



Research Brief

Dual Enrolled (K12 special admit) SBVC students from 2011-2012 to 2015-2016 Excluding Students Enrolled in Contract Education Sections.

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Purpose of Brief

To examine the characteristics of dual enrolled students while excluding dual enrolled students enrolled in contract education sections.

Summary of Findings

Dual Enrolled Student Characteristics

- Over the last five years from 2011-12 to 2015-16 there were 425 unduplicated dual enrolled students
- In 2015-16 there were 80 dual enrolled students
- Dual enrolled students are more likely to be Asian or Hispanic and less likely to be African American or Caucasian when compared to the SBVC population
- Dual enrolled students are most likely to be 17 or 15 years old
- In 2015-16 dual enrolled students were most likely to come from Arroyo and Cajon High Schools
- Dual enrolled students are more likely to place into transfer level English and math and MATH-095 than non-dual enrolled students

Dual Enrolled Student Enrollments

- In 2015-16 dual enrolled students were most likely to enroll in General Psychology, Strategies for College Success, and Intermediate Algebra (MATH-095), and College Spanish I
- In 2015-2016 dual enrolled students (77%) had a statistically significantly and substantially higher course success rate than non-dual enrolled students (69%) enrolled in the same section as the dual enrolled students
- 58% to 84% of dual enrolled students enrolled as a non-special admit student within 2-4 years following their fall dual enrollment in 2011, 2012, and 2013

Overview

The San Bernardino Valley College (SBVC) Instructional Office is interested in exploring the potential of focusing on dual enrolled students, also known as K-12 special admit students, as a possible approach for increasing student enrollment. Dual enrolled students are enrolled at a high school and SBVC at the same time. This brief **excludes dual enrolled students** if they were enrolled in a contract education section and illustrates the number of dual enrolled students from 2011-2012 to 2015-2016, demographics of dual enrolled students, enrollment patterns of dual enrolled students, course success rate of dual enrolled students, term-to-term retention (i.e. persistence) of dual enrolled students, the high schools that dual enrolled students attend, and the math, English, and reading placements of dual enrolled students.

Possible Implications

When analyzing the data provided in this brief there are five implications that may help to inform how SBVC works with dual enrolled students. First, dual enrolled students were more likely to be 17 (30%) or 15 (29%) years old. SBVC may want to focus on reaching out to juniors/seniors and sophomores at local area high schools. Second, there doesn't appear to be a pattern of course enrollments over time for dual enrolled students. The high schools may be emphasizing certain courses, for example, Career Exploration and Life Planning in 2014-2015. As a result, SBVC may want to coordinate with the high schools and identify courses that dual enrolled students and the high schools are most interested in for their students. Third, dual enrolled students are more likely to place into transfer level English and math as well as in MATH-095 than non-dual enrolled students. Equally important, dual enrolled students consistently perform at a higher level than non-dual enrolled students enrolled in the same sections. Accordingly, SBVC may want to encourage dual enrolled students to enroll in the Honors Program or make them aware of the benefits of the Honors Program to help encourage these students to continue their enrollments at the college after they graduate from high school. Fourth, dual enrolled students are enrolling as non-dual enrolled students within 2-4 years following their dual enrollment. This suggests that dual enrolled students are continuing their education at SBVC and that increasing the number of dual enrolled students may help to increase enrollments initially and in the future. Finally, in the last two years most of the interest in dual enrollment appears to be from Rialto, Eisenhower, and Wilmer high schools. Moreover, in the past five years, the interest appears to also be from Cajon and San Bernardino high schools. SBVC may want to focus on developing more formal dual enrollment programs with these high schools.

Methodology

In order to exclude contract education sections from the analysis the SBVC Instructional Deans provided a list of sections that were contract education from 2011-2012 to 2015-2016. Ten sections were identified by the instructional Deans as contract education and six of those sections had enrolled dual enrolled students and needed to be excluded from the analysis. There was some concern expressed by the Instructional Deans that not all of the contract education sections were captured, especially in the Division of Science from 2011-2012 to 2014-2015. Accordingly, a limitation to the results illustrated here is that the results may still include a small number of contract education students.

Tables 1-3 illustrate the number of dual enrolled students who were not enrolled in a contract education section at SBVC from 2011-2012 to 2015-2016 by academic year, term, and demographics. In order to be identified as a dual enrolled special admit K-12 student, students had to have an MIS SB15 enrollment status equal to "Y" and be between the ages of 13 – 18. Middle College High School (MCHS) Students were excluded if the student was identified as a MCHS student from 2011-2012 to 2014-2015. The 2015-2016 data was not available at the time of this report. MCHS students were also excluded if the high school that they attended while they were identified as a special admit student was MCHS.

Table 4 illustrates the number of duplicated enrollments by course at SBVC from 2011-2012 to 2015-2016. A limitation to this data is that the PE and Kinesiology courses have not been combined and the number of Kinesiology enrollments prior to 2014-2015 is likely larger.

Table 5 compares the course success rate of Special Admit students who were not enrolled in contract education to SBVC students enrolled in the same section to control for section, term, and faculty. Course success is defined as earning a grade of A, B, C, or P divided by the total number of grades on record (GOR): A, B, C, D, F, I, P, NP, or W. The effect size statistic was used to indicate the size of the difference on student course success between dual enrolled students and non-dual enrolled students enrolled in the same section. One method of interpreting effect size was developed by Jacob Cohen. Jacob Cohen defined "small," "medium," and "large" effect sizes. He explained that an effect size of .20 can be considered small, an effect size of .50 can be considered medium, and an effect size of .80 can be considered large. Research in the social sciences has indicated that a substantial effect is considered meaningful if the effect size is .10 or higher. It is important to mention that the number of students in each group does not influence Effect Size; whereas, when statistical significance is calculated, the number of students in each group does influence the significance level (i.e. "p" value being lower than .05).

Table 6 illustrates the number of fall dual enrolled students who were not enrolled in a contract education section and who enrolled in the subsequent spring semester as a dual enrolled student. In addition, Table 6 also shows the number of dual enrolled students who enrolled following the fall semester as a student who was not dual enrolled. Table 7 shows the number of dual enrolled students who were not enrolled in a contract education section by high school from 2011-2012 to 2015-2016. Finally, Table 8 shows the English, math, and reading placements for any dual enrolled student who were not enrolled in a contract education section from 2011-2012 to 2015-2016.

Findings

From 2011-2012 to 2015-2016 there were 425 unduplicated dual enrolled students who were not enrolled in a contract education section and who attended SBVC (see Table 1). In the last five years, SBVC has averaged 111 dual enrolled students (excluding contract education students) each academic year. In the most recent year, 2015-2016, there were 80 unduplicated dual enrolled students at SBVC. Table 2 illustrates the number of unduplicated students by term and within each academic year, dual enrolled students were more likely to enroll at SBVC in the fall semesters than in the spring semesters, except for Spring 2015 and Spring 2016.

Table 1: Number of Dual Enrolled Student Enrollments and Unduplicated Students Excluding Contract Education Students from 2011-2012 to 2015-2016.

Academic Year	Total Duplicated Enrollments	Total Unduplicated Students
2011-2012	649	145
2012-2013	433	123
2013-2014	190	71
2014-2015	181	136
2015-2016	218	80
Total	1,671	425*

*Unduplicated over the last five years from 2011-2012 to 2015-2016.

Table 2: Unduplicated Dual Enrolled Students Excluding Contract Education Students by Term from Summer 2010 to Spring 2016.

Academic Year	Term		
	Summer	Fall	Spring
2011-12	29	119	113
2012-13	13	93	86
2013-14	13	44	30
2014-15	24	21	103
2015-16	21	44	49

Table 3 shows the 2015-2016 dual enrolled students while excluding contract education students at SBVC by gender, age, and ethnicity. Dual enrolled students were more likely to be male (48%) than students in the general SBVC population (57% male). Dual enrolled students were also more likely to be Asian and Hispanic and less likely to be African American and Caucasian. In 2015-2016 30% of the dual enrolled students were 17 years old, followed by 29% who were 15 years old.

Table 3: 2015-2016 Unduplicated Dual Enrolled Students Excluding Contract Education Students by Gender, Age, and Ethnicity.

Demographics	Dual Enrolled		All Other Students*	
	#	Column %	#	Column %
Gender				
Female	40	50.0	10,354	57.2
Male	38	47.5	7,700	42.6
Unknown	2	2.5	34	0.2
Total	80	100.0	18,088	100.0
Ethnicity				
Asian	10	12.5	871	4.8
African American	3	3.8	2,277	12.6
Hispanic	55	68.8	11,558	63.9
Native American	1	1.3	36	0.2
Pacific Islander	0	0.0	40	0.2
Two or More Races	3	3.8	611	3.4
Caucasian	8	10.0	2,627	14.5
Unknown	0	0.0	68	0.4
Total	80	100.0	18,088	100.0
Age				
14	2	2.5		
15	23	28.8		
16	13	16.3		
17	24	30.0		
18	18	22.5		
Total	80	100.0		

*Includes all other SBVC students including contract education students excluded from the dual enrolled students.

Table 4 shows the Top 32 courses that dual enrolled students who were not enrolled in a contract education section were enrolled in from 2011-2012 to 2015-2016. Over the last five years, dual enrolled students were most likely to enroll in Career Exploration and Life Planning (n = 95), General Psychology (n = 87), Intermediate Algebra (n = 72), and Physical Fitness (n = 72). In 2015-2016 dual enrolled students were most likely to enroll in General Psychology (n = 14), Strategies for College Success (n = 14), Intermediate Algebra (n = 12), and College Spanish I (n = 11).

Table 4: Top 32 Enrollments of Dual Enrolled Students Excluding Contract Education Students from 2011-2012 to 2015-2016.

Course		Academic Year					Total
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	
SDEV-103	Career Exploration and Life Planning	4	0	0	88	3	95
PSYCH-100	General Psychology	39	27	7	0	14	87
MATH-095	Intermediate Algebra	24	17	12	7	12	72
PE/I-138X4	Physical Fitness	38	29	4	1	0	72
POLIT-100	American Politics	18	24	8	2	9	61
PE/I-108X4	Weight Training	29	20	2	1	0	52
HIST-101	United States History: 1865 to Present	24	11	4	4	7	50
ENGL-015	Preparation for College Writing	20	8	8	5	7	48
SPAN-101	College Spanish I	15	0	17	2	11	45
MATH-102	College Algebra	12	8	6	4	4	34
ACAD-001	Strategies for College Success	0	9	4	5	14	32
ENGL-101	Freshman Composition	12	3	7	4	4	30
PE/I-127X4	Walking for Fitness	17	12	1	0	0	30
ASL-109	American Sign Language I	11	2	6	2	8	29
CD-105	Child Growth and Development	6	17	4	0	2	29
SPEECH-111	Interpersonal Communication	25	0	0	0	0	25
CHEM-101	Introductory Chemistry	8	6	5	2	1	22
SOC-100	Introduction to Sociology	7	3	4	3	5	22
ART-126X4	Painting	13	5	1	1	0	20
COMMST-111	Interpersonal Communication	0	17	1	0	2	20
SPAN-157	Spanish for Native Spanish Speakers I	6	14	0	0	0	20
MATH-090	Elementary Algebra	6	2	5	3	3	19
PE/I-105X4	Low Impact Aerobics	10	8	0	0	0	18
HIST-170	World History to 1500	4	4	0	0	9	17
SPEECH-100	Elements of Public Speaking	17	0	0	0	0	17
ACAD-100	Strategies for College Success	16	0	0	0	0	16
COMMST-100	Elements of Public Speaking	0	9	2	0	5	16
THART-100	Introduction to the Theatre	6	5	3	1	1	16
ANTHRO-106	Biological Anthropology	5	3	4	3	0	15
ART-124X4	Drawing	13	1	1	0	0	15
ECON-200	Principles of Macroeconomics	9	1	1	1	3	15
GEOG-110	Physical Geography	9	3	2	1	0	15

*PE and Kinesiology were not combined. As a result, the number of enrollments in Kinesiology/PE is higher. However, enrollments in Kinesiology in the last two years is much lower than in the years from 2011-2012 to 2013-2014.

SBVC Dual enrolled students who were not enrolled in contract education from 2011-2012 to 2015-2016 were statistically significantly ($p < .007$) and substantially ($ES \geq .18$) more likely to successfully complete their courses when compared to non-dual enrolled students enrolled in the same section (see Table 5). Specifically, in 2015-2016 dual enrolled students (77%) had a statistically significantly and substantially higher course success rate than non-dual enrolled students (69%) enrolled in the same section as the dual enrolled students.

Table 5: Course Success of Dual Enrolled Students (Excludes Contract Education Students) and Non-Dual Enrolled Students Enrolled in the Same Section from 2011-2012 to 2015-2016.

Academic Year	Non-Dual Enrolled Students Enrolled in the Same Section			Dual Enrolled Students			Statistically Significant*	Substantially Different*
	#	N	%	#	N	%		
2011-2012	8,298	11,664	71.1%	513	641	80.0%	Yes	Yes
2012-2013	6,112	8,832	69.2%	338	432	78.2%	Yes	Yes
2013-2014	3,287	4,826	68.1%	145	189	76.7%	Yes	Yes
2014-2015	1,856	2,639	70.3%	146	181	80.7%	Yes	Yes
2015-2016	3,787	5,523	68.6%	168	218	77.1%	Yes	Yes

* $P < .007$; $ES \geq .18$.

Sixty-four percent of Fall 2015 dual enrolled SBVC students earned a GOR in Spring 2016 as a dual enrolled student. In addition, when examining whether Fall 2011, Fall 2012, or Fall 2013 continued their enrollments at any time to Spring 2016, 58% to 84% dual enrolled students enrolled as a non-special admit student.

Table 6: Unduplicated Dual Enrolled Student Enrollments (Excludes Contract Education Students) at SBVC following the Fall Enrollments of Dual Enrolled Students from Fall 2011 to Fall 2015.

Year	Total Fall Unduplicated	Enrolled in Subsequent Spring Semester as Special Admit	%*	Enrolled in Subsequent Time Period as a Non Special Admit	Time Period	%**
2011-2012	119	95	79.8	69	Spring 2012 to Spring 2016	58.0
2012-2013	93	67	72.0	64	Spring 2013 to Spring 2016	68.8
2013-2014	44	8	18.2	37	Spring 2014 to Spring 2016	84.1
2014-2015	21	5	23.8	6	Spring 2015 to Spring 2016	28.6
2015-2016	44	28	63.6	3	Spring 2016 Only	6.8

*Divided the number of special admit students who enrolled in the subsequent spring semester by the total number of fall unduplicated dual enrolled students and multiplied by 100.

** Divided the number of non-special admit students who enrolled in the subsequent specified time periods by the total number of fall unduplicated dual enrolled students and multiplied by 100.

Over the last five years from 2011-2012 to 2015-2016, dual enrolled students (excluding contract education students) are more likely to come from Cajon (n = 43), Rialto (n = 36), Wilmer Amina Carter (n = 32), Eisenhower (n = 27), and San Bernardino High Schools (n = 26). Most recently, in 2015-2016 dual enrolled students were most likely to come from Arroyo Valley High (n = 9), Cajon (n = 7), San Gorgonio High (n = 6), and Colton High.

Table 7: Number of Dual Enrolled Students (Excludes Contract Education Students) by High School from 2011-2012 to 2015-2016.

High School	Academic Year					Unduplicated Across All Five Years
	2011- 2012	2012- 2013	2013- 2014	2014- 2015	2015- 2016	
CAJON HIGH	24	16	10	7	7	43
RIALTO HIGH	1	3	1	32	1	36
UNKNOWN	14	23	13	11	3	35
WILMER AMINA CARTER HIGH	0	0	0	30	2	32
EISENHOWER SENIOR HIGH	4	4	1	21	2	27
SAN BERNARDINO HIGH	22	14	11	1	1	26
ARROYO VALLEY HIGH	12	4	4	2	9	25
PACIFIC HIGH	13	14	6	1	0	24
SAN GORGONIO HIGH	13	6	3	1	6	24
OTHER HOME SCHOOL	3	4	2	11	4	19
BIG BEAR HIGH	5	5	2	1	1	12
COLTON HIGH SCHOOL	2	1	1	1	6	11
REDLANDS SENIOR HIGH	3	2	2	2	3	11

Table 8 illustrates the English, math, and reading placement results for the unduplicated SBVC dual enrolled students who did not enroll in a contract education section and non-dual enrolled students from 2011-2012 to 2015-2016. Forty-one percent of the dual enrolled students placed into ENGL-015 and 34% placed into ENGL-101. Seventy-seven percent of the dual enrolled students placed into MATH-090 or MATH-095 and 45% met the graduation requirement for reading. When comparing dual enrolled students to non-dual enrolled students, dual enrolled students (34%) were more likely to place into ENGL-101 than non-dual enrolled students (25%). In addition, dual enrolled students were also more likely to place into transfer level math (4%) than non-dual enrolled students (1%) and dual enrolled students (38%) were also more likely to place into MATH-095 than non-dual enrolled students (15%).

Table 8: English, Reading, and Math Placements of Dual Enrolled and Non-Dual Enrolled Students from 2011-2012 to 2015-2016.

Course Placement	Non-Dual Enrolled Students		Dual Enrolled Students	
	#	%	#	%
English				
ENGL-914	6,139	36.0	76	25.2
ENGL-015	6,789	39.8	123	40.7
ENGL-101	4,136	24.2	103	34.1
Total	17,064	100.0	302	100.0
Math				
MATH-942	3,665	26.5	22	7.4
MATH-952	2,848	20.6	30	10.0
MATH-962	762	5.5	7	2.3
MATH-090	4,310	31.2	113	37.8
MATH-095	2,043	14.8	114	38.1
MATH-102, 103, 108, or 115	141	1.0	10	3.3
MATH-151	40	0.3	3	1.0
MATH-250	12	0.1	0	0.0
Total	13,821	100.0	299	100.0
Reading				
READ-920	343	2.1	1	0.4
READ-950 or 951	9,052	55.5	159	55.8
READ-MET	6,918	42.4	125	43.9
Total	16,313	100.0	285	100.0