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**Research Briefs from the CHC Office of Institutional Research
CHC Distance Education Success and Completion Rates
2007 – 2008 to 2011 – 2012**

Overview: The following brief illustrates the number of sections and grades on record earned (GOR), and the success and completion rates for courses at Crafton Hills College from 2007 – 2008 to 2011 – 2012 by instruction method. In addition, student performance in lecture courses is compared to student performance in online courses while controlling for term, instructor, and course.

Summary of Findings:

- The number of sections has declined for every instructional method except for internet, hybrid, independent study, and tutoring sections.
- The number of online sections (i.e. internet only and hybrid sessions) has increased from 29 in 2007 – 2008 to 37 in 2011 – 2012, an increase of 8 (28%).
- The number of grades on record (GOR) in online courses (i.e. internet only and hybrid sessions) has increased from 669 in 2007 – 2008 to 1,077 in 2011 – 2012, a 61% increase (1,077-669/669).
- The success rate in online courses (i.e. internet only and hybrid) has increased from 55% in 2007 – 2008 to 68% in 2011 – 2012, a 23% increase (.678-.549/.549).
- The completion rate (formally retention) in online courses (i.e. internet only and hybrid) has increased from 79% in 2007 – 2008 to 84% in 2011 – 2012, a 6% increase (.835-.789/.789).
- When controlling for term, course, and instructor the overall five year success rate is the same for both lecture (63.9%) and online (64.2%) sections.

Findings: Table 1 illustrates the number and percent of sections by instructional method from 2007 – 2008 to 2011- 2012 in sections where a grade on record was earned (GOR). The proportion of lecture only, lab only, lecture/lab sections, and online (i.e. internet and hybrid) sections have remained relatively the same in the last five years. However, the number of sections has declined for every instructional method except for internet, hybrid, independent study, and tutoring sections. Specifically, the number of online sections (i.e. internet only and hybrid sessions) has increased from 29 in 2007 – 2008 to 37 in 2011 – 2012, an increase of 8 (28%).

Table 1: Number and Percent of Sections by Instructional Method from 2007 – 2008 to 2011 – 2012 for Sections where a Grade on Record was Earned.

Instructional Method	20072008		20082009		20092010		20102011		20112012	
	#	%	#	%	#	%	#	%	#	%
Lecture Only	839	61.3	848	60.0	763	62.1	767	62.8	692	63.8
Lab Only	123	9.0	121	8.6	111	9.0	106	8.7	92	8.5
Internet Only	24	1.8	60	4.2	45	3.7	41	3.4	25	2.3
Hybrid	5	0.4	7	0.5	8	0.7	9	0.7	12	1.1
Lecture/Lab	262	19.2	272	19.2	241	19.6	255	20.9	209	19.3
Work Experience	34	2.5	29	2.1	7	0.6	0	0.0	0	0.0
Independent Study	13	1.0	13	0.9	12	1.0	15	1.2	15	1.4
Field Experience	8	0.6	5	0.4	5	0.4	6	0.5	4	0.4
Clinical	24	1.8	26	1.8	23	1.9	20	1.6	22	2.0
Tutoring	2	0.1	0	0.0	1	0.1	2	0.2	13	1.2
One-Way Video	34	2.5	32	2.3	12	1.0	0	0.0	0	0.0
Total	1,368	100.0	1,413	100.0	1,228	100.0	1,221	100.0	1,084	100.0

Note: The sections where students did not earn a GOR are excluded from this table; accordingly, the number of sections displayed in Table 1 will be lower than the actual number of sections offered by CHC.

The number of GOR in both internet only and hybrid sessions has increased from 669 in 2007 – 2008 to 1,077 in 2011 – 2012, a 61% increase (see Figure 1 and Tables 2 and 3). In addition, GOR in lecture only sessions have had a 4% increase from 2007 – 2008 to 2011 – 2012. Equally important, the success rate in all types of internet sessions has increased from 55% in 2007 – 2008 to 66% in 2011 – 2012. Moreover, internet and hybrid sessions either have similar success rates or internet sessions have higher success rates than hybrid sessions. **A limitation to comparing student performance in hybrid and internet sections is that the comparison does not control for term, course, and instructor.**

Figure 1: CHC Internet Only and Hybrid Success Rates from 2007 – 2008 to 2011 – 2012.

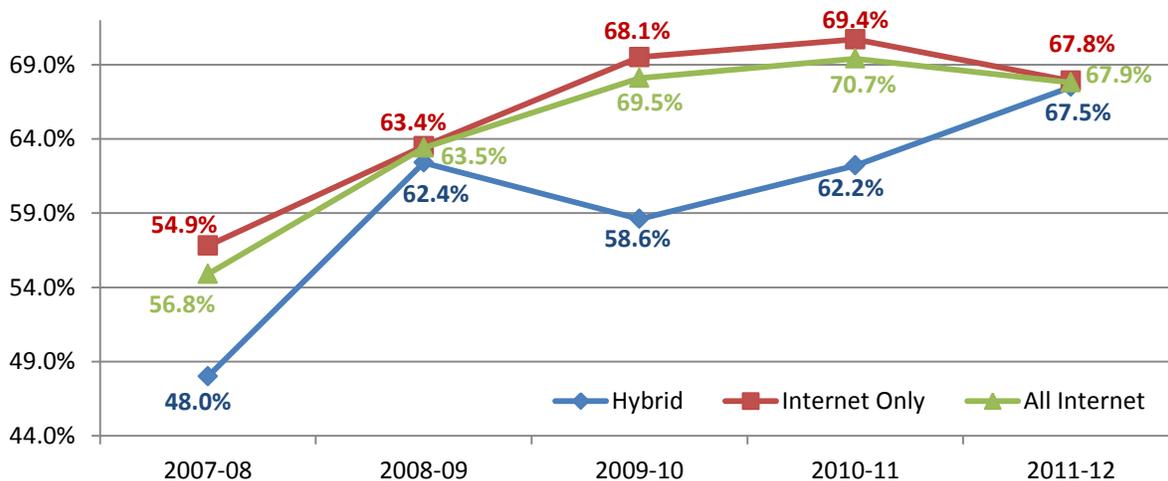


Table 2: CHC Success Rate by Instructional Method from 2007 – 2008 to 2011 – 2012.

Instruction Method	2007 – 2008			2008 – 2009			2009 – 2010			2010 – 2011			2011 – 2012		
	#	N	%	#	N	%	#	N	%	#	N	%	#	N	%
Lecture Only	16,102	22,867	70.4	17,830	24,989	71.4	18,013	25,689	70.1	18,948	26,695	71.0	17,362	23,703	73.2
Lab Only	1,963	2,702	72.6	2,285	2,986	76.5	2,299	3,010	76.4	2,307	3,031	76.1	2,109	2,641	79.9
Internet Only	295	519	56.8	1,040	1,638	63.5	978	1,408	69.5	792	1,120	70.7	539	794	67.9
Hybrid	72	150	48.0	93	149	62.4	116	198	58.6	130	209	62.2	191	283	67.5
Lecture/Lab	3,799	5,104	74.4	4,389	5,928	74.0	4,424	5,820	76.0	4,390	5,938	73.9	3,579	4,689	76.3
Work Experience	103	226	45.6	48	68	70.6	4	7	57.1						
Independent Study	37	40	92.5	34	41	82.9	36	46	78.3	70	80	87.5	51	56	91.1
Field Experience	80	82	97.6	68	71	95.8	46	52	88.5	47	55	85.5	19	27	70.4
Clinical	450	680	66.2	534	762	70.1	463	633	73.1	427	555	76.9	428	514	83.3
Tutoring	0	25	0.0				0	5	0.0	117	193	60.6	31	67	46.3
One-Way Video	577	985	58.6	570	1,043	54.7	265	607	43.7						
Total	23,478	33,380	70.3	26,891	37,675	71.4	26,644	37,475	71.1	27,228	37,876	71.9	24,309	32,774	74.2

Note. The **blue** font refers to distance education sessions, “#” refers to the number of successful grades, “N” refers to the number of GOR, and “%” is # divided by N.

Table 3: CHC Completion Rate by Instructional Method from 2007 – 2008 to 2011 – 2012.

Instruction Method	2007 – 2008			2008 – 2009			2009 – 2010			2010 – 2011			2011 – 2012		
	#	N	%	#	N	%	#	N	%	#	N	%	#	N	%
Lecture Only	19,978	22,867	87.4	22,103	24,989	88.5	22,721	25,689	88.4	23,585	26,695	88.3	21,262	23,703	89.7
Lab Only	2,378	2,702	88.0	2,664	2,986	89.2	2,714	3,010	90.2	2,724	3,031	89.9	2,410	2,641	91.3
Internet Only	405	519	78.0	1,324	1,638	80.8	1,207	1,408	85.7	962	1,120	85.9	657	794	82.7
Hybrid	123	150	82.0	117	149	78.5	151	198	76.3	164	209	78.5	242	283	85.5
Lecture/Lab	4,498	5,104	88.1	5,239	5,928	88.4	5,191	5,820	89.2	5,267	5,938	88.7	4,175	4,689	89.0
Work Experience	141	226	62.4	63	68	92.6	6	7	85.7						
Independent Study	38	40	95.0	37	41	90.2	40	46	87.0	77	80	96.3	54	56	96.4
Field Experience	82	82	100.0	71	71	100.0	50	52	96.2	53	55	96.4	26	27	96.3
Clinical	531	680	78.1	653	762	85.7	512	633	80.9	450	555	81.1	454	514	88.3
Tutoring	0	25	0.0				0	5	0.0	186	193	96.4	36	67	53.7
One-Way Video	801	985	81.3	815	1,043	78.1	476	607	78.4						
Total	28,975	33,380	86.8	33,086	37,675	87.8	33,068	37,475	88.2	33,468	37,876	88.4	29,316	32,774	89.4

Note. The **blue** font refers to distance education sessions, “#” refers to the number of retained students, “N” refers to the number of GOR, and “%” is # divided by N.

Figure 2 and Table 4 indicate that when controlling for term, course, and instructor the overall five year success rate for lecture (63.9%) and online sections (64.2%) is the same for both types of sections. Equally important, none of the differences in success rate are statistically or substantially different from one another (see Table 4). On the other hand, students in lecture courses were statistically significantly ($p < .001$) more likely to complete (i.e. formally retention) the course than students in an online course 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.**

Figure 2: CHC Success Rates from 2007 – 2008 to 2011 – 2012 by Lecture and Online Sections taught by the Same Instructor in the Same Semester.

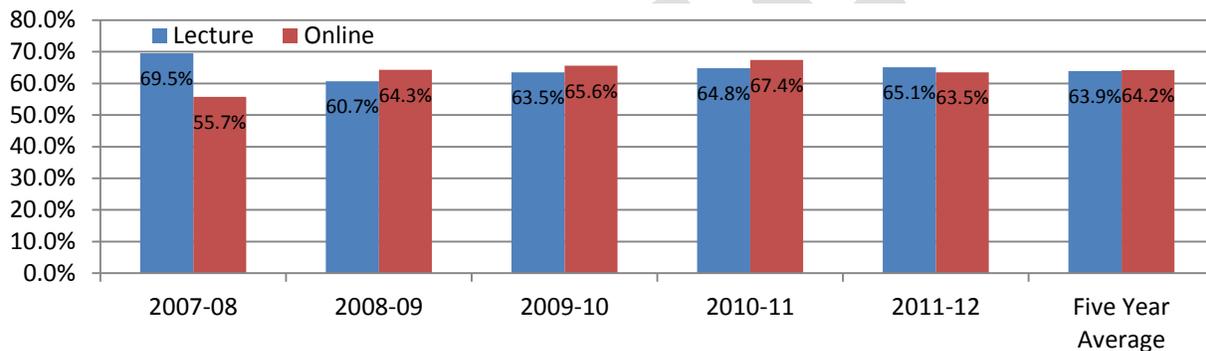


Table 4: CHC Success and Completion Rates from 2007 – 2008 to 2011 – 2012, Effect Sizes, and P-Values by Lecture and Online Sections taught by the Same Instructor in the Same Semester.

Academic Year	Lecture Course			Distance Education Course			ES*	P-Value**
	#	N	%	#	N	%		
Success								
2007 – 2008	164	236	69.5	108	194	55.7	-.29	.003***
2008 – 2009	400	659	60.7	286	445	64.3	.07	.229
2009 – 2010	413	650	63.5	238	363	65.6	.04	.518
2010 – 2011	518	800	64.8	289	429	67.4	.06	.355
2011 – 2012	254	390	65.1	132	208	63.5	-.03	.687
Five Year Average	1,749	2,735	63.9	1,053	1,639	64.2	.01	.843
Completion								
2007 – 2008	206	236	87.3	157	194	80.9	-.18	.075
2008 – 2009	593	659	90.0	348	445	78.2	-.33	< .001***
2009 – 2010	582	650	89.5	303	363	83.5	-.18	.008***
2010 – 2011	740	800	92.5	338	429	78.8	-.42	< .001***
2011 – 2012	364	390	93.3	168	208	80.8	-.40	< .001***
Five Year Average	2,485	2,735	90.9	1,314	1,639	80.2	-.32	< .001***

* 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.

Methodology: Table 1 illustrates the number and percent of sections by instructional method from 2007 – 2008 to 2011 – 2012 for sections where a GOR was earned. It is important to note that sections where students did not earn a GOR are excluded from this table. Accordingly, the number of sections displayed in Table 1 will be lower than the actual number of sections offered by the District Colleges.

Tables 2 and 3 display the success and completion rates for CHC by instruction method from 2007 – 2008 to 2011 – 2012. There are eleven methods of instruction identified in Tables 2 and 3: lecture only, lab only, internet only, hybrid (a combination of internet and another instruction method usually lecture), lecture/lab, work experience, independent study, field experience, clinical, tutoring, and one-way video. The work experience, independent study, field experience, clinical, tutoring, and one-way video instructional methods also may have included other instructional methods that were combined with these methods. **The internet and hybrid instruction methods are the methods often referred to as distance education or online courses.**

When examining the success and completion rates (formally retention) illustrated in Tables 2 and 3 it is essential **to not compare** the success and completion rates of different instructional methods because each method does not control for instructor and discipline, and would be misleading. Comparing the 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 success and completion rates while controlling for instructor, term, and course. Accordingly, Figure 2 and Table 4 illustrate the results of comparing lecture to distance education sections for the same term, instructor, and course. 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.

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.

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:
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