

Crafton Hills College Distance Education Success and Completion Rates from 2011-12 to 2015-16 for PSYCH-100 and 111

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Purpose of Brief

To examine the relationship between lecture and online PSYCH-100 and 111 course success rates from 2011-2012 to 2015-2016.

Summary of Findings

Number of Sections

- The number of online PSYCH-100 and 111 sections increased from 4 in 2011 – 2012 to 9 in 2015 – 2016, an increase of 5 (125%)
- The number of lecture only PSYCH-100 and 111 sections increased from 14 in 2011 – 2012 to 25 in 2015 – 2016, an increase of 11 (79%)

Course Success Rate over Time

- The online PSYCH-100 and 111 course success increased from 66% in 2014-2015 to 69% in 2015-2016
- The lecture PSYCH-100 and 111 course success rate decreased from 78% in 2014-2015 to 73% in 2015-2016

Controlling for Term, Course, and Instructor

- When controlling for term, course, and instructor the total course success rate for lecture PSYCH-100 sections (61%) is slightly lower ($ES = .01$) than for online PSYCH-100 sections (62%)
- PSYCH-111 was not included because an instructor did not teach both an online and lecture section of PSYCH-111 in the same semester from 2011-2012 to 2015-2016

Overview

The following brief illustrates the number of sections, grades on record (GOR) earned, and the course success and completion rates for Crafton Hills College (CHC) PSYCH-100 (General Psychology) and PSYCH-111 (Developmental Psychology) courses from 2011 – 2012 to 2015 – 2016 by online and lecture sections. In addition, student performance in lecture and online courses are compared while controlling for term, course, and instructor.

Methodology

Table 1 illustrates the number and percent of PSYCH-100 (General Psychology) and PSYCH-111 (Developmental Psychology) sections by the online and lecture instructional methods from 2011 – 2012 to 2015 – 2016 for sections where a GOR was earned

Tables 2, 4, and 5 display the success and completion rates for CHC PSYCH-100 and 111 courses by lecture on online instruction methods from 2011 – 2012 to 2015 – 2016. Internet only and hybrid (a combination of internet and another instructional method—usually lecture) sections were combined into online and compared to lecture only sections. **The internet and hybrid instruction methods are the methods often referred to as distance education or online courses.**

When examining the course success and completion rates (formally retention) illustrated in Tables 2, 4 and 5 it is essential **to not compare** the success and completion rates of different instructional methods because each method does not control for instructor, term, and course and could be misleading. Comparing the course success and completion rates longitudinally is more methodologically sound. In addition, a second more methodologically sound method than comparing across instructional methods is to compare course success and completion rates while controlling for instructor, term, and course. Accordingly, Figure 2 and Table 3, illustrate the results of comparing lecture to distance education sections for the same term, course, and instructor for PSYCH-100. Specifically, if an instructor taught both an online and lecture course within the same term, the performance of students in each of these courses was compared. PSYCH-111 was not examined because the same instructor did not teach both an online and lecture section in the same term.

Definitions: The number of grades on record (GOR) refers to one of the following grades and is also the number of students enrolled at census: A, B, C, D, F, P (CR), NP (NC), I, or W. Success rate is the number of A, B, C, or P grades divided by the number of GOR, and completion rate (formally retention rate) is the number of A, B, C, D, F, P, NP, or I grades divided by the number of GOR.

Effect Size and Statistical Significance. The effect size statistic is commonly used in meta-analyses. A meta-analysis uses quantitative techniques to summarize the findings from a number of studies on a particular topic to determine the average effect of a given technique. 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. Effect size is calculated by dividing the difference of the two means by the pooled standard deviation. 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). Accordingly, using Cohen as a guide, a substantial effect would be .20 or higher.

Findings

Table 1 illustrates the number and percent of PSYCH-100 (General Psychology) and PSYCH-111 (Developmental Psychology) sections by the online and lecture instructional methods from 2011 – 2012 to 2015 – 2016 in sections where a grade on record (GOR) was earned. The proportion of lecture only PSYCH-100 and 111 sections slightly declined from 2011-2012 (78%) to 2015 – 2016 (74%) while the proportion of online (i.e. internet and hybrid) sections slightly increased from 22% to 27%. The number of total PSYCH-100 and 111 sections increased by 16 sections (89%) from 2011 – 2012 to 2015 – 2016. Specifically, the number of online sections increased from 4 in 2011 – 2012 to 9 in 2015 – 2016, an increase of 5 (125%). In contrast, the number of lecture only sections increased from 14 in 2011 – 2012 to 25 in 2015 – 2016, an increase of 11 (79%).

Table 1: Number and Percent of Sections by Lecture and Online Instructional Methods for PSYCH-100 and 111 from 2011 – 2012 to 2015 – 2016 where a Grade on Record was Earned.

Instructional Method	2011-2012		2012-2013		2013-2014		2014-2015		2015-2016	
	#	%	#	%	#	%	#	%	#	%
PSYCH-100										
Lecture	12	85.7	12	80.0	14	87.5	17	85.0	20	80.0
Online	2	14.3	3	20.0	2	12.5	3	15.0	5	20.0
Total	14	100.0	15	100.0	16	100.0	20	100.0	25	100.0
PSYCH-111										
Lecture	2	50.0	2	50.0	2	33.3	5	55.6	5	55.6
Online	2	50.0	2	50.0	4	66.7	4	44.4	4	44.4
Total	4	100.0	4	100.0	6	100.0	9	100.0	9	100.0
Both Courses										
Lecture	14	77.8	14	73.7	16	72.7	22	75.9	25	73.5
Online	4	22.2	5	26.3	6	27.3	7	24.1	9	26.5
Total	18	100.0	19	100.0	22	100.0	29	100.0	34	100.0

The number of GOR in the online PSYCH-100 and 111 sections has increased from 128 in 2011 – 2012 to 626 in 2015 – 2016, a 389% (n = 498) increase (see Table 2). In addition, the number of GOR in lecture only PSYCH-100 and 111 sections during the same time period has increased from 725 to 1,104, a 52% (n = 379) increase. Referring to Figure 1, examining the course success rate over time indicates that the online PSYCH-100 and 111 course success rate had been decreasing (77% to 66%) while the lecture PSYCH-100 and 111 course success rate had been increasing (73% to 78%). However, most recently the online PSYCH-100 and 111 course success increased from 66% in 2014-2015 to 69% in 2015-2016, while the lecture PSYCH-100 and 111 course success rate decreased from 78% in 2014-2015 to 73% in 2015-2016. **A limitation to comparing student performance in online sections is that the comparison does not control for term, course, and instructor.**

Figure 1: Crafton Hills College Online and Lecture PSYCH-100 and 111 Course Success Rates from 2011 – 2012 to 2015 – 2016.

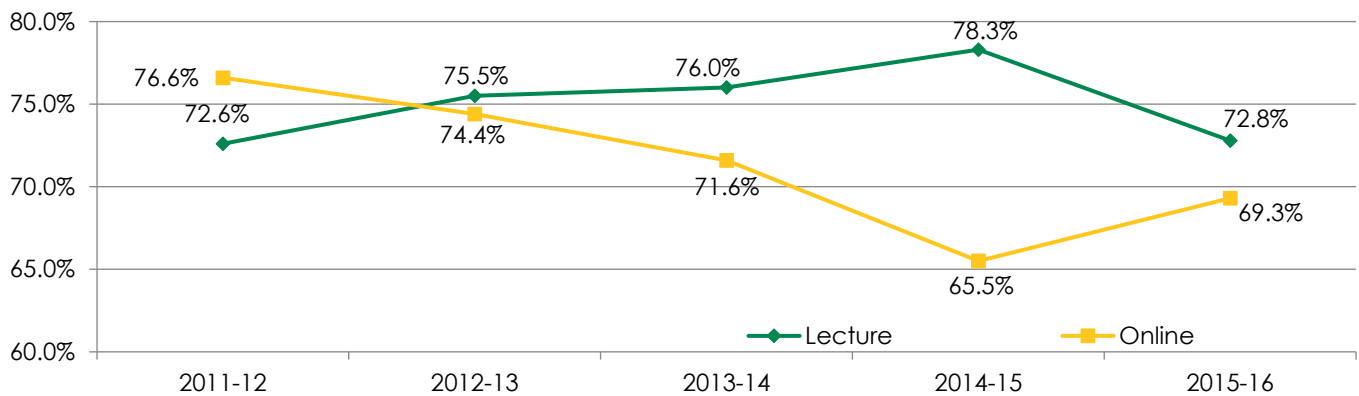


Table 2: CHC PSYCH-100 and 111 Course Success and Completion Rates from 2011 – 2012 to 2015 – 2016 by Lecture and Online Sections.

Academic Year	Lecture Course			Distance Education Course		
	#	N	%	#	N	%
Success						
2011 – 2012	526	725	72.6	98	128	76.6
2012 – 2013	580	768	75.5	131	176	74.4
2013 – 2014	614	808	76.0	96	134	71.6
2014 – 2015	701	895	78.3	150	229	65.5
2015 – 2016	804	1,104	72.8	434	626	69.3
Five Year Total	3,225	4,300	75.0	909	1,293	70.3
Completion						
2011 – 2012	662	725	91.3	111	128	86.7
2012 – 2013	727	768	94.7	159	176	90.3
2013 – 2014	759	808	93.9	118	134	88.1
2014 – 2015	842	895	94.1	204	229	89.1
2015 – 2016	1,023	1,104	92.7	549	626	87.7
Five Year Total	4,013	4,300	93.3	1,141	1,293	88.2

Figure 2 and Table 3 indicate that when controlling for term, course, and instructor the total course success rate for lecture PSYCH-100 sections (61%) is slightly lower and not substantial ($ES = .01$) than for online PSYCH-100 sections (62%). **PSYCH-III was not included because an instructor did not teach both an online and lecture section of PSYCH-III in the same semester from 2011-2012 to 2015-2016.** However, in 2015 – 2016, students in online PSYCH-100 sections were more likely ($ES = .08$) to successfully complete the course (63%) than students in lecture PSYCH-100 sections (59%) taught by the same instructor in the same semester. **A limitation of these findings is that not all online courses are included in the comparison because many of the online instructors did not teach the same lecture course in the same term in which they taught the online course. As a result, PSYH-100 sections taught in 2011-2012, 2013-2014, and 2014-2015 were not included.**

Figure 2: CHC PSYCH-100 Course Success and Completion Rates for 2012-2013 and 2015-2016 by Lecture and Online Sections taught by the Same Instructor in the Same Semester.

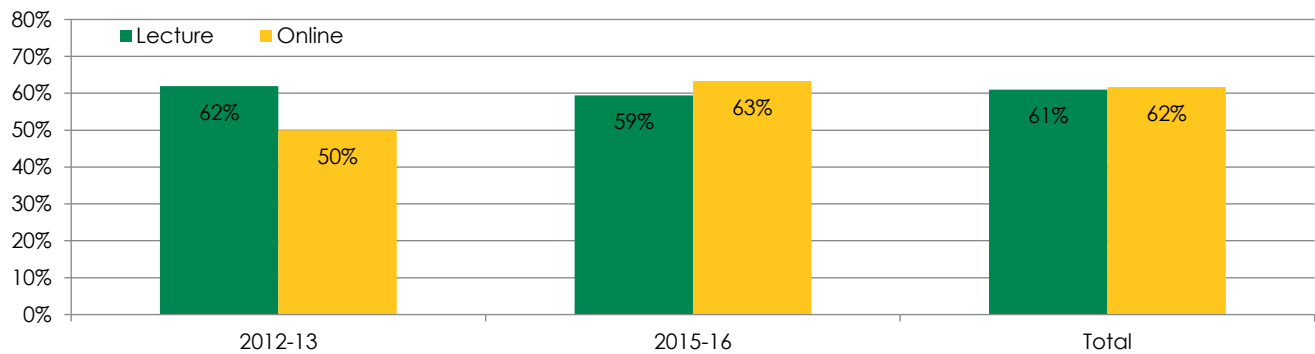


Table 3: CHC PSYCH-100 Course Success and Completion Rates from 2011– 2012 to 2015 – 2016, Effect Sizes, and P-Values by Lecture and Online Sections taught by the Same Instructor in the Same Semester.

Academic Year	Lecture Course			Distance Education Course			ES*	P-Value**
	#	N	%	#	N	%		
Success								
2011 – 2012								
2012 – 2013	70	113	61.9	14	28	50.0	-.24	.264
2013 – 2014								
2014 – 2015								
2015 – 2016	41	69	59.4	126	199	63.3	.08	.571
Five Year Total	111	182	61.0	140	227	61.7	.01	.888
Completion								
2011 – 2012								
2012 – 2013	101	113	89.4	22	28	78.6	-.32	.201
2013 – 2014								
2014 – 2015								
2015 – 2016	60	69	87.0	175	199	87.9	.03	.834
Five Year Total	161	182	88.5	197	227	86.8	-.05	.609

* A .20 effect size corresponds to a Pearson r of .10. The effect size represents the magnitude of the difference between the target and the baseline measure. Using an effect size increases the likelihood that the difference is not only statistically significant but practical as well.

**The P-Value is an indication of statistical significance. Statistical significance exists when the P-value is less than .05 indicating that the difference between the groups is likely to be due to chance only 5 out of 100 times. It is important to note that the p-value is influenced by the number of cases.

***The difference is statistically significant.

The number of GOR in the online PSYCH-100 sections has increased from 64 in 2011 – 2012 to 339 in 2015 – 2016, a 430% (n = 275) increase (see Table 4). In addition, the number of GOR in lecture only PSYCH-100 sections during the same time period has increased from 632 to 976, a 54% (n = 344) increase. Referring to Figure 3, examining the course success rate over time indicates that the online PSYCH-100 course success rate had been decreasing (78% to 66%) while the lecture PSYCH-100 course success rate had been increasing (71% to 75%). However, most recently the online PSYCH-100 course success increased from 66% in 2014-2015 to 67% in 2015-2016, while the lecture PSYCH-100 course success rate decreased from 75% in 2014-2015 to 70% in 2015-2016. **A limitation to comparing student performance in online sections is that the comparison does not control for term, course, and instructor.**

Figure 3: Crafton Hills College Online and Lecture PSYCH-100 Course Success Rates from 2011 – 2012 to 2015 – 2016.

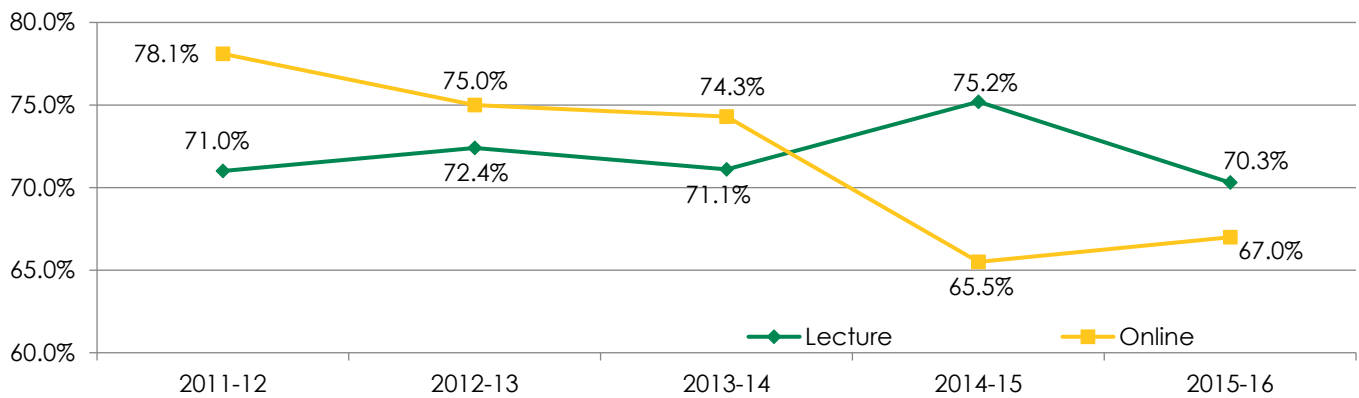


Table 4: CHC PSYCH-100 Course Success and Completion Rates from 2011 – 2012 to 2015 – 2016 by Lecture and Online Sections.

Academic Year	Lecture Course			Distance Education Course		
	#	N	%	#	N	%
Success						
2011 – 2012	449	632	71.0	50	64	78.1
2012 – 2013	480	663	72.4	72	96	75.0
2013 – 2014	451	634	71.1	52	70	74.3
2014 – 2015	560	745	75.2	55	84	65.5
2015 – 2016	686	976	70.3	227	339	67.0
Five Year Total	2,626	3,650	71.9	456	653	69.8
Completion						
2011 – 2012	573	632	90.7	56	64	87.5
2012 – 2013	623	663	94.0	89	96	92.7
2013 – 2014	590	634	93.1	65	70	92.9
2014 – 2015	698	745	93.7	76	84	90.5
2015 – 2016	898	976	92.0	301	339	89.0
Five Year Total	3,382	3,650	92.7	587	653	89.9

The number of GOR in the online PSYCH-111 sections has increased from 64 in 2011 – 2012 to 287 in 2015 – 2016, a 348% (n = 223) increase (see Table 5). In addition, the number of GOR in lecture only PSYCH-111 sections during the same time period has increased from 93 to 128, a 38% (n = 35) increase. Referring to Figure 4, examining the course success rate over time indicates that the online PSYCH-111 course success rate had been decreasing (75% to 66%) while the lecture PSYCH-111 course success rate had been increasing (83% to 94%). However, most recently the online PSYCH-111 course success increased from 66% in 2014-2015 to 72% in 2015-2016, while the lecture PSYCH-111 course success rate decreased from 94% in 2014-2015 to 92% in 2015-2016. **A limitation to comparing student performance in online sections is that the comparison does not control for term, course, and instructor.**

Figure 4: Crafton Hills College Online and Lecture PSYCH-111 Course Success Rates from 2011 – 2012 to 2015 – 2016.

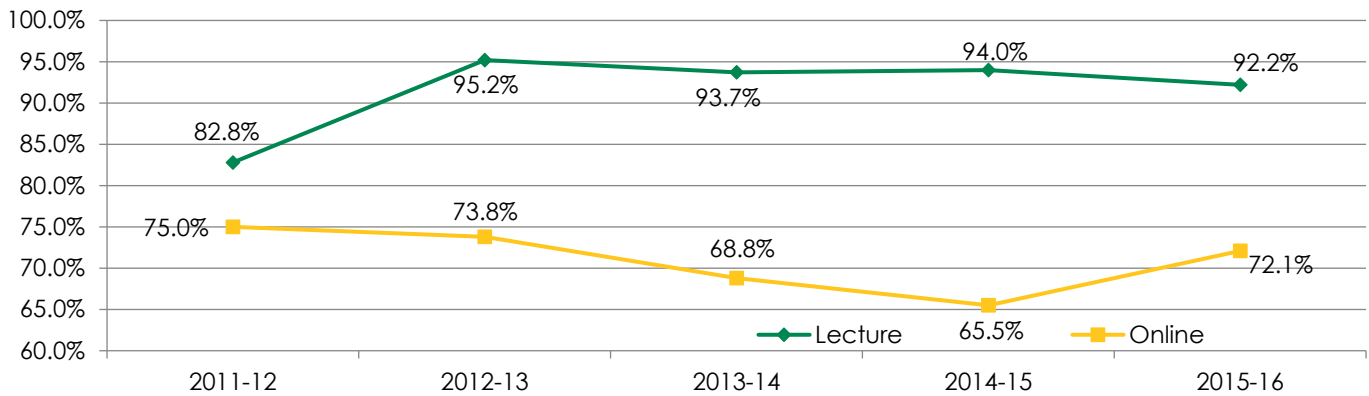


Table 5: CHC PSYCH-111 Course Success and Completion Rates from 2011 – 2012 to 2015 – 2016, Effect Sizes, and P-Values by Lecture and Online Sections.

Academic Year	Lecture Course			Distance Education Course		
	#	N	%	#	N	%
Success						
2011 – 2012	77	93	82.8	48	64	75.0
2012 – 2013	100	105	95.2	59	80	73.8
2013 – 2014	163	174	93.7	44	64	68.8
2014 – 2015	141	150	94.0	95	145	65.5
2015 – 2016	118	128	92.2	207	287	72.1
Five Year Total	599	650	92.2	453	640	70.8
Completion						
2011 – 2012	89	93	95.7	55	64	85.9
2012 – 2013	104	105	99.0	70	80	87.5
2013 – 2014	169	174	97.1	53	64	82.8
2014 – 2015	144	150	96.0	128	145	88.3
2015 – 2016	125	128	97.7	248	287	86.4
Five Year Total	631	650	97.1	554	640	86.6

Any questions regarding this report can be directed to the Office of Institutional Effectiveness, Research, and Planning at (909) 389-3206 or you may send an email to kwurtz@craftonhills.edu: 20160616_1516_GOR_All.sav; Grades_CHC_GOR_20150624_FiveYears_1011to1415_NoLRC900.sav; 1112to1516_DE_Psych.docx.