CRAFTON HILLS COLLEGE
Institutional Effectiveness, Research & Planning
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Research Brief

2016 Dual Enrolled Crafton Hills College Students

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Purpose of Brief

To examine the characteristics of Crafton Hills College Fall 2016 dual enrolled students and the relationship between dual enrolled students and course success.

Summary of Findings

Dual Enrolled Student Characteristics

- There were eight dual enrolled sections at four high schools
- A higher proportion of female students (66%) are dual enrolled when compared to all other CHC female students (54%)
- Dual enrolled students were more likely to be Asian, African American, and from two or more races when compared to the CHC population
- Dual enrolled students were most likely to be 17 years old (45%) followed by 16 years old (37%)

Relationship between Dual Enrolled Students and Course Success

- When compared to all other CHC students enrolled in the same course during the same term, dual enrolled students had a slightly lower course success rate (72%) than students enrolled in the same courses (73%)
- When compared to students enrolled in the same course during the same term and taught by the same instructor, dual enrolled students had a substantially higher course success rate (75%) than non-dual enrolled students (68%)

Overview

The Crafton Hills College (CHC) Instructional Office and Academic Senate requested that the CHC Office of Institutional Effectiveness, Research, and Planning examine the relationship between students who are dual enrolled and course success. Dual enrolled students were enrolled at one of the following high schools and CHC at the same time: Citrus, Redlands, Redlands East Valley, and Yucaipa. This brief illustrates the number of Fall 2016 dual enrolled students, demographics of dual enrolled students, and course success rate of dual enrolled students by comparison group and high school.

Possible Implications

When analyzing the data provided in this brief there are three implications that may help to inform how CHC works with dual enrolled students. First, there was not a large enough sample to generate a methodologically sound determination of the relationship between course success and dual enrollment. Second, dual enrolled students were most likely to be seventeen or sixteen years old and CHC may want to focus on reaching out to these age groups at local area high schools. Third, students in three of the high schools had higher course success rates when compared to CHC students enrolled in the same courses during the same semester. Crafton may want to expand dual enrollment at these high schools.

Methodology

In Fall 2016, there were four high schools and eight Crafton sections that enrolled dual enrolled students. The disciplines included American Sign Language, Arabic, Art, Communication Studies, Business Administration, Fire Technology, and Sociology.

Table 1: Fall 2016 Dual Enrolled Sections by High School.

High School	Section
Citrus Valley	ASL-101-46*
Citrus Valley	SOC-100-46*
Redlands	ARABIC-101-35
Redlands	ART-103-41
Redlands East Valley	BUSAD-100-46
Redlands East Valley	FIRET-100-41
Yucaipa	COMMST-100-35*
Yucaipa	SOC-100-35*

*These sections were included in the second comparison group. The second comparison groups consisted of students in the same course, and taught by the same instructor in the same semester.

Dual enrolled students were students who were enrolled in a section listed in Table 1 and were 18 years old or younger. A limitation is that it is possible that the five students who were 18 years old were not dual enrolled students. Twelve students who were enrolled in a dual enrolled section were excluded from the study because they were 19 to 55 years old (see Table 2).

Table 2 illustrates the number of unduplicated dual enrolled students by high school and Table 3 shows the number of unduplicated dual enrolled students by gender, ethnicity, and age.

Table 4 compares the course success rate of dual enrolled CHC students to two comparison groups: All Courses and Second Comparison Group. Students in the All Courses comparison group were all of the other Crafton students enrolled in the same courses that the dual enrolled students were enrolled in in Fall 2016. A limitation to comparing dual enrolled students to all other students enrolled in the same courses is that the comparison does not control for instructor, section, or dual enrolled student characteristics. The Second Comparison Group compares dual enrolled students to students enrolled in the same course, term, and instructor. A limitation to this comparison is that only four dual enrolled sections are included in the comparison and the comparison does not control for section or dual enrolled student characteristics. 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 for each comparison group. Jacob Cohen developed one method of interpreting effect size. 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).

Another limitation to the course success comparisons is that there are a very small number of dual enrolled students.

Sample

Table 1 illustrates that dual enrolled students were most likely to attend Citrus Valley High School (41%) followed by Yucaipa High School (36%).

Table 2: Fall 2016 Number of Dual Enrolled Students by High School.

High School	#	%
Citrus Valley	45	41.3
Redlands	14	12.8
Redlands East Valley	11	10.1
Yucaipa	39	35.8
Total	109	100.0

Table 3 shows the Fall 2016 dual enrolled students at CHC by gender, age, and ethnicity. A higher proportion of female students (66%) are dual enrolled when compared to all other CHC female students (54%). Conversely, a lower proportion of male students (32%) are dual enrolled when compared to all other CHC male students (46%). Dual enrolled students were more likely to be Asian, African American, and from two or more races and less likely to be Hispanic. Dual enrolled students were more likely to be 17 years old (45%) followed by students who were 16 years old (37%).

Table 3: Fall 2016 Unduplicated Dual Enrolled Students by Gender, Age, and Ethnicity.

Demographics	Dual Enrolled		All Other CHC Fall 2016 Students	
	#	Column %	#	Column %
Gender				
Female	72	66.1	3,189	53.9
Male	35	32.1	2,704	45.7
Unknown	2	1.8	21	0.7
Total	109	100.0	5,914	100.0
Ethnicity				
Asian	9	8.3	319	5.4
African American	7	6.4	220	3.7
Hispanic	41	37.6	2,795	47.3
Native American	0	0.0	23	0.4
Two or More Races	12	11.0	344	5.8
Caucasian	40	36.7	2,194	37.1
Unknown	0	0.0	19	0.3
Total	109	100.0	5,914	100.0
Age				
14			2	0.0
15	15	13.8	6	0.1
16	40	36.7	37	0.6
17	49	45.0	212	3.6
18	5*	4.6	759	12.8
19 years old or older			4897	82.8
Unknown			1	0.0
Total	109**	100.0	5,914	100.0

*A limitation is that these five students may not be dual enrolled.
**Twelve students were between the ages of 19 to 55 and excluded from the study.

Findings

Referring to Table 4, when compared to all other CHC students enrolled in the same course during the same term, dual enrolled students had a slightly lower course success rate (72%) than students enrolled in the same courses (73%). When compared to students enrolled in the same course during the same term and taught by the same instructor, dual enrolled students had a substantially higher course success rate (75%) than non-dual enrolled students (68%).

Table 4: Fall 2016 Course Success of Dual Enrolled and Non-Dual Enrolled Students by Comparison Group.

Term	Non-Dual Enrolled Students Enrolled in the Same Section			Dual Enrolled Students			Statistically Significant*	Substantially Different*
	#	N	%	#	N	%		
All Courses	1,080	1,471	73.4	99	137	72.3	No	No
Second Comparison Group**	97	143	67.8	64	85	75.3	No	Yes

*P < .05; ES >= .16.
**Compares dual enrolled students to students enrolled in another section of the course taught by the same instructor.

Table 5 illustrates the course success rate of dual enrolled students by high school. Dual enrolled students at Citrus Valley (78%), Redlands East Valley (91%), and Yucaipa High Schools (74%) all had a higher course success rates than students enrolled in the same courses during the same term (73%).

Table 5: Fall 2016 Course Success of Dual Enrolled Students by High School.

High School	Dual Enrolled Students		
	#	N	%
Citrus Valley	35	45	77.8
Redlands	25	42	59.5
Redlands East Valley	10	11	90.9
Yucaipa	29	39	74.4
Total	99	137	72.3