Crafton Hills College

RRN 614

May 2013

Institutional Effectiveness, Research & Planning

Research Brief

Relationship between Learning Communities and Student Success from Fall 2010 to Spring 2012

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Purpose of Brief

This brief examines the relationship between Learning Communities (LC) and student success from Fall 2010 to Spring 2012 at Crafton Hills College. Learning Communities are communities of students who are enrolled in the same cluster of courses.

Summary of Findings

(Refer to Figure 1 and Tables 1 and 2)

- Students in LCs were statistically significantly (p=.009) ***more*** likely to ***successfully*** complete courses (74%) than students in stand-A-lone courses (71%)
- Students in LCs were statistically significant (p<.001), and substantially (ES =0.19) ***more*** likely to be ***retained (formally persistence) from the Fall to Spring*** (84%) than students in stand-A-lone courses (76%)
- Overall, students in LCs were statistically significantly (p=.007) ***more*** likely to be ***retained*** (Fall to Spring and Spring to Fall) to the subsequent primary term (75%) than students in stand-A-lone courses (71%)

Methodology

Figure 1, Tables 1 and 2 illustrate the results of the relationship between Learning Communities (LC) and student success. To examine this relationship between students in LCs and student performance, students in a LC were compared to students in Stand-A-Lone Courses taught by the same instructor in the same term. If it was not possible to control for instructor, student performance in the LC was compared to all other students enrolled in the same course for that term. Additionally, an aggregate comparison of LCs with both instructor and all other students in the same course was performed (see Table 2).

Grade on record (GOR) refers to one of the following grades: A, B, C, D, F, CR/P, NC/NP, I, or W. Completion rate is defined as the number of A, B, C, D, F, CR/P, NC/NP, or I grades, divided by the number of GOR. Success rate is defined as the number of A, B, C, or CR/P grades divided by the number of grades on record. Term retention rate is defined as the number of students who earned a GOR in the semester in which they participated in the LC and who also earned a GOR in the subsequent primary term.

The effect size statistic was used to indicate the size of the difference on success between those who participated and did not participate in a LC. A method of interpreting effect size was developed by Jacob Cohen, a renowned statistician and psychologist. Jacob Cohen defined "small", "medium", and "large" effect sizes. He explained that an effect size of .20, .50, and .80 can be small, medium, and large, respectively. An effect size of .20 or higher is considered meaningful. 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).

Limitations

One limitation is that it was not possible to control for instructor in all of the comparison groups. Therefore, the relationship between students participating in an LC and those not participating in an LC may be due to instructor variation.

Figure 1: Stand-A-Lone and Learning Community Completion, Success and Retention Rates from Fall 2010 to Spring 2012.

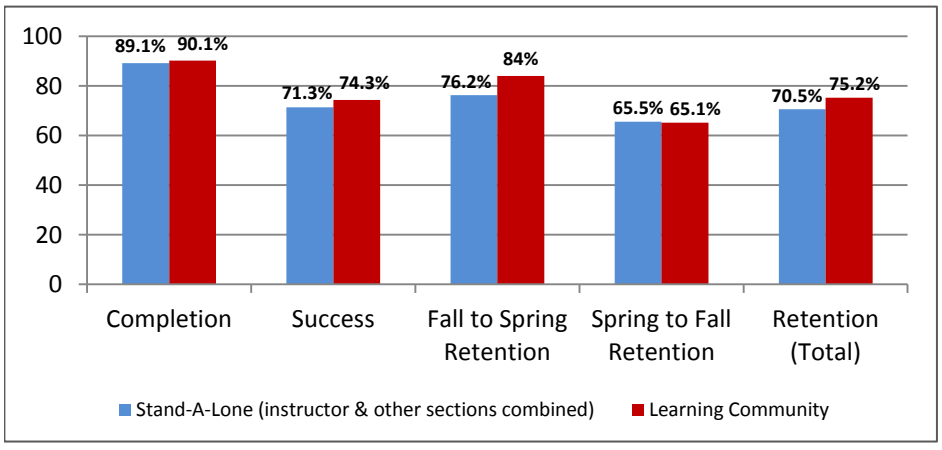

Table 1: Stand-A-Lone and Learning Community Aggregated Completion, Success, and Retention Rates with Effect Size and Statistical Significance from Fall 2010 to Spring 2012

Outcome	Stand-A-Lone (all other sections)			Stand-A-Lone (instructor)			Stand-A-Lone (instructor & all other sections combined)			Learning Communities			Effect Size (ES)	P-Value	Statistically Significant
	#	N	%	#	N	%	#	N	%	#	N	%			
Completion	6189	6973	**88.8**	1241	1363	**91.0**	7430	8336	**89.1**	1615	1793	**90.1**	0.03	.230	No
Success	4917	6973	**70.5**	1026	1363	**75.3**	5943	8336	**71.3**	1332	1793	**74.3**	0.07	.009	Yes
Fall to Spring Retention	983	2457	**40.0**	267	354	**75.4**	2356	3093	**76.2**	304	362	**84.0**	0.19	<.001	Yes
Spring to Fall Retention	1992	3021	**65.9**	346	546	**63.4**	2338	3567	**65.5**	203	312	**65.1**	0.01	.864	No
Retention (Total)	2975	5478	**54.3**	613	900	**68.1**	4694	6660	**70.5**	507	674	**75.2**	0.10	.007	Yes

Note: Stand-A-Lone (all other sections) sections represent students enrolled in the same sections, but with different instructors. Stand-A-Lone (instructor) sections refer to the same sections taught by the same instructor; and the aggregate of Stand-A-Lone (instructor & other sections combined) combines all of the Stand-A-Lone sections. To obtain Effect Sizes and P-Values, Learning Communities and Stand-A-Lone (instructor & all other sections combined) sections were compared.

Table 2: Stand-A-Lone and Learning Community Disaggregated Completion, Success, and Retention Rates by Term with Effect Size and Statistical Significance from Fall 2010 to Spring 2012

Outcome by Term	Stand-A-Lone (all other sections)			Stand-A-Lone (instructor)			Stand-A-Lone (instructor & all other sections combined)			Learning Communities			Effect Size	P-Value	Statistically Significant
	#	N	%	#	N	%	#	N	%	#	N	%			
Fall 2010															
Completion	715	817	**87.5**	279	299	**93.3**	994	1116	**89.1**	437	474	**92.2**	0.10	.044	Yes
Success	543	817	**66.5**	244	299	**81.6**	787	1116	**70.5**	346	474	**73.0**	0.05	.314	No
Fall to Spring Retention	501	869	**74.9**	165	204	**80.9**	666	873	**76.3**	134	165	**81.2**	0.12	.145	No
Spring 2011															
Completion	1297	1466	**88.5**	325	363	**89.5**	1622	1829	**88.7**	264	314	**84.1**	0.14	.036	Yes
Success	1022	1466	**69.7**	252	363	**69.4**	1274	1829	**69.7**	230	314	**73.2**	0.08	.187	No
Spring to Fall Retention	889	1381	**64.4**	158	270	**58.5**	1047	1651	**63.4**	92	134	**68.7**	0.11	.212	No
Fall 2011															
Completion	2425	2886	**90.3**	260	278	**93.5**	2685	2964	**90.6**	465	501	**92.8**	0.08	.080	No
Success	2009	2686	**74.8**	224	278	**80.6**	2233	2964	**75.3**	401	501	**80.0**	0.11	.016	Yes
Fall to Spring Retention	482	1588	**76.7**	102	150	**68.0**	1690	2220	**76.1**	170	197	**86.3**	0.24	<.001	Yes
Spring 2012															
Completion	1752	2004	**87.4**	377	423	**89.1**	2129	2427	**87.7**	449	504	**89.1**	0.04	.376	No
Success	1343	2004	**67.0**	306	423	**72.3**	1649	2427	**67.9**	355	504	**70.4**	0.05	.267	No
Spring to Fall Retention	1103	1640	**67.3**	188	276	**68.1**	1291	1916	**67.4**	111	178	**62.4**	0.11	.186	No

Note: Stand-A-Lone (all other sections) sections represent students enrolled in the same sections, but with different instructors. Stand-A-Lone (instructor) sections refer to the same sections taught by the same instructor; and the aggregate of Stand-A-Lone (instructor & other sections combined) combines all of the Stand-A-Lone sections. To obtain Effect Sizes and P-Values, Learning Communities and Stand-A-Lone (instructor & all other sections combined) sections were compared.