CRAFTON HILLS COLLEGE
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Research Brief

Student Success Rates by Class Size for Online Sections

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Purpose of Brief

This brief examines the relationship between average class size and student success rates for online courses in Fall terms from 2013 to 2017.

Summary of Findings

- The average DE course success rate for online sections ranged from 66% to 71% from Fall 2013 to Fall 2017.
- The success rate from Fall 2016 to Fall 2017 increased from 67.6 to 69.7, an increase of 3%.
- The number of grades on record earned in DE sections increased from 1,993 to 2,294, an increase of 15%.
- The average DE class size increased from 26 in Fall 2016 to 29 in Fall 2017, an increase of 12%.
- There is a slight increase in DE course success rate as the average class size increases; however, this relationship is not substantial or statistically significant (see Figure 1).

Overview

Crafton Hills College (CHC) has been expanding its online offerings during recent years. This brief examines the relationship between class sizes and student success rates for online courses. A total of 291 online sections were examined for Fall terms from 2013 to 2017.

Methodology

Distance education (DE) sections were identified by selecting courses with section numbers falling from 70 to 79 and were labelled with an instruction method of "Distance Education" from the Fall terms between 2013 and 2017, resulting in a dataset containing 291 sections. Cross-listed, stacked, and honors sections were not counted. Online sections include hybrid and online only sections. Success rate is defined as earning a grade of A, B, C, or CR/P divided by the number of grades on record (A, B, C, D, F, CR/P, NC/NP, W or I) in any course where students earn a grade on record (GOR). The GOR represents the number of students enrolled at census. A Pearson's correlation coefficient was also calculated to measure the strength of the relationship between class size and success rates. Pearson's r can range between -1 and 1 indicating either a positive or negative relationship. The closer the value is to 0, the stronger the relationship is between class size and course success. Lastly, the correlation coefficient was tested for statistical significance (i.e. "p" value being less than .05).

Findings

Table 1 provides a summary of class size (grades on record for the course) and the success rate for those students per term. Outside of Fall 2014, the DE section success rates across the terms were consistent, falling between 68% and 71%. These rates remained consistent even with a 184% increase in the number of students taking online courses. The success rate from Fall 2016 to Fall 2017 increased from 67.6 to 69.7, an increase of 3%. In addition, the number of grades on record earned in DE sections increased from 1,993 to 2,294, an increase of 15%. Equally important, the average DE class size increased from 26 in Fall 2016 to 29 in Fall 2017, an increase of 12%.

Table 1: Number of Distance Education GOR, Sections, Average Class Size, and Course Success Rate from Fall 2013 to Fall 2017.

Term	GOR	# of Sections	Average Class Size	Success Rate
Fall 2013	808	28	29	70.9
Fall 2014	1,204	43	28	66.2
Fall 2015	1,775	65	27	69.4
Fall 2016	1,993	76	26	67.6
Fall 2017	2,294	79	29	69.7

Note: Cross-listed, honors, and stacked sections were not counted in the section count above. GOR refers to the number of grades on record. Average class size was calculated by dividing the number of sections by the number of grades on record.

A Pearson's correlation coefficient was also calculated to measure the strength of the relationship between average class size and DE section success rate for Fall 2017, the term in which DE section caps were increased. The Pearson's r can range between -1 and 1 indicating either a positive or negative relationship. The closer the value is to 0, the lower the correlation is between the variables. A Pearson's correlation coefficient of .080 is considered low, and due to the higher p-value of .173, the correlation coefficient is not statistically significant, suggesting that other factors may be strongly related to success rate than class size.

Figure 1illustrates the distribution of the data in a scatterplot. In assessing the nature of the relationship between class size and the average success rate, a linear model was examined. The results indicate that there was not a relationship between average class size and DE success rate. Specifically, there is a slight increase in DE course success rate as the average class size increases; however, this relationship is not substantial or statistically significant.

Figure 1. Scatterplot of Average Success Rate by Class Size (Linear Model) for Fall 2017: