



## Relationship between CHC Study Skills Courses and Basic Skills Course Success

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### Purpose of Brief

This brief illustrates the results of the relationship between students who successfully completed CHC study skills courses with those in the same section who did not successfully complete CHC study skills courses in developmental math, English, and reading courses.

### Summary of Findings

- Students who successfully completed CHC-090 (92%) were more likely to complete developmental math, reading, or English courses than students who successfully completed CHC-099 (84%) or CHC-100 (77%)
- Students who successfully completed CHC-090 (77%) were statistically significantly and substantially more likely to successfully complete MATH-942 than students who did not successfully complete CHC-090 (35%)
- Hispanic Students who successfully completed CHC-099 (94%) were statistically significantly and substantially more likely to successfully complete developmental courses than students who did not successfully complete CHC-099 (56%)
- Students who successfully completed CHC-099 (87%) were statistically significantly and substantially more likely to successfully complete ENGL-914 than students who did not successfully complete CHC-099 (47%)

### Overview

In Spring 2015 the Crafton Hills College Basic Skills Initiative (BSI) Committee received a question regarding whether BSI funding should be used to support CHC study skills courses (i.e. CHC-090, 099, and 100). As a result, the BSI Committee asked the Office of Institutional Effectiveness, Research, and Planning to examine if there was a relationship between CHC study skills courses and success in basic skills English and math courses.

### Methodology

Students who successfully completed (A, B, C, or P grade) CHC-090 (College Skills and Strategies), CHC-099 (Learning Communities Seminar), or CHC-100 (Student Success and the College Experience) were compared to students in the same CHC-090, 099, and 100 section who did not successfully complete (D, F, I, NP, or W grade) the CHC study skills course. Study Skill Students were compared on whether or not they successfully completed a basic skills or developmental reading, English, or math course in the same semester that they earned a grade on record (GOR, A, B, C, D, F, P, NP, I, or W) in the study skills course.

The effect size statistic was used to indicate the size of the difference on each of the student outcome measures between students who successfully completed a study skills course and those who did not. 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. An effect size is considered to be meaningful if it is .20 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). The P-Value is an indication of statistical significance which 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.

**Limitations.** First, it is important to note that the findings presented indicate a relationship between students who earn a GOR in CHC study skills courses and successfully complete basic skills or developmental math, English, and reading courses, and not causality. Second, students who did not enroll a developmental math, reading, and/or English course were not examined and CHC study skills students were only compared to other CHC study skills students in the same section if they also enrolled in a developmental math, reading, or English course. Third, not surprisingly, students who are successful in a course are more likely to be successful in another course. Accordingly, the results here indicate that a

student's success in a developmental course may be related to the CHC study skills course, but could also be a result of student characteristics.

### **Sample**

In order to increase the number of records examined, students who earned a GOR were examined from 2009-2010 to 2013-2014. Students earned 614 GOR in CHC-090, 2,716 in CHC-099, and 1,080 in CHC-100 and enrolled in a basic skills or developmental reading, English, or math course in the same semester.

### **Findings**

Overall, students who successfully completed CHC-090 (College Skills and Strategies) or CHC-099 (Learning Communities Seminar) were statistically significantly ( $p < .05$ ) and substantially ( $ES \geq .20$ ) more likely to complete basic skills or developmental courses than students in the same section who did not successfully complete CHC-090 or 099 (see Tables 1-2A). On the other hand, students successfully completing CHC-100 (Student Success and College Experience) did not consistently have a higher likelihood of successfully completing developmental math, reading, and/or English courses (see Tables 3 and 3A).

Students who successfully completed CHC-090 (College Skills and Strategies) were statistically significantly and substantially more likely to complete the following courses when compared to students in the same section who did not successfully complete CHC-090 (see Table 1):

- ENGL-914
- MATH-942
- MATH-952
- READ-925
- READ-956

In addition, Hispanic students appeared to benefit most from completing CHC-090 successfully, followed by African American students (see Table 1A). Moreover, males, females, and students 39 years old or younger were also substantially and statistically significantly more likely to complete a developmental math, reading, or English course than students who had not successfully completed CHC-090.

Students who successfully completed CHC-099 (Learning Communities Seminar) were statistically significantly and substantially more likely to complete the following courses when compared to students in the same section who did not successfully complete CHC-099 (see Table 2):

- ENGL-914
- MATH-952
- READ-925
- READ-956

In addition, Native American students appeared to benefit most from completing CHC-099 successfully, followed by African American, Asian, and Hispanic students (see Table 2A). Moreover, males, females, and students 49 years old or younger were also substantially and statistically significantly more likely to complete a developmental math, reading, or English course than students who had not successfully completed CHC-099.

There were not as many students who both successfully completed CHC-100 (Student Success and the College Experience) and who enrolled in a developmental math, reading, or English course in the same semester (see Table 3). Accordingly, the results were not as substantial for CHC-100 as they were for CHC-090 and 099. However, male students and students 19 years old or younger who successfully completed CHC-100 were statistically significantly and substantially more likely to complete a developmental math, reading, or English course than students who had not successfully completed CHC-100 (see Table 3A).

**Table 1: Relationship between Students who successfully Completed CHC-090 (College Skills and Strategies) and those who did not enroll or Successfully Complete CHC-090 in the Same Term and Section by Basic Skills English, Math, and Reading Course from 2009-2010 to 2013-2014.**

Course	Did Not Successfully Complete CHC-090			Successfully Completed CHC-090			ES	P-Value
	#	N	%	#	N	%		
ENGL-914	56	93	60.2	31	33	93.9	.73	< .001
ENGL-976	12	24	50.0	1	1	100.0	.98	
MATH-942	8	23	34.8	33	43	76.7	.86	.001
MATH-952	40	76	52.6	13	15	86.7	.69	.002
MATH-953X2	1	4	25.0	0	1	0.0	-.56	
READ-078X2	23	28	82.1	1	1	100.0	.46	
READ-925X2	65	96	67.7	89	91	97.8	.79	< .001
READ-956X2	27	34	79.4	19	19	100.0	.60	.005
READ-980	20	31	64.5	1	1	100.0	.74	
Total	252	409	61.6	188	205	91.7	.67	< .001

**Table 1: Relationship between Students who successfully Completed CHC-090 (College Skills and Strategies) and those who did not enroll or Successfully Complete CHC-090 in the Same Term and Section in Basic Skills English, Math, and Reading Courses by Ethnicity, Gender, and Age from 2009-2010 to 2013-2014.**

Demographics	Did Not Successfully Complete CHC-090			Successfully Completed CHC-090			ES	P-Value
	#	N	%	#	N	%		
Ethnicity								
Asian	11	15	73.3	7	7	100.0	.68	.035
African American	22	35	62.9	14	14	100.0	.83	< .001
Hispanic	120	215	55.8	116	123	94.3	.84	< .001
Native American	5	6	83.3	2	2	100.0	.47	.356
Caucasian	94	137	68.6	49	59	83.1	.32	.024
Missing	0	1	0.0					
Total	252	409	61.6	188	205	91.7	.67	< .001
Gender								
Female	128	203	63.1	105	115	91.3	.64	< .001
Male	123	205	60.0	83	90	92.2	.70	< .001
Missing	1	1	100.0					
Total	252	409	61.6	188	205	91.7	.67	< .001
Age								
19 or younger	149	232	64.2	128	144	88.9	.56	< .001
20-24	70	114	61.4	39	40	97.5	.79	< .001
25-29	13	30	43.3	5	5	100.0	1.12	< .001
30-34	4	11	36.4	6	6	100.0	1.25	.001
35-39	7	12	58.3	2	2	100.0	.84	.016
40-49	8	9	88.9	8	8	100.0	.46	.333
50 and above	1	1	100.0					
Total	252	409	61.6	188	205	91.7	.67	< .001

**Table 2: Relationship between Students who successfully Completed CHC-099 (Learning Communities Seminar) and those who did not enroll or Successfully Complete CHC-099 in the Same Term and Section by Basic Skills English, Math, and Reading Course from 2009-2010 to 2013-2014.**

Course	Did Not Successfully Complete CHC-099			Successfully Completed CHC-099			ES	P-Value
	#	N	%	#	N	%		
ENGL-914	49	104	47.1	180	208	86.5	.89	< .001
MATH-903X4	49	70	70.0	1	2	50.0	-.43	.692
MATH-942	94	160	58.8	8	14	57.1	-.03	.910
MATH-943	91	206	44.2	7	14	50.0	.12	.684
MATH-952	425	746	57.0	70	104	67.3	.21	.038
MATH-953	53	118	44.9	9	15	60.0	.30	.279
READ-078X2	133	172	77.3	27	30	90.0	.31	.050
READ-925X2	63	145	43.4	196	217	90.3	1.04	< .001
READ-956X2	225	312	72.1	75	79	94.9	.54	< .001
Total	1,182	2,033	58.1	573	683	83.9	.54	< .001

**Table 2A: Relationship between Students who successfully Completed CHC-099 (Learning Communities Seminar) and those who did not enroll or Successfully Complete CHC-099 in the Same Term and Section in Basic Skills English, Math, and Reading Courses by Ethnicity, Gender, and Age from 2009-2010 to 2013-2014.**

Demographics	Did Not Successfully Complete CHC-099			Successfully Completed CHC-099			ES	P-Value
	#	N	%	#	N	%		
Ethnicity								
Asian	39	69	56.5	44	49	89.8	.73	< .001
African American	93	185	50.3	55	66	83.3	.67	< .001
Hispanic	529	955	55.4	280	337	83.1	.57	< .001
Native American	20	43	46.5	6	6	100.0	1.06	< .001
Caucasian	493	771	63.9	185	222	83.3	.42	< .001
Missing	8	10	80.0	3	3	100.0	.53	.162
Total	1,182	2,033	58.1	573	683	83.9	.54	< .001
Gender								
Female	688	1112	61.9	339	400	84.8	.49	< .001
Male	490	917	53.4	233	282	82.6	.60	< .001
Missing	4	4	100.0	1	1	100.0	.00	.00
Total	1,182	2,033	58.1	573	683	83.9	.54	< .001
Age								
19 or younger	565	982	57.5	374	448	83.5	.55	< .001
20-24	300	559	53.7	108	135	80.0	.53	< .001
25-29	125	198	63.1	38	40	95.0	.68	< .001
30-34	63	101	62.4	13	15	86.7	.51	.020
35-39	46	68	67.6	24	26	92.3	.56	.002
40-49	66	97	68.0	11	12	91.7	.52	.015
50 and above	17	28	60.7	5	7	71.4	.22	.608
Total	1,182	2,033	58.1	573	683	83.9	.54	< .001

**Table 3: Relationship between Students who successfully Completed CHC-100 (Student Success and the College Experience) and those who did not enroll or Successfully Complete CHC-100 in the Same Term and Section by Basic Skills English, Math, and Reading Course from 2009-2010 to 2013-2014.**

Course	Did Not Successfully Complete CHC-099			Successfully Completed CHC-099			ES	P-Value
	#	N	%	#	N	%		
ENGL-914	92	157	58.6	22	33	66.7	.16	.383
MATH-903X4	52	74	70.3	2	2	100.0	.65	< .001
MATH-942	83	132	62.9	9	9	100.0	.78	< .001
MATH-943X2	32	46	69.6	1	2	50.0	-.42	.700
MATH-952	98	179	54.7	3	6	50.0	-.10	.834
READ-078X2	64	85	75.3	4	4	100.0	.58	< .001
READ-925X2	215	262	82.1	15	16	93.8	.31	.082
READ-956X2	43	70	61.4	2	3	66.7	.11	.877
Total	679	1,005	67.6	58	75	77.3	.21	.055

**Table 3A: Relationship between Students who successfully Completed CHC-100 (Student Success and the College Experience) and those who did not enroll or Successfully Complete CHC-100 in the Same Term and Section in Basic Skills English, Math, and Reading Courses by Ethnicity, Gender, and Age from 2009-2010 to 2013-2014.**

Demographics	Did Not Successfully Complete CHC-099			Successfully Completed CHC-099			ES	P-Value
	#	N	%	#	N	%		
Ethnicity								
Asian	37	43	86.0	3	6	50.0	-.92	.124
African American	38	66	57.6	9	11	81.8	.49	.080
Hispanic	299	456	65.6	23	31	74.2	.18	.299
Native American	13	24	54.2					
Caucasian	287	400	71.8	21	25	84.0	.27	.118
Missing	5	16	31.3	2	2	100.0	1.37	< .001
Total	679	1,005	67.6	58	75	77.3	.21	.055
Gender								
Female	366	534	68.5	29	41	70.7	.05	.769
Male	313	471	66.5	29	34	85.3	.40	.004
Total	679	1005	67.6	58	75	77.3	.21	.055
Age								
19 or younger	360	531	67.8	43	54	79.6	.26	.045
20-24	148	239	61.9	6	10	60.0	-.04	.908
25-29	60	83	72.3	2	3	66.7	-.12	.868
30-34	35	45	77.8	3	3	100.0	.54	.001
35-39	29	48	60.4	1	1	100.0	.80	
40-49	36	47	76.6	3	4	75.0	-.04	.951
50 and above	11	12	91.7					
Total	679	1,005	67.6	58	75	77.3	.21	.055

For more information please contact Keith Wurtz, Dean, Office of Institutional Effectiveness, Research, and Planning at [kwurtz@craftonhills.edu](mailto:kwurtz@craftonhills.edu) or at 909-389-3206: 1415\_CHCandBasicSkillsCourses\_Brief.docx; Grades\_CHC\_GOR-20140605\_FiveYears\_0910to1314\_NoLRC900.sav.