



Research Brief

Relationship between Tutoring Center Utilization and English Course Success and Completion

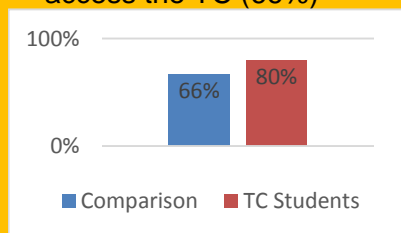
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Purpose of Brief

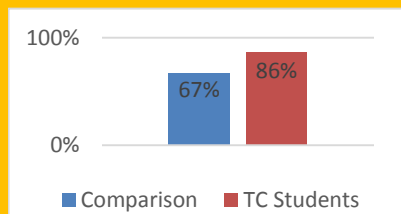
The purpose of this brief is to examine the relationship between Crafton Hills College students who utilized the Tutoring Center from Fall 2013 to Spring 2015 and English course success.

Summary of Findings

- Students who accessed the Tutoring Center (TC) are statistically significantly and substantially more likely to successfully complete their English courses (80%) than students in the same English section who did not access the TC (66%)



- ENGL-010 students who accessed the TC are statistically significantly and substantially more likely to successfully complete their ENGL-010 course (86%) than students in the same English section who did not access the TC (67%)



Overview

At the request of a Crafton Hills College (Crafton) English Faculty, the Office of Institutional Effectiveness, Research, and Planning (OIERP) examined English course performance (i.e. course success and completion rates) of students who utilized the Tutoring Center (TC) from Fall 2013 to Spring 2015. Performance outcome data was further disaggregated by course and student demographic characteristics (race/ethnicity, gender, age group, and income).

Methodology

Dating back to the Fall 2013 semester, Crafton has managed an electronic sign-in system at the TC location that collects the student ID (SID) and the section number of the course that the student is seeking support. Collecting the course section number with the SID allowed the more methodologically sound comparison between students who utilized the TC with students enrolled in the same section who did not utilize the TC. As a result, the OIERP was able to control for term and faculty, and in some cases student skill level e.g.: ENGL-976). A limitation to the comparison between students who access the TC and students in the same section who did not access the TC was that student motivation and prior performance (i.e. GPA) were not controlled for.

In 2013-2014 (Fall 2013 and Spring 2014) 1,454 Crafton students accessed the TC for an English course, and in 2014-2015 (Summer 2014, Fall 2014, and Spring 2015) 1,240 students accessed the TC for an English course. Students accessing the TC for English were compared on course success and course completion to students who earned a grade on record (GOR) in the same English section. Course success refers to earning a grade of A, B, C, or P, course completion refers to earning a grade of A, B, C, D, F, I, P, or NP (all but a “W” grade), and a GOR is a grade of A, B, C, D, F, I, P, NP, or W.

The effect size statistic was used to indicate the size of the difference on student course success and completion between TC English students and students who earned a grade on record in the same English section. 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. Research in the social sciences has indicated that a substantial effect is considered meaningful if the effect size is .10 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).

Findings

Table 1 illustrates the English *course success rate* for students who accessed the TC and students who earned a GOR in the same English section and did not access the TC, referred to as the comparison group. English TC students were statistically significantly and substantially more likely to complete their English courses with a “C” grade or better (80%) than students enrolled in the same English section who did not access the TC (66%). Native American students who accessed the TC were also statistically significantly and substantially more likely to successfully complete their English course (86%) than Native American students in the same English section who did not access the TC (68%). In addition, the relationship between TC utilization and course success, while effective with most every demographic group, appears to be most effective with Native American students (ES = .41, $p = .0005$), followed by students 30-34 years old (ES = .41, $p < .0001$), students who were not economically disadvantaged (ES = .36, $p < .0001$), Asian students (ES = .35, $p < .0001$), and 20-24 year old students (ES = .34, $p < .0001$).

Table 1: Fall 2013 to Spring 2015 Course Success Rate Comparison between TC Students and Students Enrolled in the Same Section by Gender, Age, Ethnicity, and Income.

Demographics	Comparison Group			Tutoring Center Students			Effect Size*	p - Value**
	#	N	%	#	N	%		
Gender								
Female	1,819	2,614	69.6	1,485	1,830	81.1	.26	$p < .001$
Male	1,559	2,473	63.0	1,061	1,352	78.5	.33	$p < .001$
Unknown	3	7	42.9	4	5	80.0	.72	0.221
Total	3,381	5,094	66.4	2,550	3,187	80.0	.30	$p < .001$
Age								
19 or Younger	1,516	2,244	67.6	1,389	1,749	79.4	.27	$p < .001$
20-24 Years Old	1,270	1,976	64.3	741	926	80.0	.34	$p < .001$
25-29 Years Old	321	481	66.7	200	249	80.3	.30	$p < .001$
30-34 Years Old	115	176	65.3	82	98	83.7	.41	$p < .001$
35-39 Years Old	78	107	72.9	45	59	76.3	.08	0.633
40-49 Years Old	55	74	74.3	56	66	84.8	.26	0.123
50 or Older	26	36	72.2	37	40	92.5	.53	0.022
Total	3,381	5,094	66.4	2,550	3,187	80.0	.30	$p < .001$
Ethnicity								
Asian	181	273	66.3	156	190	82.1	.35	$p < .001$
African American	235	363	64.7	212	277	76.5	.26	$p < .001$
Hispanic	1,519	2,418	62.8	1,232	1,594	77.3	.31	$p < .001$
Native American	70	103	68.0	55	64	85.9	.41	0.005
Caucasian	1,363	1,920	71.0	891	1,056	84.4	.31	$p < .001$
Unknown	13	17	76.5	4	6	66.7	-.22	0.682
Total	3,381	5,094	66.4	2,550	3,187	80.0	.30	$p < .001$
Economically Disadvantaged								
No	1,306	1,932	67.6	792	948	83.5	.36	$p < .001$
Yes	2,075	3,162	65.6	1,758	2,239	78.5	.28	$p < .001$
Total	3,381	5,094	66.4	2,550	3,187	80.0	.30	$p < .001$

*Effect Size – a meaningful or substantial effect size difference is .10 or higher.

**“p - Value” – a p-value that is less than .05 indicates that the difference in course success is a result of chance only 5 out of 100 times.

Table 2 illustrates the English *course completion rate* for students who accessed the TC and students who earned a GOR in the same English section and did not access the TC, referred to as the comparison group. TC students were statistically significantly and substantially more likely to complete their English courses (95%) than students enrolled in the same English section who did not access the TC (87%). Students 50 years old or older who accessed the TC were also statistically significantly and substantially more likely to complete their English course (100%) than students 50 years old or older in the same English section who did not access the TC (78%). In addition, the relationship between TC utilization and English course completion, while effective with every demographic group, appears to be most effective with students 50 years old or older (ES = .72, $p < .0001$), followed by students 30-34 years old (ES = .37, $p < .0001$), Asian students (ES = .37, $p < .0001$) and students who were not economically disadvantaged (ES = .31, $p < .0001$).

Table 2: Fall 2013 to Spring 2015 Course Completion Rate Comparison between TC Students and Students Enrolled in the Same Section by Gender, Age, Ethnicity, and Income.

Demographics	Comparison Group			Tutoring Center Students			Effect Size*	p - Value**
	#	N	%	N	%			
Gender								
Female	2,310	2,614	88.4	1,738	1,830	95.0	.23	$p < .001$
Male	2,134	2,473	86.3	1,279	1,352	94.6	.27	$p < .001$
Unknown	6	7	85.7	4	5	80.0	-.15	0.821
Total	4,450	5,094	87.4	3,021	3,187	94.8	.25	$p < .001$
Age								
19 or Younger	2,027	2,244	90.3	1,676	1,749	95.8	.21	$p < .001$
20-24 Years Old	1,693	1,976	85.7	868	926	93.7	.25	$p < .001$
25-29 Years Old	405	481	84.2	230	249	92.4	.24	$p < .001$
30-34 Years Old	142	176	80.7	92	98	93.9	.37	$p < .001$
35-39 Years Old	95	107	88.8	53	59	89.8	.03	0.835
40-49 Years Old	60	74	81.1	62	66	93.9	.38	0.944
50 or Older	28	36	77.8	40	40	100.0	.72	0.002
Total	4,450	5,094	87.4	3,021	3,187	94.8	.25	$p < .001$
Ethnicity								
Asian	230	273	84.2	182	190	95.8	.37	$p < .001$
African American	311	363	85.7	264	277	95.3	.32	$p < .001$
Hispanic	2,114	2,418	87.4	1,506	1,594	94.5	.24	$p < .001$
Native American	92	103	89.3	63	64	98.4	.35	0.009
Caucasian	1,687	1,920	87.9	1,000	1,056	94.7	.23	$p < .001$
Unknown	16	17	94.1	6	6	100.0	.28	0.329
Total	4,450	5,094	87.4	3,021	3,187	94.8	.25	$p < .001$
Economically Disadvantaged								
No	1,695	1,932	87.7	916	948	96.6	.31	$p < .001$
Yes	2,755	3,162	87.1	2,105	2,239	94.0	.23	$p < .001$
Total	4,450	5,094	87.4	3,021	3,187	94.8	.25	$p < .001$

**Effect Size – a meaningful or substantial effect size difference is .10 or higher.

***p - Value – a p-value that is less than .05 indicates that the difference in course completion is a result of chance only 5 out of 100 times.

Table 3 illustrates the English *course success rate* for students who accessed the TC and students who earned a GOR in the same English section and did not access the TC, referred to as the comparison group. ENGL-976, 010, 101, and 102 were the English courses most likely to be accessed by English students. Students who accessed the TC for all four courses were all statistically significantly and substantially more likely to successfully complete their English courses than students enrolled in the same English section who did not access the TC. Of these four courses, the relationship between TC utilization and course success, while effective in almost every course, was most effective in ENGL-010 (ES = .44, $p < .0001$), followed by ENGL-976 and ENGL-101 (ES = .34, $p < .0001$), and in ENGL-102 (ES = .31, $p < .0001$).

Table 3: Fall 2013 to Spring 2015 Course Success Rate Comparison between TC Students and Students Enrolled in the Same Section by English Course.

English Course	Comparison Group			Tutoring Center Students			Effect Size*	p - Value**
	#	N			N	%		
ENGL-976	270	500	54.0	537	762	70.5	.34	$p < .001$
ENGL-010	766	1,143	67.0	619	717	86.3	.44	$p < .001$
ENGL-101	1,155	1,816	63.6	754	950	79.4	.34	$p < .001$
ENGL-101H	6	8	75.0	11	12	91.7	.45	0.376
ENGL-102	862	1,223	70.5	561	670	83.7	.31	$p < .001$
ENGL-102H	4	4	100.0	16	17	94.1	-.27	0.330
ENGL-108	8	12	66.7	1	1	100.0	.69	
ENGL-127	8	11	72.7	2	2	100.0	.62	0.079
ENGL-152	70	83	84.3	26	28	92.9	.25	0.184
ENGL-155	16	21	76.2	4	4	100.0	.58	0.020
ENGL-160	9	12	75.0	1	1	100.0	.57	
ENGL-170	10	16	62.5	1	1	100.0	.76	
ENGL-226	7	7	100.0	1	1	100.0		
ENGL-232	57	68	83.8	6	8	75.0	-.23	0.605
ENGL-250	38	47	80.9	2	4	50.0	-.74	0.300
ENGL-260	22	35	62.9	4	4	100.0	.78	$p < .001$
ENGL-261	16	16	100.0	1	1	100.0		
ENGL-270	16	22	72.7	1	1	100.0	.61	
ENGL-271	33	38	86.8	1	2	50.0	-1.02	0.468
ENGL-275	8	12	66.7	1	1	100.0	.69	
Total	3,381	5,094	66.4	2,550	3,187	80.0	.30	$p < .001$

*Effect Size – a meaningful or substantial effect size difference is .10 or higher.

**“p - Value” – a p-value that is less than .05 indicates that the difference in course completion is a result of chance only 5 out of 100 times.

Table 4 illustrates the English *course completion rate* for students who accessed the TC and students who earned a GOR in the same English section and did not access the TC, referred to as the comparison group. ENGL-976, 010, 101, and 102 were the English courses most likely to be accessed by English students. Students who accessed the TC for all four courses were all statistically significantly and substantially more likely to complete their English courses than students enrolled in the same English section who did not access the TC. Of these four courses, the relationship between TC utilization and course completion, while effective in almost every course, was most effective in ENGL-010 (ES = .28, $p < .0001$), followed by ENGL-976 and ENGL-102 (ES = .27, $p < .0001$), and in ENGL-101 (ES = .26, $p < .0001$).

Table 4: Fall 2013 to Spring 2015 Course Completion Rate Comparison between TC Students and Students Enrolled in the Same Section by English Course.

English Course	Comparison Group			Tutoring Center Students			Effect Size*	p - Value**
	#	N	%	#	N	%		
ENGL-976	419	500	83.8	703	762	92.3	.27	$p < .001$
ENGL-010	1,025	1,143	89.7	696	717	97.1	.28	$p < .001$
ENGL-101	1,587	1,816	87.4	903	950	95.1	.26	$p < .001$
ENGL-101H	6	8	75.0	12	12	100.0	.81	0.144
ENGL-102	1,056	1,223	86.3	635	670	94.8	.27	$p < .001$
ENGL-102H	4	4	100.0	17	17	100.0		
ENGL-108	12	12	100.0	1	1	100.0		
ENGL-127	9	11	81.8	2	2	100.0	.48	0.164
ENGL-152	76	83	91.6	26	28	92.9	.05	0.825
ENGL-155	17	21	81.0	4	4	100.0	.51	0.041
ENGL-160	10	12	83.3	1	1	100.0	.44	
ENGL-170	13	16	81.3	1	1	100.0	.48	
ENGL-226	7	7	100.0	1	1	100.0		
ENGL-232	62	68	91.2	8	8	100.0	.33	0.013
ENGL-250	41	47	87.2	3	4	75.0	-.35	0.633
ENGL-260	27	35	77.1	4	4	100.0	.56	0.003
ENGL-261	16	16	100.0	1	1	100.0		
ENGL-270	16	22	72.7	1	1	100.0	.61	
ENGL-271	38	38	100.0	1	2	50.0	-3.16	0.324
ENGL-275	9	12	75.0	1	1	100.0	.57	
Total	4,450	5,094	87.4	3,021	3,187	94.8	.25	$p < .001$

*Effect Size – a meaningful or substantial effect size difference is .10 or higher.

**“p - Value” – a p-value that is less than .05 indicates that the difference in course completion is a result of chance only 5 out of 100 times.