evaluation process. The College is implementing a comprehensive and integrated ESL program to support students in meeting their personal, academic and vocational goals.

The College has noted the following factors about its service community that has led to these new planning and programmatic efforts: a large number of part-time and older students; some transfer-bound students who choose nearby community colleges; a low percentage of parents who are college graduates resulting in many first-generation college students; a high percentage of developmental students who are not ready for college-level work; socio-economic factors in the feeder area that cause many students to need financial aid and/or to work full-time; and the physical distance to four-year college options.

Appendix A: Peer Groups

Introduction

This appendix contains additional information about the composition of the peer groups that the main report cites in the college level analysis (Table 1.10: Peer Grouping). There is one table for each of the six performance indicators (outcomes). For information about the peer grouping methodology, we refer readers to Appendix D, which gives the essential statistical specifications for the ARCC peer grouping. For information about the analysis that preceded and supported the peer grouping process, we refer readers to Appendix C, which documents the regression analyses that the System Office research staff used.

Appendix A should help readers by presenting them with four types of information. The first type of information is the average value for each of the uncontrollable factors (labeled as "Means of Predictors") that theoretically influence a given performance indicator in the ARCC. We show these averages for each peer group in the second, third, and fourth columns (reading from the left) of each of the six tables in this appendix. The second type of information is the basic statistical summary of the outcome (the lowest rate, the highest rate, and the average rate) within each peer group. These figures appear in the three columns to the right of the shaded border in each table. The third type of information concerns the composition of each peer group. The two rightmost columns of each table display the number of colleges within each peer group as well as the names of the colleges within each peer group. Finally, the fourth type of data is the state level figures for each of the uncontrollable factors and performance indicators. These state level figures will appear in the last row of each of the tables in this appendix.

Users of this report may use these four types of information to help them establish a context for interpreting the peer group results in the main body of the report. The information about the uncontrollable factors, the performance indicators, and the peer group composition allows the user to weigh these different aspects of the peer grouping as they try to evaluate college performances.

Finally, we note some specific details for clarity's sake. The leftmost column of each table displays codes such as "A1" or "E5." These codes only signify a different peer group for each performance indicator. The letter in the code (A through F) denotes the specific performance indicator, and the number in the code (1 through 6) denotes a specific group of colleges for a specific performance indicator. Users should avoid attaching any further meaning to these codes. That is, the colleges in group "A1" are not higher or better than the colleges in group "A2" (and vice versa). We used this coding convention to facilitate the cross-referencing of results in the main report's college pages to this appendix and nothing more.

Appendix A: Peer Groups

Users should also remember that the composition of each peer group resulted only from our statistical analysis of the available uncontrollable factors related to each outcome. Therefore, the peer groupings may list some colleges as peers when we customarily would consider them as quite dissimilar. For example, we often consider geographic location and level of population density as factors that distinguish colleges as different (or similar). So, in Table A1 users may note that our peer grouping for Student Progress & Achievement classifies Yuba as a peer for L.A. City, and this tends to clash with our knowledge of the high density southern California setting of L.A. City and the rural northern California setting of Yuba. However, population density and geographic location within the state are not predictors of this outcome in our statistical analyses (see Appendix C). Furthermore, our historical perception of similar colleges tends to rely upon many controllable factors (which we do not consider in our peer grouping procedure), and this perception can also make the reported peer groups seem counter-intuitive.

For some performance indicators, a few colleges will lack a peer group. This is indicated by missing values in Table 1.10. Also, for some colleges, there may be a peer group but no figure for a particular indicator. Both situations occurred in the ARCC peer grouping analysis as a result of insufficient data at the time of this report's release. Naturally, some of these situations relate to newly established colleges that lack the operating history to produce sufficient data for the ARCC analyses.

Appendix A: Peer Groups

Table A1: Student Progress & Achievement: Degree/Certificate/Transfer

Student Progress and Achievement Rate Peer Group

	Means of Predictors			Student Progress and Achievement Rate			Peer Group Colleges	
Peer Group Number	Pct Students Age 25+ Fall 2003	SAAP Index	Bachelor Plus Index	Lowest Peer	Highest Peer	Average	Number of Peers	Colleges in the Peer Group
A1	47%	42.44	0.17	30.3	53.3	45.9	34	Alameda; Bakersfield; Cerritos; Chabot; Chaffey; Compton; Contra Costa; Desert; East L.A.; Fresno City; Gavilan; Hartnell; Imperial Valley; L.A. City; L.A. Harbor; L.A. Mission; L.A. Trade-Tech; L.A. Vailey; Long Beach City; Merced; Oxnard; Porterville; Reedley; Rio Hondo; Riverside; San Bernardino; San Joaquin Delta; Santa Ana; Sequoias; Southwest L.A.; Southwestern; West Hills; West L.A.; and Yuba.
A2	60%	50.07	0.20	39.5	57.3	50.7	13	Allan Hancock; American River; Barstow; Cerro Coso; Columbia; Cuyamaca; Feather River; Lake Tahoe; Lassen; Mendocino; Napa Valley; Santa Rosa; and Siskiyous.
A3	43%	52.43	0.33	50.3	66.3	58.1	23	Cabrillo; Cuesta; De Anza; Diablo Valley; Glendale; Grossmont; L.A. Pierce; Las Positas; MiraCosta; Moorpark; Ohlone; Orange Coast; Palomar; Sacramento City; San Diego Mesa; San Diego Miramar; San Jose City; San Mateo; Santa Barbara City; Santa Monica City; Sierra; Skyline; and West Valley.
A4	59%	52.55	0.44	57.0	66.1	60.7	6	Berkeley City College; Foothill; Irvine Valley; Marin; Saddleback; and San Francisco City.
A5	69%	43.70	0.28	33.7	56.5	48.1	8	Canada; Coastline; Laney; Merritt; Mission; Monterey; Palo Verde; and Taft.
A6	43%	49.22	0.22	42.8	59.3	51.3	22	Antelope Valley; Butte; Canyons; Citrus; Cosumnes River; Crafton Hills; Cypress; El Camino; Evergreen Valley; Fullerton; Golden West; Los Medanos; Modesto; Mt. San Antonio; Mt. San Jacinto; Pasadena City; Redwoods; San Diego City; Shasta; Solano; Ventura; and Victor Valley.
Statewide Average	49%	47.60	0.24			51.1	N = 106	

Appendix A: Peer Groups

Table A2: Student Progress & Achievement: Degree/Certificate/Transfer Students Who Earned at Least 30 Units Rate Peer Group

	Means of Predictors			Students Who Earned at Least 30 Units Rate			Peer Group Colleges	
Peer Group Number	Student Count Fall 2003	Average Unit Load, Fall 2003	ESAI Per Capita Income	Lowest Peer	Highest Peer	Average	Number of Peers	Colleges in the Peer Group
B1	9,398.2	6.8	$21,938	56.5	72.8	65.4	29	Alameda; Allan Hancock; Barstow; Berkeley City College; Cerro Coso; Columbia; Cuyamaca; Evergreen Valley; Hartnell; Irvine Valley; L.A. Trade-Tech; Lake Tahoe; Laney; Lassen; Los Medanos; Mendocino; Merritt; Mission; Monterey; Napa Valley; Ohlone; Palo Verde; Rio Hondo; San Diego City; San Diego Miramar; San Jose City; Santiago Canyon; Skyline; and West L.A.
B2	13,125.6	8.4	$18,993	55.6	78.6	69.3	55	Antelope Valley; Bakersfield; Butte; Cabrillo; Canyons; Cerritos; Chabot; Chaffey; Citrus; Compton; Contra Costa; Copper Mountain; Cosumnes River; Crafton Hills; Cuesta; Cypress; Desert; East L.A.; Feather River; Fresno City; Fullerton; Gavilan; Glendale; Golden West; Grossmont; Imperial Valley; L.A. City; L.A. Harbor; L.A. Mission; L.A. Pierce; L.A. Valley; Merced; MiraCosta; Modesto; Mt. San Jacinto; Oxnard; Porterville; Redwoods; Reedley; Sacramento City; San Bernardino; San Diego Mesa; San Joaquin Delta; Santa Barbara City; Sequoias; Shasta; Sierra; Siskiyous; Solano; Southwest L.A.; Southwestern; Ventura; Victor Valley; West Hills; and Yuba.
B3	29,917.7	7.5	$21,725	66.3	80.8	72.0	10	American River; El Camino; Long Beach City; Mt. San Antonio; Palomar; Pasadena City; Riverside; San Francisco City; Santa Ana; and Santa Rosa.
B4	22,588.8	8.7	$30,839	73.7	78.0	75.6	6	De Anza; Diablo Valley; Moorpark; Orange Coast; Saddleback; and Santa Monica City.
B5	11,005.2	7.2	$36,081	71.6	75.1	72.9	6	Canada; Foothill; Las Positas; Marin; San Mateo; and West Valley.
B6	7,816.5	4.1	$19,980	54.3	63.6	59.0	2	Coastline and Taft.
Statewide Average	13,989.0	7.7	$21,662			68.9	N = 108	

Appendix A: Peer Groups

Table A3: Student Progress & Achievement: Degree/Certificate/Transfer Persistence Rate Peer Group

	Means of Predictors			Persistence Rate			Peer Group Colleges	
Peer Group Number	Pct Students Age 25+ Fall 2004	Student Count Fall 2004	ESAI Household Income	Lowest Peer	Highest Peer	Average	Number of Peers	Colleges in the Peer Group
C1	60%	7,440.7	$ 39,110	45.6	67.4	59.6	20	Allan Hancock; Barstow; Berkeley City College; Cerro Coso; Columbia; Cuyamaca; Feather River; Hartnell; L.A. City; L.A. Trade-Tech; Lake Tahoe; Laney; Lassen; Mendocino; Merritt; Napa Valley; Siskiyous; Southwest L.A.; Taft; and West L.A.
C2	41%	14,100.6	$ 43,032	52.1	78.9	66.6	53	Alameda; Antelope Valley; Bakersfield; Butte; Canyons; Cerritos; Chaffey; Citrus; Compton; Contra Costa; Copper Mountain; Cosumnes River; Crafton Hills; Cuesta; Cypress; Desert; East L.A.; El Camino; Fresno City; Fullerton; Glendale; Golden West; Grossmont; Imperial Valley; L.A. Harbor; L.A. Mission; L.A. Pierce; L.A. Valley; Long Beach City; Merced; Modesto; Mt. San Jacinto; Orange Coast; Oxnard; Porterville; Redwoods; Reedley; Rio Hondo; Sacramento City; San Bernardino; San Diego City; San Diego Mesa; San Joaquin Delta; Santa Barbara City; Sequoias; Shasta; Sierra; Solano; Southwestern; Ventura; Victor Valley; West Hills; and Yuba.
C3	51%	11,306.3	$ 64,805	57.6	78.8	69.3	20	Cabrillo; Canada; Chabot; Evergreen Valley Foothill; Gavilan; Irvine Valley; Las Positas; Los Medanos; Marin; MiraCosta; Mission; Ohlone; Saddleback; San Diego Miramar; San Jose City; San Mateo; Santiago Canyon; Skyline; and West Valley.
C4	48%	30,357.7	$ 49,184	66.3	76.6	70.7	9	American River; Mt. San Antonio; Palomar; Pasadena City; Riverside; San Francisco City; Santa Ana; Santa Monica City; and Santa Rosa.
C5	35%	19,627.0	$ 71,123	71.0	77.2	74.4	3	De Anza; Diablo Valley; and Moorpark.
C6	76%	9,448.0	$ 48,614	40.8	53.0	48.2	3	Coastline; Monterey; and Palo Verde.
Statewide Average	**48%**	**13,660.0**	**$ 47,786**			**65.8**	**N = 108**	

Appendix A: Peer Groups

Table A4: Student Progress & Achievement: Vocational/Occupational/Workforce Development

Vocational Course Completion Rate Peer Group

	Means of Predictors			Vocational Course Completion Rate			Peer Group Colleges	
Peer Group Number	Pct Male Fall 2005	Pct Students Age 30+ Fall 2005	Miles to Nearest UC	Lowest Peer	Highest Peer	Average	Number of Peers	Colleges in the Peer Group
D1	38%	42%	28.8	66.2	85.6	73.8	34	Allan Hancock; Barstow; Berkeley City College; Canada; Coastline; Columbia; Compton; Contra Costa; Cuyamaca; Folsom Lake; Gavilan; Glendale; Irvine Valley; L.A. City; L.A. Mission; Laney; Marin; Merced; Merritt; MiraCosta; Mission; Monterey; Mt. San Jacinto; Napa Valley; Saddleback; San Bernardino; San Francisco City; San Jose City; Santa Rosa; Southwest L.A.; Victor Valley; West L.A.; West Valley; and Yuba.
D2	43%	27%	24.2	66.7	85.6	74.6	40	Alameda; Cabrillo; Cerritos; Chabot; Chaffey; Citrus; Cosumnes River; Crafton Hills; Cypress; De Anza; Diablo Valley; East L.A.; El Camino; Fullerton; Golden West; Grossmont; L.A. Harbor; L.A. Pierce; L.A. Valley; Las Positas; Long Beach City; Los Medanos; Modesto; Moorpark; Mt. San Antonio; Orange Coast; Oxnard; Pasadena City; Riverside; Sacramento City; San Diego City; San Diego Mesa; San Joaquin Delta; Santa Barbara City; Santa Monica City; Sierra; Skyline; Solano; Southwestern; and Ventura.
D3	40%	28%	108.1	66.2	85.4	75.7	13	Antelope Valley; Bakersfield; Butte; Copper Mountain; Cuesta; Desert; Fresno City; Imperial Valley; Porterville; Reedley; Sequoias; Shasta; and West Hills.
D4	53%	38%	27.5	74.8	94.3	84.4	13	American River; Canyons; Evergreen Valley; Foothill; Hartnell; L.A. Trade-Tech; Ohlone; Palomar; Rio Hondo; San Diego Miramar; San Mateo; Santa Ana; and Santiago Canyon.
D5	42%	48%	176.1	71.8	83.2	79.4	7	Cerro Coso; Feather River; Lake Tahoe; Lassen; Mendocino; Redwoods; and Siskiyous.
D6	74%	60%	140.9	93.4	96.5	94.9	2	Palo Verde and Taft.
Statewide Average	**43%**	**35%**	**48.0**			**76.4**	**N = 109**	

Appendix A: Peer Groups
Table A5: Pre-Collegiate Improvement: Basic Skills
Basic Skills Course Completion Rate Peer Group

	Means of Predictors			Basic Skills Course Completion Rate			Peer Group Colleges	
Peer Group Number	Miles to Nearest CSU	Nearest CSU SAT Math 75 Percentile	ESAI Per Capita Income	Lowest Peer	Highest Peer	Average	Number of Peers	Colleges in the Peer Group
E1	10.6	573.4	$ 20,126	52.4	69.0	61.4	32	Allan Hancock; American River; Bakersfield; Butte; Chabot; Citrus; Coastline; Cosumnes River; Cuesta; Cuyamaca; Cypress; Fresno City; Fullerton; Golden West; Grossmont; Hartnell; L.A. Mission; L.A. Valley; Long Beach City; Modesto; Mt. San Antonio; Oxnard; Palomar; Redwoods; Sacramento City; San Diego City; San Diego Mesa; San Diego Miramar; Santa Ana; Santiago Canyon; Southwestern; and Ventura.
E2	21.5	554.0	$ 25,900	51.3	73.0	62.2	30	Alameda; Berkeley City College; Cabrillo; Canyons; Columbia; Contra Costa; Diablo Valley; Evergreen Valley; Gavilan; Irvine Valley; L.A. Pierce; Laney; Las Positas; Los Medanos; Merritt; MiraCosta; Mission; Monterey; Moorpark; Napa Valley; Ohlone; Orange Coast; San Francisco City; San Jose City; Santa Barbara City; Santa Monica City; Santa Rosa; Sierra; Skyline; and Solano.
E3	71.5	550.5	$ 16,614	43.0	72.6	57.0	20	Antelope Valley; Barstow; Cerro Coso; Copper Mountain; Desert; Feather River; Imperial Valley; Lake Tahoe; Lassen; Mendocino; Merced; Porterville; Reedley; San Joaquin Delta; Sequoias; Shasta; Siskiyous; Taft; West Hills; and Yuba.
E4	18.9	564.3	$ 36,139	60.2	83.1	67.2	7	Canada; De Anza; Foothill; Marin; Saddleback; San Mateo; and West Valley.
E5	13.9	493.3	$ 17,485	44.7	68.3	56.4	18	Cerritos; Chaffey; Compton; Crafton Hills; East L.A.; E Camino; Glendale; L.A. City; L.A. Harbor; L.A. Trade-Tech; Mt. San Jacinto; Pasadena City; Rio Hondo; Riverside; San Bernardino; Southwest L.A.; Victor Valley; and West L.A.
E6	228.0	550.0	$ 18,529	48.8	48.8	48.8	1	Palo Verde
Statewide Average	**28.0**	**550.0**	**$ 21,663**			**60.3**	**N = 108**	

Appendix A: Peer Groups

Table A6: Pre-Collegiate Improvement: Basic Skills

Basic Skills Improvement Rate Peer Group

	Means of Predictors			Basic Skills Improvement Rate			Peer Group Colleges	
Peer Group Number	Pct on Need Based Fin'l Aid F04	Average Unit Load Fall 04	Nearest 4 Yr SAT Verbal 25 Pctl.	Lowest Peer	Highest Peer	Average	Number of Peers	Colleges in the Peer Group
F1	8%	7.4	405.8	36.8	76.5	51.4	38	American River; Barstow; Canada; Canyons; Cerritos; Cerro Coso; Chabot; Chaffey; Cuyamaca; East L.A.; El Camino; Evergreen Valley; Folsom Lake, Foothill; Hartnell; L.A. Harbor; L.A. Mission; L.A. Pierce; L.A. Trade-Tech; L.A. Valley; Las Positas; Marin; Mendocino; Mission; Monterey; Napa Valley; Ohlone; San Diego City; San Diego Mesa; San Francisco City; San Jose City; San Mateo; Santa Rosa; Santiago Canyon; Skyline; Southwest L.A.; Ventura; and West L.A.
F2	9%	6.2	558.3	32.7	52.0	42.0	6	Alameda; Berkeley City College; Coastline; Laney; Merritt; and San Diego Miramar.
F3	7%	8.2	532.5	39.6	57.1	50.9	12	Allan Hancock; Cabrillo; Contra Costa; Cuesta; Diablo Valley; Irvine Valley; Los Medanos; Orange Coast; Saddleback; Santa Barbara City; Santa Monica City; and Solano.
F4	10%	8.6	429.1	37.2	64.3	50.9	23	Citrus; Cosumnes River; Crafton Hills; Cypress; De Anza; Desert; Feather River; Fullerton; Gavilan; Golden West; Grossmont; MiraCosta; Modesto; Moorpark; Mt. San Antonio; Mt. San Jacinto; Oxnard; Palomar; Riverside; Shasta; Sierra; Southwestern; and West Valley.
F5	4%	4.8	415.0	43.6	54.5	48.6	4	Lake Tahoe; Palo Verde; Santa Ana; and Taft.
F6	18%	8.6	406.9	28.1	55.0	48.0	26	Antelope Valley; Bakersfield; Butte; Columbia; Compton; Copper Mountain; Fresno City; Glendale; Imperial Valley; L.A. City; Lassen; Long Beach City; Merced; Pasadena City; Porterville; Redwoods; Reedley; Rio Hondo; Sacramento City; San Bernardino; San Joaquin Delta; Sequoias; Siskiyous; Victor Valley; West Hills; and Yuba.
Statewide Average	**10%**	**7.9**	**434.0**			**49.8**	**N = 109**	

APPENDIX B:
METHODOLOGY FOR DERIVING COUNTS AND RATES FOR SYSTEMWIDE AND COLLEGE LEVEL PERFORMANCE INDICATORS

METHODOLOGY FOR SYSTEMWIDE INDICATORS

TABLES 1-3: ANNUAL NUMBER AND PERCENTAGE OF BACCALAUREATE STUDENTS WHO ATTENDED A CCC

Definition: The annual number and percentage of Baccalaureate students graduating from CSU and UC from 2000-2001 to 2005-2006 who originally attended a California Community College (CCC).

A. California State University (CSU)

Data Source: California State University (CSU), Division of Analytical Studies

Total BA/BS:
Number of undergraduate degrees from 2000-2001 to 2005-2006 from the table titled: *Undergraduate and Graduate Degrees Granted, Systemwide from 1935-1936 to 2005-2006.*

Total from CCC:
Number of Baccalaureate students who attended a CCC from 2000-2001 to 2005-2006 is from the tables titled: *Baccalaureates Granted to Students Who Originally Transferred From California Community Colleges, by Campus (2000-2001 to 2005-2006).*

Note: The reports are based on data submitted by CSU campuses in the Enrollment Reporting System-Degrees (ERSD) system.

Calculation: CSU Percent = Total from CCC/Total BA/BS

B. University of California (UC)

Data Source: California Postsecondary Education Commission (CPEC)

Total BA/BS:
Number of Bachelor degrees received at UC from 2000-2001 to 2005-2006 from the On-Line Data System reports: *Degrees/Completion-Total Degrees.*

Total from CCC:
Number of Bachelor degrees received at UC from 2000-2001 to 2005-2006 from the On-Line Data System reports: *Degrees/Completion-Total Degrees-Community Colleges*

Calculation: UC Percent = Total from CCC/Total BA/BS

TABLES 4-7: ANNUAL NUMBER OF COMMUNITY COLLEGE TRANSFERS TO FOUR-YEAR INSTITUTIONS (CSU/UC)

Definition: The annual number of community college transfers to CSU and UC from 2000 to 2006.

A. California State University (CSU)

Data Source: California State University (CSU), Division of Analytical Studies

Total Transfers:
Number of transfers from 2000 to 2006 is from the tables titled: *California Community College Transfers to CSU.*

Note: The reports are based on data submitted by CSU campuses in the Enrollment Reporting System-Degrees (ERSD) system.

B. University of California (UC)

Data Source: University of California (UC), Office of the President

Total Transfers:
Number of transfers from 2000 to 2006 is from the tables titled: *Full Year Transfer Data.*

Note: The full-year data refer to all students who attended a California community college and applied to a UC campus. This includes California residents as well as non-residents. It also includes lower- and upper-division transfer students from California community colleges.

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLES 4, 5 AND 8: ANNUAL NUMBER OF COMMUNITY COLLEGE TRANSFERS TO FOUR-YEAR INSTITUTIONS (ISP/OOS)

Definition: The annual number of community college transfers to In-State Private (ISP) and Out-of-State (OOS) four-year institutions from 2000 to 2006 were determined by aggregating a series of cohorts (1993-1994 to 2004-2005) consisting of first-time freshman within an academic year. The twelve aggregated cohorts represent students that completed at least 12 units in the community college system. The data was disaggregated by the academic year the students transferred (transfer year) to an independent or out-of-state four-year institution.

Data Source: Chancellor's Office Management Information System (COMIS)

Cohorts

First-Time Students Who Showed Intent to Complete:
1. Look systemwide* to determine first-time status. First-time status is defined as a student who took a credit course in the CCC system for the first time. Students with prior enrollments outside CCC system are excluded.
AND
2. SX03 ENROLLMENT-UNITS-EARNED >= 12 at your college and/or anywhere in the system.

Outcome

A student must successfully achieve the following outcome by 2005-2006.
1. Transferred to Four-Year Institution
Match with National Student Clearinghouse (NSC), UC, CSU file

First-Time Freshman Cohorts												Transfer by
93-94												05-06
	94-95											05-06
		95-96										05-06
			96-97									05-06
				97-98								05-06
					98-99							05-06
						99-00						05-06
							00-01					05-06
								01-02				05-06
									02-03			05-06
										03-04		05-06
											04-05	05-06

* Systemwide is defined as all California Community Colleges

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 9: TRANSFER RATE TO FOUR-YEAR INSTITUTIONS

Definition: The cohorts for the transfer rate consisted of first-time students with minimum of 12 units earned who attempted a transfer level Math or English course during enrollment and who transferred to a four-year institution within 6 years. The cohorts consisted of first-time students from 1998-1999 (Cohort 1), 1999-2000 (Cohort 2) and 2000-2001 (Cohort 3) who completed at least 12 units by 2003-2004 (Cohort 1), 2004-2005 (Cohort 2) and 2005-2006 (Cohort 3).

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

First-Time Students

1. Look systemwide* to determine first-time status. First-time status is defined as a student who took a credit course in the CCC system for the first time. Students with prior enrollments outside CCC system are excluded.

AND

2. SX03 ENROLLMENT-UNITS-EARNED >= 12 at your college and/or anywhere in the system

AND

3. One or more of the following:

1. Math Course
Attempted Enrollment in course(s) where:
CB03 COURSE-TOP-CODE = 17*
CB05 COURSE-TRANSFER-STATUS = A, B

2. English Course
Attempted Enrollment in course(s) where:
CB03 COURSE-TOP-CODE = 1501*, 1503*, 1504*, 1507*
CB05 COURSE-TRANSFER-STATUS = A, B

Outcome

A student must successfully achieve the following outcome within six years:

1. Transferred to Four-Year Institution
Match with NSC, UC, CSU file

Calculation: Transfer Rate = Outcome/Cohort

* Systemwide is defined as all California Community Colleges

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLES 10 AND 11: ANNUAL NUMBER OF VOCATIONAL AWARDS BY PROGRAM AND "TOP 25" VOCATIONAL PROGRAMS BY VOLUME OF TOTAL AWARDS

Methodology: R&P (Research and Planning Unit) and the CCCCO MIS staff extracted awards data by academic program (using the four-digit TOP* Code to identify the program) for those students earning awards in the three most recent academic years (2003-2004, 2004-2005, and 2005-2006). Only TOP Codes with vocational indicators were selected for this analysis. The analysis covered AA and AS degrees, and credit certificates ranging from those for less than 6 units to those for 60 units and above.

Total credit awards for each of the three academic years are the sum of AA/AS degrees plus credit certificates.

We present total credit awards, AA/AS degrees and credit certificates alphabetically in Table 10 and in descending order by Total Credit Awards (AA/AS degrees plus certificates) in Table 11.

Data Source: Chancellor's Office Management Information System (COMIS)

*The Taxonomy of Programs (TOP) is a system of numerical codes used at the state level to collect and report information on programs and courses, in different colleges throughout the state that have similar outcomes. Using the four-digit TOP code to identify programs for this outcome indicator means that the awards numbers are aggregated at the subdiscipline level. For example, the four-digit TOP code for the nursing subdiscipline covers the fields of Registered Nursing, Licensed Vocational Nursing, Certified Nurse Assistant and Home Health Aide.

For further information on TOP codes, consult the most recent edition of *The California Community Colleges Taxonomy of Programs*, available at the CCCCO Web site.

Appendix B: Methodology for Systemwide and College Performance Indicators

FIGURES 6-8: INCREASE IN TOTAL PERSONAL INCOME AS A RESULT OF RECEIVING DEGREE/CERTIFICATE

Methodology: R&P (Research and Planning Unit) and the CCCCO MIS staff developed three cohorts from the COMIS for analysis of wage progression following award attainment. The cohorts consisted of non-special-admit students meeting the full-term reporting criteria who received any award during 1998-1999 (Cohort 1), 1999-2000 (Cohort 2), or 2000-2001 (Cohort 3).

We selected these cohort years to ensure sufficient data to track wages across time.

To be included in a cohort, these students could no longer be enrolled in a community college during the two years immediately after their awards, and they could not have transferred out to a four-year institution. Cohort members were matched to the California Employment Development Department's (EDD's) wage file (even if zero wages were reported) and their wage data extracted for up to five years before award and for as many years after award as the EDD data were available. For the 1998-1999 cohort, three complete years of post-award wage data were available. Five years of post-award wage data were available for the 1999-2000 cohort, and four years of post-award wage data were available for the 2000-2001 cohort.

We calculated median wages for each cohort and compared the trend for these wages with trends for California Median Household Income and California Per Capita Income for years that matched the EDD wage data as closely as possible. Figures 6, 7, and 8 present these trends for each wage cohort. Wages for this analysis were not adjusted for inflation, but a more comprehensive wage analysis that includes various adjustments is planned as a separate paper.

Data Source: Chancellor's Office Management Information System (COMIS); California Employment Development Department (EDD); California Department of Finance; U.S. Census Bureau; U.S. Department of Commerce, Bureau of Economic Analysis

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 12: ANNUAL NUMBER OF CREDIT BASIC SKILLS IMPROVEMENTS

Methodology: R&P and the CCCCO MIS staff extracted the annual statewide number of students completing credit coursework at least one level above their prior credit basic skills enrollment. Students in the cohorts for this indicator (2001-2002 to 2003-2004, 2002-2003 to 2004-2005, and 2003-2004 to 2005-2006) must have enrolled in a credit basic skills English, ESL, or Mathematics course, then in a subsequent term enrolled in a higher-level credit course (basic skills or not basic skills).

Basic skills courses are those with a COURSE-BASIC-SKILLS-STATUS (CB08) of "P" or "B".

To be counted as "improved" a student must have enrolled in a credit basic skills course, then in a subsequent term, the student must enroll in a credit course with a course program code in the same discipline (English, ESL, or Math), but which is at a higher level.

The criterion for improvement was that the student completed the higher level course with a grade of C or better.

A student is only counted once in Mathematics and/or English regardless of how many times they improve.

Data Source: Chancellor's Office Management Information System (COMIS)

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLES 13-17: PARTICIPATION RATES

Methodology: R&P extracted statewide population data with demographic breakdowns by ethnicity, gender, and age from the Department of Finance's (DOF) website for 2003, 2004, and 2005.

The Systemwide Participation Rate is the unique count of students enrolled in the California Community Colleges. Students are only counted once, even if they take courses at different colleges in the same year.

CCCCO MIS staff extracted corresponding demographic data for the statewide community college system for Academic Years 2003-2004, 2004-2005, and 2005-2006.

R&P calculated the rates of community college participation per 1,000 population by age group, gender, and ethnicity as follows:

(Community College Enrollment for Academic Year/DOF Population for Year) x 1,000.

R&P used the DOF data that corresponds to the Fall term of the academic year. For example, for CCCCO academic year 2003-2004, we used DOF annual data for 2003.

Data Sources: Chancellor's Office Management Information System (COMIS) and State of California, Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000-2050.* Sacramento, CA, May 2004.
http://www.dof.ca.gov/HTML/DEMOGRAP/DRU_datafiles/Race/RaceData_2000-2050

Appendix B: Methodology for Systemwide and College Performance Indicators

METHODOLOGY FOR COLLEGE LEVEL INDICATORS

TABLE 1.1: STUDENT PROGRESS AND ACHIEVEMENT RATE

Definition: Percentage of cohort of first-time students with minimum of 12 units earned who attempted a degree/certificate/transfer threshold course within six years and who are shown to have achieved ANY of the following outcomes within six years of entry:

- Earned any AA/AS or Certificate (18 or more units)
- Actual transfer to four-year institution (students shown to have enrolled at any four-year institution of higher education after enrolling at a CCC)
- Achieved "Transfer Directed" (student successfully completed both transfer-level Math AND English courses)
- Achieved "Transfer Prepared" (student successfully completed 60 UC/CSU transferable units with a GPA >= 2.0)

The cohorts consisted of first-time students from 1998-1999 (Cohort 1), 1999-2000 (Cohort 2) and 2000-2001 (Cohort 3) who achieved outcomes by 2003-2004 (Cohort 1), 2004-2005 (Cohort 2) and 2005-2006 (Cohort 3). Transfer was determined by matching with a database generated by the Chancellor's Office that contains NSC, UC and CSU transfers.

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

First-Time Students Who Showed Intent to Complete:
1. Look systemwide* to determine first-time status. First-time status is defined as a student who took a credit course in the CCC system for the first time. Students with prior enrollments outside the CCC system are excluded.
AND
2. SX03 ENROLLMENT-UNITS-EARNED >= 12 at your college and/or anywhere in the system
AND
3. One or more of the following:

1. Transfer/Degree Intent
Attempted Enrollment in course(s) where:
CB03 COURSE-TOP-CODE = 17*, 1501*, 1503*, 1504*, 1507*
CB04 COURSE-CREDIT-STATUS = D

2. Certificate Intent
Attempted Enrollment in course(s) where:
CB09 COURSE-SAM-PRIORITY-CODE = A, B
CB04 COURSE-CREDIT-STATUS = C, D

* Systemwide is defined as all California Community Colleges

TABLE 1.1: STUDENT PROGRESS AND ACHIEVEMENT RATE (continued)

Outcomes

A student must successfully achieve one or more of the following outcomes:

1. Associate of Arts or Sciences Degree
SP02 STUDENT-PROGRAM-AWARD = A, S

2. Certificate (18 plus units)
SP02 STUDENT-PROGRAM-AWARD = L, T, F

3. Transfer Directed
CB03 COURSE-TOP-CODE = 1501*, 1503*, 1504*, 1507*
CB05 COURSE-TRANSFER-STATUS = A, B
SX04 ENROLLMENT-GRADE = A, B, C, CR
AND
CB03 COURSE-TOP-CODE = 17*
CB05 COURSE-TRANSFER-STATUS = A, B
SX04 ENROLLMENT-GRADE = A, B, C, CR

4. Transfer Prepared
CB05 COURSE-TRANSFER-STATUS = A, B
SX03 ENROLLMENT-UNITS-EARNED >= 60 at your college and/or anywhere in the system
SX04 ENROLLMENT-GRADE = A, B, C, CR

5. Transferred to Four-Year Institution
Match with NSC, UC, CSU file

Calculation: Student Progress and Achievement Rate = Outcomes/Cohort

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.1a: PERCENT OF STUDENTS WHO EARNED AT LEAST 30 UNITS

Definition: Percentage of cohort of first-time students with minimum of 12 units earned who attempted a degree/certificate/transfer threshold course within six years of entry who are shown to have achieved the following value-added measure of progress within six years of entry:

- Earned at least 30 units while in the CCC system (value-added threshold of units earned as defined in wage studies as having a positive effect on future earnings.)

The cohorts consisted of first-time students from 1998-1999 (Cohort 1), 1999-2000 (Cohort 2) and 2000-2001 (Cohort 3) who achieved outcomes by 2003-2004 (Cohort 1), 2004-2005 (Cohort 2) and 2005-2006 (Cohort 3).

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

First-Time Students Who Showed Intent to Complete:
1. Look systemwide to determine first-time status. First-time status is defined as a student who took a credit course in the CCC system for the first time. Students with prior enrollments outside the CCC system are excluded.
AND
2. SX03 ENROLLMENT-UNITS-EARNED >= 12 at your college and/or anywhere in the system
AND
3. One or more of the following:
   1. Transfer/Degree Intent
   Attempted Enrollment in course(s) where:
   CB03 COURSE-TOP-CODE = 17*, 1501*, 1503*, 1504*, 1507*
   CB04 COURSE-CREDIT-STATUS = D
   2. Certificate Intent
   Attempted Enrollment in course(s) where:
   CB09 COURSE-SAM-PRIORITY-CODE = A, B
   CB04 COURSE-CREDIT-STATUS = C, D

Outcome

A student must successfully achieve the following outcome:

At Least 30 Units
CB04 COURSE-CREDIT-STATUS = C, D
SX03 ENROLLMENT-UNITS-EARNED >= 30 at your college and/or anywhere in the system

Calculation: Percent of Students Who Earned at Least 30 Units = Outcome/Cohort

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.2: PERSISTENCE RATE

Definition: Percentage of cohort of first-time students with minimum of six units earned in their first Fall term in the CCC who return and enroll in the subsequent Fall term anywhere in the system.

The rate is based on three first-time student cohorts enrolled in Fall 2002 (Cohort 1), Fall 2003 (Cohort 2) and Fall 2004 (Cohort 3). Persistence was measured by their enrollment in Fall 2003 (Cohort 1), Fall 2004 (Cohort 2) and Fall 2005 (Cohort 3).

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

First Time Students Who Showed Intent to Persist:
1. Look systemwide to determine first time status. First-time status is defined as a student who took a credit course in the CCC system for the first time. Enrolled in Fall with prior Summer enrollment also qualifies.
AND
2. SX03 ENROLLMENT-UNITS-EARNED >= 6 at your college and/or anywhere in the system
AND
Remove Students taking only PE classes:
CB03 COURSE-TOP-CODE NE 083500 or 083510
AND
Remove students who transferred to a four-year institution or received an award prior to the subsequent Fall.

Outcome

A student must successfully achieve the following outcome:

Persisted in the Subsequent Fall
Attempted any credit course the subsequent Fall
CB04 COURSE-CREDIT-STATUS = C, D

Calculation: Persistence Rate = Outcome/ Cohort

TABLE 1.3: ANNUAL SUCCESSFUL COURSE COMPLETION RATE FOR CREDIT VOCATIONAL COURSES

Methodology: The cohorts for vocational course completion rate consisted of students enrolled in credit vocational courses in the academic years of interest (2003-2004, 2004-2005, 2005-2006). These cohorts excluded "special admit" students, i.e., students currently enrolled in K-12 when they took the vocational course. Vocational courses were defined via their SAM (Student Accountability Model) priority code. SAM codes A, B, and C indicate courses that are clearly occupational. Success was defined as having been retained to the end of the term (or end of the course) with a final course grade of A, B, C, or CR.

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

All of the following must be true:
1. SB11 STUDENT-EDUCATION-STATUS NE 10000
2. CB04 COURSE-CREDIT-STATUS = C, D
3. CB09 COURSE-SAM-PRIORITY-CODE = A, B, C
4. SX04 ENROLLMENT-GRADE = A, B, C, D, F, CR, NC, I*, W

Outcome

The student must complete the course with:
SX04 ENROLLMENT-GRADE = A, B, C, or CR

Calculation: Successful Course Completion Rate = Outcome/Cohort

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.4: ANNUAL SUCCESSFUL COURSE COMPLETION RATE FOR CREDIT BASIC SKILLS COURSES

Methodology: The cohorts for basic skills course completion rate consisted of students enrolled in credit basic skills courses in the academic years of interest (2003-2004, 2004-2005, 2005-2006). These cohorts excluded "special admit" students, i.e., students currently enrolled in K-12 when they took the basic skills course. Basic skills courses were those having a course designation of P (pre-collegiate basic skills) or B (basic skills, but not pre-collegiate basic skills). Success was defined as having been retained to the end of the term (or end of the course) with a final course grade of A, B, C, or CR.

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

All of the following must be true:
1. SB11 STUDENT-EDUCATION-STATUS NE 10000
2. CB04 COURSE-CREDIT-STATUS = C
3. CB08 COURSE-BASIC-SKILLS-STATUS = P, B
4. SX04 ENROLLMENT-GRADE = A, B, C, D, F, CR, NC, I*, W

Outcome

The student must complete the course with:
SX04 ENROLLMENT-GRADE = A, B, C, or CR

Calculation: Successful Course Completion Rate = Outcome/Cohort

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.5: IMPROVEMENT RATE FOR CREDIT ESL COURSES

Methodology: The ESL improvement rate cohorts consisted of students enrolled in credit ESL courses who successfully completed that initial course. Excluded were "special admit" students, i.e., students currently enrolled in K-12 when they took the ESL course. Only students starting at two or more levels below college level/transfer level were included in the cohorts. Taxonomy of Programs (TOP) codes were used to identify ESL courses. Success was defined as having been retained to the end of the term (or end of the course) with a final course grade of A, B, C, or CR.

Students who successfully completed the initial ESL course were then followed across three academic years (including the year and term of the initial course). The outcome of interest was that group of students who successfully completed a higher-level ESL course or college level English course within three academic years of completing the first ESL course.

Cohorts were developed and followed for academic years 2001-2002 to 2003-2004, 2002-2003 to 2004-2005, and 2003-2004 to 2005-2006.

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

All of the following must be true for cohort selection:
1. SB11 STUDENT-EDUCATION-STATUS NE 10000
2. CB03 COURSE-TOP-CODE = 4930.80, 4930.81, 4930.82, 4931.00
3. CB04 COURSE-CREDIT-STATUS = C
4. CB21 COURSE-PRIOR-TO-COLLEGE-LEVEL NE A
5. SX04 ENROLLMENT-GRADE = A, B, C, CR

Outcome

Within 2 years from the qualifying enrollment for the cohort, the student completes a course with:
CB03 COURSE-TOP-CODE = 4930.80, 4930.81, 4930.82, 4931.00, 1501.**, 1503.**, 1504.**, 1507.**
CB04 COURSE-CREDIT-STATUS = C, D
CB21 COURSE-PRIOR-TO-COLLEGE-LEVEL = Higher level than CB21 for cohort course
SX04 ENROLLMENT-GRADE = A, B, C, or CR

Calculation: Credit ESL Improvement Rate = Outcome/Cohort

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.5: IMPROVEMENT RATE FOR CREDIT BASIC SKILLS COURSES

Methodology: The basic skills improvement rate cohorts consisted of students enrolled in a credit basic skills English or Mathematics course who successfully completed that initial course. Excluded were "special admit" students, i.e., students currently enrolled in K-12 when they took the basic skills course. Only students starting at two or more levels below college level/transfer level were included in the cohorts. Taxonomy of Programs (TOP) codes were used to identify Math and English courses. Basic skills courses were those having a course designation of P (pre-collegiate basic skills) or B (basic skills, but not pre-collegiate basic skills). Success was defined as having been retained to the end of the term (or end of the course) with a final course grade of A, B, C, or CR.

Students who successfully completed the initial basic skills course were followed across three academic years (including the year and term of the initial course). The outcome of interest was that group of students who successfully completed a higher-level course in the same discipline within three academic years of completing the first basic skills course.

Cohorts were developed and followed for academic years 2001-2002 to 2003-2004, 2002-2003 to 2004-2005, and 2003-2004 to 2005-2006.

Data Source: Chancellor's Office Management Information System (COMIS)

Cohort

All of the following must be true for cohort selection:
1. SB11 STUDENT-EDUCATION-STATUS NE 10000
2. CB03 COURSE-TOP-CODE =
   For Math: 17**.**, 4930.40, 4930.41,
   For English: 1501.**, 1503.**, 1504.**, 1507.**, 4930.21,4930.70, 4930.71
3. CB04 COURSE-CREDIT-STATUS = C
4. CB08 COURSE-BASIC-SKILLS-STATUS = P, B
5. CB21 COURSE-PRIOR-TO-COLLEGE-LEVEL NE A
6. SX04 ENROLLMENT-GRADE = A, B, C, CR

Outcome

Within 2 years from the qualifying enrollment for the cohort, the student completes a course with:
CB03 COURSE-TOP-CODE =
   For Math: 17**.**, 4930.40, 4930.41
   For English: 1501.**, 1503.**, 1504.**, 1507.**, 4930.21,4930.70, 4930.71
CB04 COURSE-CREDIT-STATUS = C, D
CB21 COURSE-PRIOR-TO-COLLEGE-LEVEL = Higher level than CB21 for cohort course.
SX04 ENROLLMENT-GRADE = A, B, C, or CR

Calculation: Credit Basic Skills Improvement Rate = Outcome/Cohort

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.6: ANNUAL UNDUPLICATED HEADCOUNT AND FULL-TIME EQUIVALENT STUDENTS

Definition:

Annual Unduplicated Headcount: Annual unduplicated headcount for Table 1.6 is based on students actively enrolled in Summer, Fall, Winter, and/or Spring terms. This headcount includes both credit and noncredit students. A student enrolled in multiple terms was counted only once for the year (i.e., not counted separately for each term). However, because this section of the ARCC report specifically addresses college level demographics, we counted the student at each college where he/she was actively enrolled during that year. For example, if a student enrolled at Yuba College in Summer and Fall 2005 and at American River College in Spring 2006, that student would be counted once at Yuba and once at American River for the 2005-2006 academic year.

Full-Time Equivalent Students (FTES): FTES is the major student workload measure, one of several, used in determining the eligibility for state funding of community colleges. The FTES does not reflect "headcount enrollment," but is the equivalent of 525 hours of student instruction per each FTES. FTES is derived by considering that one student could be enrolled in courses for 3 hours a day, 5 days a week, for an academic year of 35 weeks---so basically, a total of 525 hours per one FTES.

Methodology:

Annual Unduplicated Headcount: The annual unduplicated headcount was obtained from the Chancellor's Office Management Information System (COMIS) for academic years 2003-2004, 2004-2005, and 2005-2006 (Summer, Fall, Winter, and Spring terms).

FTES: The FTES reports were obtained from Fiscal Services. Fiscal Services calculates FTES under four different attendance accounting formulas:

- Positive attendance (actual attendance of each class meeting)
- Census week (e.g., weekly census) (coterminous course that lasts the full term)
- Daily census (a course that does not last the full term--example: summer and winter intersession)
- Independent study (distance education/work experience education)

Each method of attendance accounting ultimately calculates to a number of FTES (workload in hours) based on the number of students enrolled, the length of the course, and divided by 525.

The major number of FTES reported by the colleges are generated in weekly census procedure courses that are scheduled in the primary terms (quarter or semester system).

TABLE 1.6: ANNUAL UNDUPLICATED HEADCOUNT AND FULL-TIME EQUIVALENT STUDENTS (continued)

Courses that are scheduled as "weekly census" must be scheduled the same number of hours each week of the primary term. The terms usually equate to 35 weeks, but in some instances there are more weeks, or fewer weeks, than 35. However, in the calculation of FTES for any primary term weekly census course, the term-length-multiplier (TLM) may not exceed 17.5 (one-half of two terms totaling 35).

As per requirements in the California Code of Regulations, for weekly census courses, a census point is determined for purposes of accounting for enrolled students. To calculate FTES, the number of actively enrolled students in each course are multiplied by the number of scheduled hours as of the census day, the number of hours are then multiplied by 17.5 and divided by 525. (This calculation is made for each primary term.)

Data Source:

Annual Unduplicated Headcount: Chancellor's Office Management Information System (COMIS)

FTES: 320 Report from CCCCO Fiscal Services (recalculation of annual data).

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.7: AGE OF STUDENTS AT ENROLLMENT

Methodology: Counts of students by age at enrollment for each college were obtained from the Chancellor's Office Management Information System (COMIS) for academic years 2003-2004, 2004-2005, and 2005-2006.

The percentages in Tables 1.7 through 1.9 are calculated by dividing the number of students in each category by the unduplicated annual headcount for that college. See Table 1.6 Methodology for a definition of unduplicated annual headcount.

Data Source: Chancellor's Office Management Information System (COMIS)

TABLE 1.8: GENDER OF STUDENTS

Methodology: Counts of students by gender for each college were obtained from the Chancellor's Office Management Information System (COMIS) for academic years 2003-2004, 2004-2005, and 2005-2006.

The percentages in Tables 1.7 through 1.9 are calculated by dividing the number of students in each category by the unduplicated annual headcount for that college. See Table 1.6 Methodology for a definition of unduplicated annual headcount.

Data Source: Chancellor's Office Management Information System (COMIS)

Appendix B: Methodology for Systemwide and College Performance Indicators

TABLE 1.9: ETHNICITY OF STUDENTS

Methodology: Counts of students by ethnicity for each college were obtained from the Chancellor's Office Management Information System (COMIS) for academic years 2003-2004, 2004-2005, and 2005-2006.

The percentages in Tables 1.7 through 1.9 are calculated by dividing the number of students in each category by the unduplicated annual headcount for that college. See Table 1.6 Methodology for a definition of unduplicated annual headcount.

Data Source: Chancellor's Office Management Information System (COMIS)

Appendix D: Peer Grouping Methodology

Introduction

This appendix documents the technical details of the peer grouping method used in the ARCC. Researchers and individuals with some background in statistical analysis will probably have little trouble understanding this material. We also assume that institutional researchers at each college or district will need to understand these technical details in order to help various local constituencies in their comprehension and usage of the peer group comparisons.

The Objective of Peer Grouping

To understand the methodology of the ARCC peer grouping, we should note the following objective that this analysis aimed to achieve.

> *Peer grouping will complement the other ARCC sources of information about college level performance by giving decision makers a way to compare each college's performance with the performances of other "like" colleges on each selected performance indicator (each ARCC outcome measure), in a fair and valid manner.*

General Strategy of ARCC Peer Grouping

The System Office (CCCSO) implemented a strategy for peer grouping that used the following four basic steps in the sequence shown below.

1. For each performance indicator/outcome use prior research and input from college officials/researchers to identify those factors that affect the outcome but that lie beyond the control of each college administration. (These uncontrollable factors are often referred to as "environmental factors.")

2. For the environmental factors of each performance indicator identify a feasible data source that the CCCSO can use in its statistical analysis.

3. For each performance indicator, develop a regression model that will allow us to identify a parsimonious set of uncontrollable factors that the CCCSO can use to "level the playing field" in any between-college comparison of performances.

4. Using the parsimonious set of uncontrollable factors identified by regression modeling, use *cluster analysis* (a standard multivariate statistical tool) to identify for a college and for each performance indicator those colleges that most closely resemble it (the college of interest) in terms of these uncontrollable factors.

These four steps entailed a large amount of staff work, and in the interest of efficiency, we limit this appendix to only the fourth step, the cluster analysis. Appendix C includes a listing of the environmental factors collected and a summary of the regression models.

Appendix D: Peer Grouping Methodology

Cluster Analysis As A General Tool

Cluster analysis is a well-developed quantitative method of identifying groups of entities from a population of entities. Major references for cluster analysis became available to researchers as early as 1963 (Sokal & Sneath, 1963). This method can apply to any kind of entity, and past applications have clustered entities as diverse as colleges, states, cities, students, sports teams and players, patients, hospitals, and businesses, to mention a few. In past years, researchers have used it for developing taxonomies, especially with respect to the biological studies (i.e., horticulture, zoology, and entomology).

Depending upon the objective of the researcher, the cluster analysis chooses one or more measurements (aka "variables") of each entity in a population to produce a numerical indicator of "distance" between each entity in a given population. The researcher's objective is imperative in that this will drive the choice of measurements that more or less "determine" the eventual groupings or clusters. If the researcher chooses measurements that poorly reflect the researcher's objective, then the cluster analysis will probably produce a grouping that has marginal validity, if any.

Based upon the aforementioned inter-entity distances, cluster analysis then proceeds to identify sets of entities within a defined population by comparing sets of distances. In the vernacular of cluster analysis, these distances are also called "proximities." If the population under study contains a very unique entity in it, then the cluster analysis may produce, among its groupings, a cluster of one (i.e., a group containing only one case) to preserve the uniqueness of this one entity with respect to the population under study and the researcher's objective.

The development of computers greatly facilitated cluster analysis so that complex calculations for cluster analysis became very feasible for applied social research and evaluation. The major statistical software programs on the market today all offer routines to execute cluster analysis. In the ARCC analysis, CCCSO staff used one particular package known as *SPSS version 12*.

A procedure known as *hierarchical clustering* exploits computer power by moving through a large number of iterations to progressively "join" one college to another college that the computer finds is its "closest neighbor." The program will then join this resulting pair to the next most similar college (the next closest neighbor), and so on until no other colleges of sufficient similarity can be joined to this initial set. The procedure then repeats this "joining" process for each of the remaining colleges that the program has not already joined with some other college. Hierarchical clustering has great popularity among researchers because researchers can use the computer-generated record of the entire "joining" process as a tool to evaluate the quality of the cluster groupings (Everitt, Landau, & Leese, 2001). The ARCC peer grouping used this well-established procedure.

Appendix D: Peer Grouping Methodology

Cluster Analysis in the ARCC Peer Grouping

CCCSO staff reviewed the standard options for conducting a cluster analysis method and used the following four steps for the ARCC peer grouping:

1. Define a practical number of clusters to be identified.
2. Select a proximity measure that effectively captures the difference or "distance" between colleges on the basis of their levels of analyst-specified variables (the uncontrollable factors we had identified for each ARCC outcome).
3. Select and use a cluster identification algorithm that applies a specific decision rule (i.e., a type of logic) to cluster the colleges into mutually exclusive groups.
4. Prevent bias in the clustering that may result from using variables that use different scales of measurement (i.e., miles vs. student headcounts or percentage of students, and so forth).

The following section reports on how CCCSO implemented the four steps listed above.

1.

The peer grouping identifies six distinct peer groups for the 109 community colleges in the system. This "target" of six groups addressed administrative concerns over the identification of too many peer groups and a plethora of single-college peer groups (that is, the finding of some colleges that lacked any statistical peers for comparison).

2.

The chosen measure of distance between each community college in the system is the so-called *squared Euclidean distance*. This is the most common measure of proximity in cluster analysis. For the quantitatively inclined reader, the formula for computing the Euclidean distance is as follows:

$$d_{ij} = \left[\sum_{k=1}^{p} (x_{ij} - x_{jk})^2 \right]^{1/2}$$

where x_{ik} and x_{jk} are, respectively, the kth variable value of the p-dimensional observations for individuals i and j (Everitt, Landau, & Leese, 2001).

3.

The preferred method of cluster formation in the ARCC analysis is *average linkage between groups*. However, in the peer grouping for four of the outcomes, CCCSO staff switched to *Ward's method* because average linkage between groups produced too many clusters containing only one college. These two methods of cluster formation basically use a search process to find the combination of colleges that satisfies a specific decision rule. The decision rules for these two different cluster formation methods can appear a bit complex, but we will give a conceptual summary of them below.

Appendix D: Peer Grouping Methodology

Average linkage between groups works by iteratively comparing the distance between any two clusters to see if they should join (or merge) to form a single cluster. This method computes the "average of the distance between all pairs of individuals that are made up of one individual from each group" to determine if a joining of two clusters should occur. Average linkage is relatively robust (i.e., it is less sensitive to outlying values) (Everitt, Landau, & Leese, 2001).

According to Bailey (1994), *Ward's method* "begins with each object treated as a cluster of one. Then objects are successively combined. The criterion for combination is that the within-cluster variation as measured by the sum of within-cluster deviation from cluster means (error sum of squares) is minimized. Thus, average distances among all members of the cluster are minimized." *Ward's method* has a tendency to produce clusters of approximately similar size (i.e., number of members in each cluster) (Everitt, Landau, & Leese, 2001).

4.
The CCCSO staff converted the measures of the uncontrollable factors for each outcome so that their different units of measurement would have no effect upon the clustering solutions. Staff converted these measures by *standardizing the variables to unit variance* (also known as converting measurements to *z-scores*). Major statistical programs readily perform this conversion by dividing the original values in the data set by their corresponding *standard deviations* (Everitt, Landau, & Leese, 2001).

Concluding Thought

An excellent piece of advice that we constantly entertained during the peer group analysis covers the use of cluster analysis:

> "Cluster analysis methods involve a mixture of imposing a structure on the data and revealing that structure which actually exists in the data...To a considerable extent a set of clusters reflects the degree to which the data set conforms to the structural forms embedded in the clustering algorithm...In the quest for clusters two possibilities are often overlooked...The data may contain no clusters...The data may contain only one cluster..." (Anderberg, 1973).

References

Anderberg, M.R. (1973). *Cluster analysis for applications*. New York: Academic Press.

Bailey, K.D. (1994). *Typologies and taxonomies: an introduction to classification techniques*. Thousand Oaks, CA: Sage.

Everitt, B.S., Landau, S., and Leese, M. (2001) *Cluster analysis*. New York: Oxford.

Sokal, R.R., and Sneath, P.H. (1963). *Principles of numerical taxonomy*. Freeman: London.

Appendix E: Terms and Abbreviations

Abbreviation	Definition
AA AS	Associate of Arts Degree Associate of Science Degree An associate degree shall be awarded to any student who successfully completes the prescribed course of study for the degree while maintaining the requisite grade point average, the course of study required for the student's major, and any required academic elective courses. (California Code of Regulations, Title 5, §55800.5)
AB 1417	Assembly Bill (AB) 1417 legislation sponsored by Pacheco, Chapter 581, Statutes of 2004, that established ARCC.
Academic Year	For purposes of COMIS this refers to all the terms in one year beginning with the summer term and ending with the spring term (Summer, Fall, Winter, Spring).
ARCC	Accountability Reporting for the Community Colleges, initially established by AB 1417 (Pacheco, Chapter 581, Statutes of 2004).
BA Index	BA Index: The Bachelor of Arts/Sciences Index represents the bachelor degree attainment of the population, 25 years or older in a college's service area. This index, created by CCCCO, combines the enrollment patterns (Fall 2000) of students by ZIP code of residence with educational data for ZCTA (ZIP Census Tabulation Area) codes obtained from Census 2000.

Appendix E: Terms and Abbreviations

Abbreviation	Definition
BA	Bachelor of Arts Degree For candidates electing, pursuant to Section 40401, to meet graduation requirements established prior to the 2000-01 academic year, the total semester units required for the Bachelor of Arts Degree, of which at least 40 shall be in the upper division credit, shall be 124 semester units. For candidates for the Bachelor of Arts degree who are meeting graduation requirements established during or after the 2000-01 academic year, a minimum of 120 semester units shall be required, including at least 40 semester units in upper-division courses or their equivalent. (California Code of Regulations, Title 5, §40500)
BS	Bachelor of Science Degree For candidates electing, pursuant to Section 40401, to meet graduation requirements established prior to the 2000-01 academic year, the total semester units required for the Bachelor of Science degree shall be 124 to 132 semester units, as determined by each campus, except that 140 semester units may be required in engineering. For candidates for the Bachelor of Science degree who are meeting graduation requirements established during or after the 2000-01 academic year, a minimum of 120 semester units shall be required. (California Code of Regulations, Title 5, §40501)

Appendix E: Terms and Abbreviations

Abbreviation	Definition
Basic Skills	Courses designed to develop reading or writing skills at or below the level required for enrollment in English courses one level below freshman composition, computational skills required in mathematics courses below Algebra, and ESL courses at levels consistent with those defined for English. (Based on a Basic Skills Study Session for the BOG.)
BOG	Board of Governors of the California Community Colleges
CAN	California Articulation Number: System of cross reference numbers designed to identify courses of comparable context.
CCC	California Community Colleges
CCCCO	California Community Colleges Chancellor's Office
Certificate	The governing board of a community college district shall issue a certificate of achievement to any student whom the governing board determines has completed successfully any course of study or curriculum for which a certificate of achievement is offered. (California Code of Regulations, Title 5, §55808)
CCLC	Community College League of California The non-profit entity that serves community college districts, locally-elected governing boards, and college chief executive officers statewide.
Cohort	We recognize there are other definitions for cohort, but for the purpose of this report, we are using the MIS definition, which refers to the establishment of a group of records based on specific criteria and tracked over time. Commonly used to refer to a specific set of students such as first-time freshmen who are tracked over a number of years.

Appendix E: Terms and Abbreviations

Abbreviation	Definition
COMIS	Chancellor's Office Management Information System
Course	A series of lectures, labs, or other matter providing instruction on a specific subject.
CPEC	California Postsecondary Education Commission
CSU	California State University
DED	Data Element Dictionary. The DED provides all specifications for all data elements collected by the Chancellor's Office and loaded into the COMIS database.
Degree	A degree shall be awarded to any student who successfully completes the prescribed course of study for the degree while maintaining the requisite grade point average, the course of study required for the student's major, and any required academic elective courses. (California Code of Regulations, Title 5, §55809)
Derived Data Elements	A data element that has been modified in programming to achieve some desired end.
DOF	Department of Finance, State of California
Domain	The criteria describing the type of records included in a particular report or study.
EDD	Employment Development Department, State of California
Enrollment	As used in our report, enrollment refers to one filled seat in a classroom per section.
ESAI	The Economic Service Area Index reflects the economic "composition" of geographic areas from which that college draws its students. This index, created by CCCCO, combines the enrollment patterns (Fall 2000) of students by ZIP code of residence with income data (1999) for ZCTA (ZIP Census Tabulation Area) codes obtained from Census 2000.
ESL	English as a Second Language

Appendix E: Terms and Abbreviations

Abbreviation	Definition
Fiscal Year	One year, beginning July 1 and ending June 30.
FTES	Full-time equivalent student (FTES) is the major student workload measure, one of several, used in determining the eligibility for state funding of community colleges.
ISP	In-State Private Institution
LAO	Legislative Analyst's Office, California's Nonpartisan Fiscal and Policy Advisor
NSC	National Student Clearinghouse
OOS	Out-of-State Institution
Peer Group	In the ARCC, a peer group is the set of community colleges that have common characteristics with respect to a specific performance indicator. R&P staff derived a peer group for each college by indicator through a statistical method called cluster analysis. So each college will have a peer group for each performance indicator in ARCC. The basic objective of our peer grouping is to enable policy makers and administrators to make a relatively equitable and valid evaluation of a college's performance by comparing that performance to the performances of similar institutions.
RP Group	Research and Planning Group for California Community Colleges
R&P	Research and Planning Unit, CCCCO
SAAP	The Student Average Academic Preparation Index, created by CCCCO, measures the student average academic preparation for a particular college. The index was created by a match of Fall 2000 students with Stanford-9 scores from public high school students (1998-1999).
SAM Codes	Student Accountability Model: Codes reflecting the type of course
Section	An offering of a course
System Office	California Community Colleges Chancellor's Office

Appendix E: Terms and Abbreviations

Abbreviation	Definition
Systemwide	All California Community Colleges
TOP Codes	Taxonomy of Programs: Used for course content as well as program identification. For further information on TOP codes, consult the most recent edition of *The California Community Colleges Taxonomy of Programs*, available at the CCCCO Web site.
Uncontrollable Factors	These are the variables in the ARCC analyses that "level the playing field" in the inter-institutional comparisons of performance (i.e., the peer group tables). People often also refer to these uncontrollable factors as "environmental factors," or "adjustment factors," or "exogenous variables." These factors are the variables that theoretically affect an outcome (i.e., a performance indicator) but fall outside of the control of college administrators. The ARCC analyses identify the most salient uncontrollable factors for each ARCC outcome, and the ARCC peer grouping uses these factors to create comparison groups of colleges that share similar environments. This process to "control" or adjust comparisons for these factors reduces the chance that a particular peer group will lead to a comparison of "apples to oranges."