

Academic Performance of Students with Disabilities at Cabrillo College

Rick Fillman
Institutional Research Analyst
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The Disabled Students Program and Services (DSPS) offers a variety of services to assist students with disabilities as they participate in mainstream college classes.

This report compares the performance and achievement of students with disabilities with those of the general student population at Cabrillo College. The report takes existing indicators that have previously (and recently) been published for the general college population, and applies those measures to DSPS students. Part I examines course-level Success/Retention in English and Math using the same format as is published in the Cabrillo College Fact Book. Part II utilizes the Accountability Report for Community Colleges (ARCC) framework for measuring longer term student success and achievement.

Students served by DSPS are identified in the local Datatel student system. Data on who is served, the student's type of primary disability, and the number of service contacts are reported to the System Office through the California Community Colleges MIS data reporting system, and consequently, the same data is available in Cabrillo College Research Data Warehouse.

Over the past ten years, about 362 new students were added to the population served by DSPS each academic year, on average¹. The headcount of first-time DSPS students is detailed in the following table.

<u>Academic Year</u>	<u>Headcount</u>
1999-00	383
2000-01	395
2001-02	459
2002-03	394
2003-04	370
2004-05	372
2005-06	344
2006-07	309
2007-08	341
2008-09	258

These are the students whose records will be examined in comparison to the general student population at Cabrillo College. In any given Fall or Spring term, about one quarter of these students are attending Full Time (carrying 12 or more units). This is nearly the same proportion as for the overall Cabrillo College student population. The next table shows the average Full-Time/Part-Time enrollment percentages over the past eight years.

¹ This excludes Stroke Center only students. See Appendix C for an explanation of how Stroke Center only students were identified.

	Overall Cabrillo	DSPS
Full-Time	25.1%	24.9%
Part-Time	74.9%	75.1%

Part I – Course-level Success and Retention.

Course-level success and retention is a measure that has traditionally been examined by academic departments and programs at the college. Briefly stated, success rates include everyone enrolled (as of Census Day) in a course who earned an A, B, C (or CR) grade. Retention rates include everyone who completed the course earning any grade at all, *except W* or DR. In other words, retention rates include those who stayed in the course without dropping after census. The source for the Success and Retention data is the local Cabrillo College Research Data Warehouse, and is limited to courses taken at Cabrillo.

For programs such as English and Math that offer basic skills instruction, success and retention data for the overall Cabrillo student population have been compiled according to level - 200, 100 and Transfer level courses. Rates for the past five years have been published in the Fact Book. This study will utilize the format of these reports, and recompile the success and retention rates limiting enrollment records to members of the DSPS cohorts.

In general, the comparison data shows that DSPS students' performance in most cases comes close to, and in some areas even slightly exceeds the rates of the overall college population. Closer inspection shows differences depending on the discipline and level, with the most pronounced differences occurring in transfer level Math.

DSPS student success rates in English courses at the 200 level lag a little (by 5.4 percentage points) in comparison with the overall rate for Cabrillo students. Retention at this level lags as well but to a lesser degree (by 2.6 percentage points). In 100-level English courses, on the other hand, both the success and retention rates for DSPS students slightly exceed those of the general Cabrillo population (by about 1 percentage point each). For transfer level English, the pattern is reversed, with DSPS students' rates about 1 percentage point below those of the general student population. These rates, by level, for the past five academic years, are detailed in Appendix A.

In Math, there is more divergence. In 200 level Math courses, success rates for DSPS students lag somewhat (by about 4 percentage points) although retention in Math courses at this level exceeds the rates of the general college population (by about two percentage points). At the 100 level, DSPS students' success rates lag a little (by about 2.6 percentage points) while retention lags less (by about 1 percentage point).

Transfer level math courses are some of the most challenging courses offered at the college as evidenced by the fact that these are courses where both the success and

retention rates for the general student population are considerably lower than the college-wide average. The level of challenge would appear to be magnified for DSPS students, as the success rates in transfer-level math show a pronounced lag (7.4 percentage points) in comparison with the general college population. Retention rates here lag as well, but by a lesser degree (4.3 percentage points). The rates for Math, by level, for the past five academic years are detailed in Appendix B.

Part II – Applying ARCC measures to the DSPS population.

The Accountability Reporting for the Community Colleges (ARCC) specifies a statewide framework for measuring student progress. It was the result of 2004 legislation (AB 1417). The January draft of the 2009 ARCC report contains the latest numbers available at this time. Initially, it is intended for use at two levels: the individual college level and across the community college system. The legislation requires publication of the indicators, and further requires that the data be examined by local Boards of Trustees, and that local college officials issue an official response.

The System Office has recently given college researchers access to student-level data which were used in producing the statewide reports. This allows local researchers a chance to locally analyze and validate the ARCC metrics published for their college. It also provides an opportunity to apply the same metrics to specific populations within the college. This will be the approach for this section of the report, which examines the progress and achievement of DSPS students at Cabrillo College in the context of the ARCC Student Progress and Achievement Rate (SPAR) or ARCC indicator #1.

Since the ARCC data is compiled by the System Office, it has the advantage of having system-wide scope. The means that records of attendance at other community colleges in California will be considered in determining which students meet the achievement milestones.

Not all students who enroll at the college are included in this measure. Only students who indicate a minimum level of intention toward an academic or career path are studied. To be included in the ARCC SPAR cohorts, a student must have accumulated 12 units and have either attempted a degree-applicable English or Math course² or who have attempted a for-credit CTE (Career Technical Education – formerly known as vocational) course. Then, these students are re-examined six years later, to see if the student reached certain milestones.

Since this is a measure taken six years after the student's first enrollment somewhere in the community college system, the most recent group that can be included are those who enrolled during the 2002-03 academic year. The 2009 ARCC report for this indicator looks

² At Cabrillo, this would be a 100-level English or Math course.

at the achievement of three cohort groups – those whose first enrollment occurred in 2000-01, in 2001-02 and in 2002-03. The table that follows shows how many DSPS students and non-DSPS students met this minimum level of intention toward an academic or career path, and are therefore included in the ARCC SPAR cohorts.

<u>Cohort Year</u>	<u>Not DSPS</u>	<u>DSPS</u>	<u>Cabrillo Total</u>
2000-2001	1565	143	1708
2001-2002	1584	131	1715
2002-2003	1568	126	1694

For any of these students to be included in the outcome group, a student must have reached *any* of the following five milestones with the six years:

- Transferred to a Four-Year Institution
- Awarded an AA or AS Degree
- Awarded a Certificate (of 18 plus units)
- Achieved Transfer Prepared status
- Achieved Transfer Directed status

For the published version of the ARCC report, an overall rate is calculated. That rate indicates the percent of students who achieved *any* of these milestones within six years. The table that follows repeats the ARCC SPAR rates published by the System Office for Cabrillo College, and additionally shows the rates for DSPS students in the cohorts. While the overall rate for DSPS students falls below that of the general college population, DSPS students have higher rates of achievement for certain milestones.

ARCC SPAR overall	Overall Cabrillo	DSPS Students
2000-2001	49.5%	36.4%
2001-2002	50.6%	42.7%
2002-2003	51.4%	34.9%

The availability of student-level data allows for examination of the rates for each of the milestones, separately. *As this level of analysis is not published in the documents released by the System Office, the rates that follow may be of general interest to anyone at the college who may wish to get a better understanding of exactly how Cabrillo students, disabled or otherwise get into the ARCC SPAR outcome group.*

The next two tables show the percent of students who received an AA or AS degree, or who received a Certificate of 18 or more units. For the 2001-2002 cohort, a slightly higher percentage of DSPS students received an AA or AS degree as compared with the rate of degrees awarded for the overall Cabrillo cohort. On the other hand, the percentage of DSPS cohort members who were awarded a Certificate of 18 or more units consistently exceeds the percentage of certificates awarded in the general Cabrillo cohort.

Awarded an AA or AS Degree			
		Overall Cabrillo	DSPS Students
	2000-2001	21.7%	15.4%
	2001-2002	20.9%	21.4%
	2002-2003	21.5%	17.5%

Awarded a Certificate (of 18 or more units)			
		Overall Cabrillo	DSPS Students
	2000-2001	1.6%	4.2%
	2001-2002	1.6%	2.3%
	2002-2003	2.7%	3.2%

The next two ARCC SPAR milestones are based on a student's academic record. Transfer Directed is achieved by successful completion of transfer level English *and* Math. Successful completion means that a student received a grade of A, B, C or CR. Transfer Prepared refers to a student who has earned sixty or more units in transfer level courses, with a grade of A, B, C, or CR at the local college or another college in the community college system. In these measures, DSPS student achievement rates lag somewhat in comparison with the general student population.

Achieved Transfer Directed status			
		Overall Cabrillo	DSPS Students
	2000-2001	34.7%	23.1%
	2001-2002	32.7%	25.2%
	2002-2003	34.0%	19.8%

Achieved Transfer Prepared status			
		Overall Cabrillo	DSPS Students
	2000-2001	23.2%	15.4%
	2001-2002	21.8%	17.6%
	2002-2003	24.1%	14.3%

The final achievement metric included in ARCC SPAR is actual transfer to a 4-year institution. DSPS cohort members show fewer transfers than the overall Cabrillo cohort.³

³ The System Office identifies transfer by matching records with data from the National Student Clearinghouse, University of California, and California State University

Transferred to a Four-Year Institution			
		Overall Cabrillo	DSPS Students
	2000-2001	30.1%	15.4%
	2001-2002	32.1%	19.1%
	2002-2003	33.4%	21.4%

There is one additional measure of achievement that is included in the ARCC SPAR report, although this one is computed separately from the above. This is the percentage of the same cohort groups who, within six years, have earned at least 30 units in credit courses while in the community college system. According to the ARCC report, the significance of this measure is that this is a threshold associated with a having a positive effect on future earnings. The table that follows shows the overall rates for the Cabrillo cohorts and the rate for the disabled students in the cohorts.

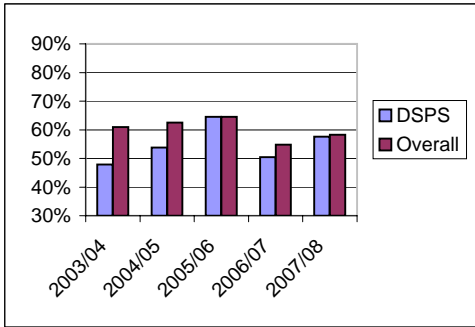
Completed 30 or more Units			
		Overall Cabrillo	DSPS Students
	2000-2001	70.0%	74.8%
	2001-2002	70.2%	74.0%
	2002-2003	70.8%	78.6%

For this measure, the rates for DSPS students consistently exceed those of the general student population.

Appendix A - Success and Retention in English

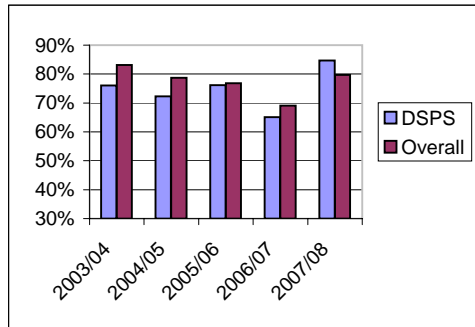
Success

200 level English Courses (Basic Skills)

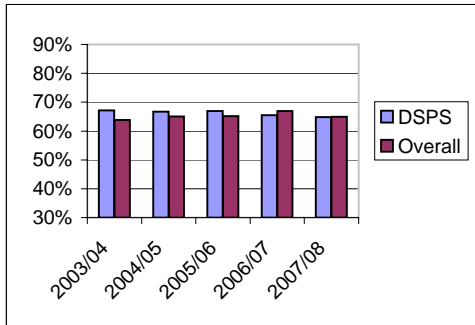


Retention

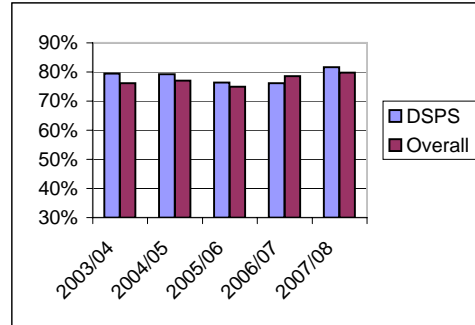
200 level English Courses (Basic Skills)



100 level English Courses



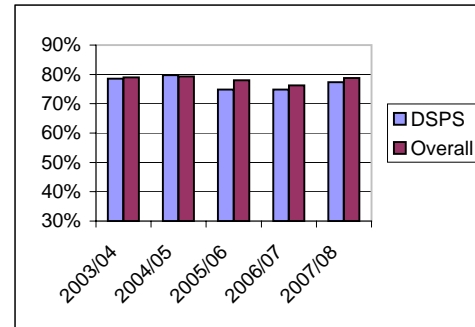
100 level English Courses



Transfer level English Courses



Transfer level English Courses



ENGLISH

Success

200 level English Courses (Basic Skills)

	DSPS	Overall
2003/04	47.9%	61.0%
2004/05	53.8%	62.5%
2005/06	64.5%	64.5%
2006/07	50.4%	54.8%
2007/08	57.6%	58.3%
Average	54.8%	60.2%

Retention

200 level English Courses (Basic Skills)

	DSPS	Overall
2003/04	76.0%	83.1%
2004/05	72.3%	78.7%
2005/06	76.2%	76.8%
2006/07	65.1%	69.1%
2007/08	84.7%	79.7%
Average	74.9%	77.5%

Success

100 level English Courses

	DSPS	Overall
2003/04	67.2%	63.8%
2004/05	66.7%	65.1%
2005/06	66.9%	65.2%
2006/07	65.5%	66.9%
2007/08	64.8%	64.9%
Average	66.2%	65.2%

Retention

100 level English Courses

	DSPS	Overall
2003/04	79.4%	76.2%
2004/05	79.2%	77.0%
2005/06	76.4%	75.0%
2006/07	76.1%	78.6%
2007/08	81.6%	79.8%
Average	78.5%	77.3%

Success

Transfer level English Courses

	DSPS	Overall
2003/04	69.2%	70.9%
2004/05	71.9%	70.8%
2005/06	67.0%	69.7%
2006/07	62.9%	65.9%
2007/08	66.5%	68.1%
Average	67.5%	69.1%

Retention

Transfer level English Courses

	DSPS	Overall
2003/04	78.5%	79.0%
2004/05	79.8%	79.3%
2005/06	74.8%	78.0%
2006/07	74.8%	76.3%
2007/08	77.3%	78.8%
Average	77.0%	78.3%

Enrollment, Success, and Retention in English

DSPS STUDENT PERFORMANCE

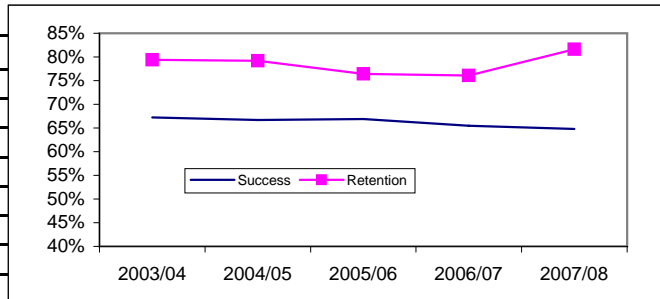
200 level English Courses (Basic Skills)			
Year	Enrollments	Success	Retention
2003/04	146	47.9%	76.0%
2004/05	131	53.8%	72.3%
2005/06	173	64.5%	76.2%
2006/07	129	50.4%	65.1%
2007/08	87	57.6%	84.7%
% Change	-32.6%	14.3%	30.1%



MIS Course [CB08]="B" (Basic Skills)

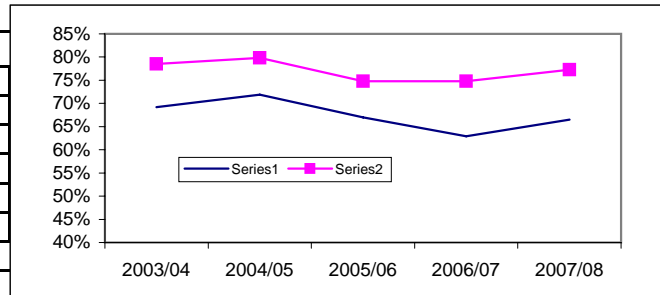
Includes courses: ENGL250, ENGL251, ENGL255, ENGL256E, ENGL256SL, ENGL290

100 level English Courses			
Year	Enrollments	Success	Retention
2003/04	428	67.2%	79.4%
2004/05	377	66.7%	79.2%
2005/06	254	66.9%	76.4%
2006/07	229	65.5%	76.1%
2007/08	304	64.8%	81.6%
% Change	32.8%	-1.1%	7.2%



Includes courses: ENGL100, ENGL100L, ENGL115, ENGL151, ENGL153, ENGL155A, ENGL155CJ, ENGL155MA

Transfer level English Courses			
Year	Enrollments	Success	Retention
2003/04	419	69.2%	78.5%
2004/05	361	71.9%	79.8%
2005/06	322	67.0%	74.8%
2006/07	310	62.9%	74.8%
2007/08	272	66.5%	77.3%
% Change	-12.3%	5.7%	3.3%



Includes courses: ENGL12A, ENGL12B, ENGL12C, ENGL12E, ENGL14A, ENGL14B, ENGL14E, ENGL1A, ENGL1AMC, ENGL1 ENGL1BMC, ENGL1C, ENGL2, ENGL20B, ENGL22, ENGL23A, ENGL24A, ENGL24B, ENGL2MC, ENGL30A, ENGL30B, ENGL ENGL39, ENGL46A, ENGL46B, ENGL48A, ENGL49A, ENGL49B, ENGL50, ENGL80S

Success = Course enrollment divided by the number of grades **A, B, C,** or **CR** awarded

Retention = Course enrollment divided by the number of grades **A, B, C, D, F, CR,** or **NC** awarded

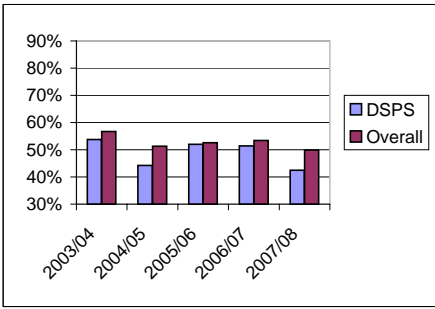
Special grade codes of IF, XX, UD, UG, RD grades are not include in computations.

Source: Data Warehouse

Appendix B - Success and Retention in Math

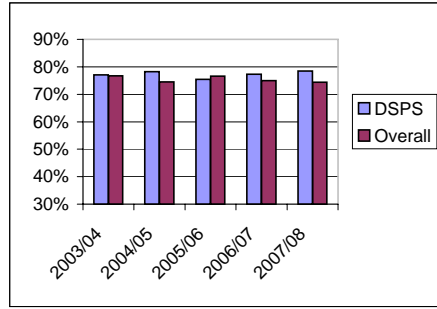
Success

200 level Math Courses (Basic Skills)



Retention

200 level Math Courses (Basic Skills)



MATH

Success

200 level Math Courses (Basic Skills)

	Success	
	DSPS	Overall
2003/04	53.8%	56.7%
2004/05	44.2%	51.3%
2005/06	52.0%	52.6%
2006/07	51.4%	53.4%
2007/08	42.5%	49.9%
Average	48.8%	52.8%

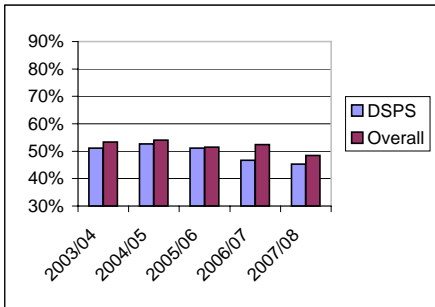
MATH

Retention

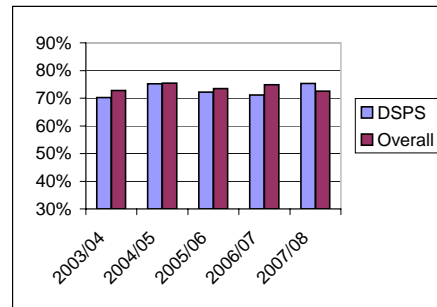
200 level Math Courses (Basic Skills)

	Retention	
	DSPS	Overall
2003/04	77.1%	76.7%
2004/05	78.2%	74.5%
2005/06	75.4%	76.6%
2006/07	77.3%	75.0%
2007/08	78.5%	74.4%
Average	77.3%	75.4%

100 level Math Courses



100 level Math Courses



Success

100 level Math Courses

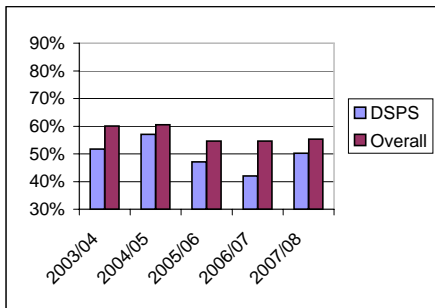
	Success	
	DSPS	Overall
2003/04	51.1%	53.4%
2004/05	52.6%	54.1%
2005/06	51.1%	51.5%
2006/07	46.7%	52.4%
2007/08	45.3%	48.5%
Average	49.4%	52.0%

Retention

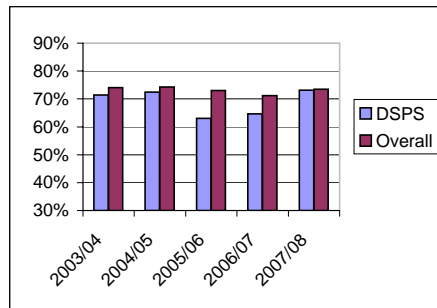
100 level Math Courses

	Retention	
	DSPS	Overall
2003/04	70.2%	72.8%
2004/05	75.2%	75.4%
2005/06	72.2%	73.5%
2006/07	71.2%	74.8%
2007/08	75.3%	72.5%
Average	72.8%	73.8%

Transfer level Math Courses



Transfer level Math Courses



Success

Transfer level Math Courses

	Success	
	DSPS	Overall
2003/04	51.7%	60.1%
2004/05	57.0%	60.5%
2005/06	47.1%	54.6%
2006/07	42.0%	54.6%
2007/08	50.2%	55.3%
Average	49.6%	57.0%

Retention

Transfer level Math Courses

	Retention	
	DSPS	Overall
2003/04	71.4%	74.1%
2004/05	72.5%	74.3%
2005/06	63.0%	73.0%
2006/07	64.6%	71.2%
2007/08	73.1%	73.5%
Average	68.9%	73.2%

Appendix B (continued)

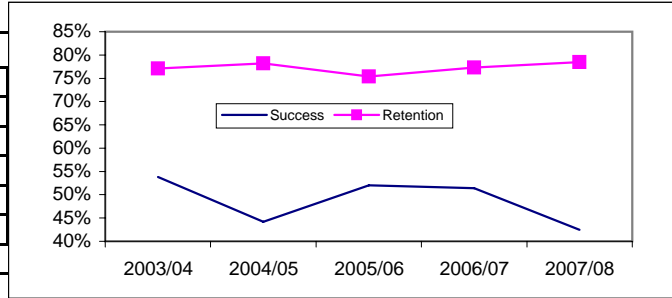
Enrollment, Success, and Retention in Math

DSPS STUDENT PERFORMANCE

200 level Math Courses (Basic Skills)			
Year	Enrollments	Success	Retention
2003/04	224	53.8%	77.1%
2004/05	198	44.2%	78.2%
2005/06	175	52.0%	75.4%
2006/07	185	51.4%	77.3%
2007/08	181	42.5%	78.5%
% Change	-2.2%	-17.3%	1.6%

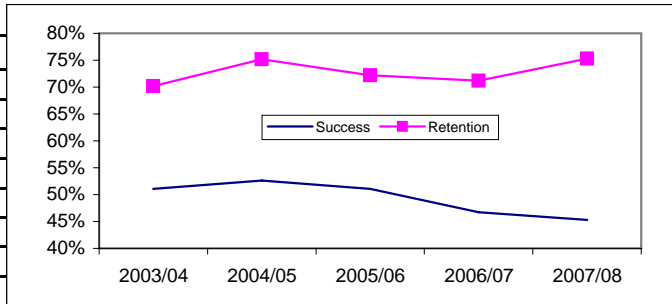
MIS Course [CB08]="B" (Basic Skills)

Includes courses: MATH254, MATH254A, MATH254B



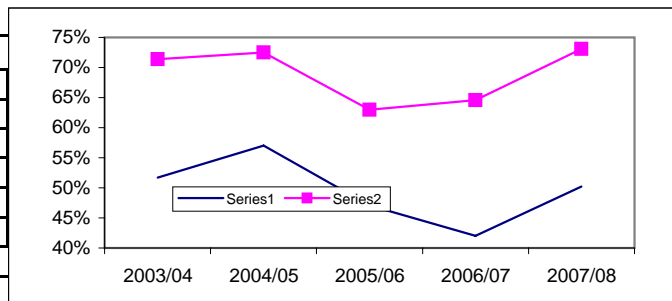
100 level Math Courses			
Year	Enrollments	Success	Retention
2003/04	407	51.1%	70.2%
2004/05	375	52.6%	75.2%
2005/06	334	51.1%	72.2%
2006/07	324	46.7%	71.2%
2007/08	289	45.3%	75.3%
% Change	-10.8%	-3.0%	5.8%

Includes courses: MATH152, MATH153, MATH154, MATH154A, MATH154B, MATH158BF, MATH158PF, MATH158SI, MATH158SI, MATH158SI



Transfer level Math Courses			
Year	Enrollments	Success	Retention
2003/04	262	51.7%	71.4%
2004/05	251	57.0%	72.5%
2005/06	228	47.1%	63.0%
2006/07	214	42.0%	64.6%
2007/08	229	50.2%	73.1%
% Change	7.0%	19.5%	13.2%

Includes courses: MATH10, MATH12, MATH13, MATH15, MATH18, MATH23, MATH4, MATH5A, MATH5B, MATH5C, MATH6, MATH7



Success = Course enrollment divided by the number of grades A, B, C, or CR awarded

Retention = Course enrollment divided by the number of grades A, B, C, D, F, CR, or NC awarded

Special grade codes of IF, XX, UD, UG, RD grades are not include in computations.

Source: Data Warehouse

Appendix C

Which DSPS students to study? What about Stroke Center students?

Nearly all students enrolled in the Stroke Center program at Cabrillo College are counted as being served by DSPS. However, Stroke Center students are a special population *within* a special population. Further, that program is offered at a separate location, isolated from the rest of the college.

At first glance, one might assume that Stroke Center students generally do not take courses outside of that program, and are therefore outside the focus of this report. An examination of that assumption shows, however, that, excluding all Stroke Center students would exclude a number of individuals who are taking general college work. Out of 1395 individuals (identified in the Data Warehouse, which has records going back to 1992) who have been Stroke Center students, nearly 40% have taken courses outside that program at one time or another.

An examination of individual student records for this group suggests a protocol for including some of these students in a general study of the DSPS population. Briefly, those who should be included are those who can be identified as having undertaken general course work in Basic Skills, CTE, or Transfer at some point *subsequent* becoming a Stroke Center student. First, using each student's start-date in the Stroke Center program, students whose enrollment outside the Stroke Center program occurred *prior* to the date of their first Stroke Center enrollment will be still be regarded as Stroke Center only students. Second, students whose only enrollments are in companion courses such as Adaptive Physical Education (ADAPT) and CG180S will also be considered Stroke Center only students. After applying these filters, 195 Stroke Center students are found to be participants in the general regular college program subsequent to their Stroke Center classes. These were included in the DSPS cohorts for this report, with the remainder categorized as "Stroke Center only" and not included.