Fall 2019 Evaluation of the English Student Assistant Program

Office of Institutional Effectiveness

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Background

At Cosumnes River College (CRC), student assistants (SAs) are available in many English courses to assist with assignments inside and outside of class. Numerous evaluations have found that students who seek assistance from their SA outside of class are more successful in their English course. In fall 2019, SAs were again offered in transfer-level English (ENGWR 300), the English co-requisite course (ENGWR 300/108), and English reading courses (ENGRD 110 and 310) – serving a total of 49 sections and 1,381 students. The evaluation described here intended to replicate previous findings regarding the effectiveness of SAs, and evaluate the impact of the SA program on equity gaps.

Summary of Findings

1) A total of 34.4% of English reading and writing students (378 out of 1,098 tracked students) sought help from their SA outside of class (*Table 1*, page 3). Notably, ENGWR 300 and ENGWR 300/108 saw increases in usage – from 26.1% and 45.0% in spring 2019, respectively, to 28.5% and 53.0% in fall 2019, respectively.
2) Older students were more likely to seek assistance than younger students (*Table 1*, page 4). There were no differences on the basis of gender and race/ethnicity.
3) Students in ENGWR 300/108 were much more likely to seek help when compared to ENGWR 300 students (*Table 1*, page 4).
4) Unlike the spring 2019 evaluation, students with higher high school GPAs were more likely to seek help. This association was more visible when looking at trends within each course (*Table 2*, page 3). This fact may have obscured a similar trend in the spring 2019 evaluation – which focused on overall trends and did not look within courses.
5) The impact of SA cannot be explained by the fact that students with higher GPAs are more likely to seek help. Students at all different levels of academic achievement were helped when visiting an SA (*Table 1*, page 3).
6) Relative to students with the same race/ethnicity, gender, instructional mode, and course, students who sought help from their SA outside of class were more successful (success rate: 80.4%) than those who did not (success rate: 54.3%; *Table 1*).
7) The impact of SA was not different across courses and instructional modalities. Thus, students who sought help saw the same amount of improvement regardless of course/modality.
8) Although evidence suggests that SA improved success for all student groups, differences between groups were not reduced. Students who visited their SA did not have reduced equity gaps on the basis of gender and race/ethnicity.

Limitations

The findings reported here suggest that seeking help from an SA outside of class can improve changes for success in English courses. However, as with all uncontrolled studies, students who sought help may be different from those who did not. For example, a student that asks their SA questions may be more motivated than other students. This motivation may explain why students who visit their SA are more successful – not the help received from the SA.

The aforementioned critique has become less feasible in light of the findings reported here (and in previous evaluations). The present evaluation found that SA was effective for students of all high school GPA levels, and statistically speaking, the impact of SA cannot be explained by more students with higher GPAs seeking help.

Finally, as the SA program grows, some faculty have started to require student attendance at SA sessions and/or use extra credit as an incentive. These policies may explain some of the differences

between students who visit their SA and students who do not. If a student gets extra credit from visiting their SA, they would undoubtedly have a higher grade (on average) than students who did not.

Conclusions and Recommendations

The findings reported here suggest that the SA continues to improve student success in English courses at CRC. However, equity gaps were not reduced for students who sought assistance from their SA outside of class. With these findings in mind, the Research and Equity Office makes the following recommendations:

1) Investigate internal best practices. Conduct research into why some instructors at CRC, and or some SAs, have smaller equity gaps in their courses. Apply principles learned from this research to English courses generally.
2) Start tracking the methods used by instructors to encourage students to attend SA. This could help in identifying best practices.
3) Continue growing the SA program, both in number of participants and number of out-of-class SA interactions per participant, in order to improve equitable student success in English.
4) Seek out external models for utilizing SA and other peer tutoring programs to reduce equity gaps in course success. For example, a 2018 study at California State University Fresno[1] found a correlation between time spent in supplemental instruction and a decreased equity gap in SI courses. The authors recommend regular student attendance in SI sessions in order to maximize their effect on closing equity gaps in course success. The authors also recommend examining academic disadvantage from a multivariate lens; they found the most gains in course success for the most disadvantaged students. Additionally, the Academic Senate for the California Community Colleges recommends that the faculty, staff, and tutors of all programs participate in diversity and equity trainings and integrate professional development in student equity frameworks into program review[2].

[1] Giuffrida, Rico, Vang, and Yue. 2018. "Supplemental Instruction: Helping disadvantaged students reduce performance gap". *Journal of Developmental Education*, vol. 41, no. 2, 2018.
https://files.eric.ed.gov/fulltext/EJ1200705.pdf

[2] Chiabotti, Clay, Ortiz, Raola, Smith, Tomas, and Meléndrez. "Student Equity: From Dialog and Access to Action". The Academic Senate for California Community Colleges, 2010.
https://www.asccc.org/sites/default/files/publications/studentequity_10_0.pdf

Method

Shortly after the start of the fall 2019 term, SAs were provided with attendance sheets for tracking interactions with students outside of class (a total of 49 sheets: 34 ENGWR 300 courses, 3 ENGWR 110 courses, 1 ENGRD 310 course, 2 ENGRD 110 courses, 6 fully online ENGWR 300 courses, 2 fully online ENGRD 310 courses, and one hybrid ENGWR 300 course). SAs used these sheets to track when a student visited them in a tutoring session outside of class and/or when a student contacted them remotely with a substantive question about the material. In class interactions were not tracked. Of the 49 tracking sheets, a total of 39 were returned – data on 1095 students. These data were then combined with demographic, course information, and course success data to evaluate the impact of SA. For the purposes of this investigation, course success was defined as receiving an A, B, C or P grade in a course. All other enrollments that received a grade notation (including W's) were counted as unsuccessful.

SA Usage

Usage rates by demographic group and course can be found in *Table 1* below. Data were analyzed with logistic regressions assuming binomial error. Logistic regressions are typically used when the outcome variable has two discrete levels (e.g., visited SA vs. did not visit SA). When testing for differences SA usage on the basis of a given demographic (e.g., age) all other demographic characteristics were used as control variables in the analysis (except high school GPA)[3]. This means that when comparing groups - e.g., male vs. female - students are statistically matched on all other controlled demographic characteristics. For example, assume that the analysis found that males and females were statistically different. One would conclude that a female student was different from a male student – *with the same age, race/ethnicity, course level, and instructional mode*.

Table 1. Usage Rates and Success Rates for Students Who Visited and Did Not Visit their SA

	Usage Rates				Success Rates		
Demographic	**Headcount**	**# Visited**	**% Visited**	**Avg. Visits**	**Did Not Visit**	**Visited**	**Overall**
Race/Ethnicity							
African American	90	32	35.6%	3.38	43.1%	62.5%	50.0%
Asian	250	99	39.6%	2.54	60.9%	86.9%	71.2%
Filipino	74	22	29.7%	2.14	67.3%	81.8%	71.6%
Hispanic/Latino	348	114	32.8%	2.27	48.3%	82.5%	59.5%
Multi-Race	80	24	30.0%	1.67	48.2%	83.3%	58.8%
Native American	5	1	20.0%	2.00	50.0%	0.0%	40.0%
Pacific Islander	21	7	33.3%	1.57	57.1%	71.4%	61.9%
Unknown	35	16	45.7%	1.75	84.2%	75.0%	80.0%
White	195	63	32.3%	2.13	55.3%	77.8%	62.6%
Gender							
Female	574	207	36.1%	2.23	57.2%	85.5%	67.4%
Male	506	162	32.0%	2.46	51.5%	74.7%	58.9%

[3] High School GPA was tested separately in an analysis with students who had these data available. This analysis again controlled for all other demographic variables. The other demographic/course variables were tested with the full data set. For these variables, GPA was not used as a control variable because it was not available for all students.

Unknown	18	9	50.0%	2.33	44.4%	66.7%	55.6%
Term Age							
24 or younger	921	310	33.7%	2.22	55.6%	80.6%	64.1%
25 or older	177	68	38.4%	2.81	46.8%	79.4%	59.3%
Course							
ENGRD 110	57	13	22.8%	1.85	36.4%	53.8%	40.4%
ENGRD 310	30	9	30.0%	1.78	61.9%	88.9%	70.0%
ENGWR 110	88	28	31.8%	2.32	40.0%	78.6%	52.3%
ENGWR 300	657	187	28.5%	1.99	60.0%	85.0%	67.1%
ENGWR 300/108	266	141	53.0%	2.85	44.8%	76.6%	61.7%
Instructional Mode							
Fully Online	137	36	26.3%	2.06	46.5%	80.6%	55.5%
On Ground	934	336	36.0%	2.34	55.4%	80.4%	64.3%
Hybrid	27	6	22.2%	3.17	61.9%	83.3%	66.7%
High School GPA							
0.00 - 0.99	4	3	75.0%	4.00	100.0%	100.0%	100.0%
1.00 - 1.99	45	10	22.2%	1.30	28.6%	50.0%	33.3%
2.00 - 2.99	419	141	33.7%	2.23	46.0%	75.2%	55.8%
3.00+	421	149	35.4%	2.14	68.0%	85.9%	74.3%
No GPA	209	75	35.9%	2.95	50.0%	82.7%	61.7%
Total	**1098**	**378**	**34.4%**	**2.33**	**54.3%**	**80.4%**	**63.3%**

Note. "Avg. Visits" presents the average number of visits for students who sought help from their SA outside of class.

In terms of demographic variables, student age was significantly associated with visiting an SA outside of class, $\Delta\chi^2(1) = 4.57$, $p < .05$, such that older students were more likely to seek assistance from their SA compared to younger students with the same gender, course level, instructional mode, and race/ethnicity. Course was also significantly associated with students visiting their SA outside of class, $\Delta\chi^2(1) = 48.63$, $p < .001$. Students in ENGWR 300 with a co-requisite were notably more likely than students in ENGWR 300 to visit their SA outside of class, $z = 6.14$, $p < .001$.

Finally, among a smaller subset of students with GPA data, high school GPA was significantly correlated with whether or not a student sought help from their SA outside of class, $\Delta\chi^2(1) = 13.30$, $p < .001$. A student with a higher GPA was more likely to seek help than a student with a lower GPA with the same course, instructional mode, gender, age, and race/ethnicity. A quick review of *Table 1* suggests that students with higher GPA's are more likely to visit their SA. However, this trend becomes more apparent when observing rates within each course level (*Table 2* next page). Looking at students in the same course level, e.g. statistically *controlling* for course, is likely why this evaluation uncovered a significant association between GPA and SA usage.

Table 2. Usage Rate Within Each Class by GPA Range

GPA Range	ENGRD 110	ENGRD 310	ENGWR 110	ENGWR 300	ENGWR 300/108	Overall
0.00 - 0.99	-	-	66.7%	-	100.0%	75.0%
1.00 - 1.99	0.0%	0.0%	26.1%	0.0%	36.4%	22.2%
2.00 - 2.99	18.2%	37.5%	28.6%	21.7%	48.6%	33.7%
3.00+	25.0%	28.6%	44.4%	31.8%	71.1%	35.4%
No GPA	30.0%	33.3%	32.0%	30.1%	59.0%	35.9%

SA Impact on Course Success

The impact of SA on course success was evaluated using logistic regressions assuming binomial error. Student race/ethnicity ($\Delta\chi^2(7) = 23.66$, $p < .01$), student gender ($\Delta\chi^2(1) = 10.81$, $p < .01$), course ($\Delta\chi^2(4) = 25.74$, $p < .001$), and instructional mode ($\Delta\chi^2(2) = 11.12$, $p < .01$) were all significantly associated with course success in English. The factors could act as potential explanations for the impact of SA on course success. For example, if students in on-ground courses are more successful, and they are more likely to visit their SA, then increased success can simply be explained by more on-ground students seeking help. With this in mind, the aforementioned four variables were statistically controlled for prior to evaluating the effect of SA.

After controlling for race/ethnicity, gender, course, and instructional mode, students who visited/sought help from their SA outside of class were significantly more successful, $\Delta\chi^2(1) = 79.57$, $p < .001$. Students who visited/sought help from their SA outside of class had a success rate of 80.4% compared to a rate of 54.3% for those who did not. Additionally, the number of times a student sought help was significantly correlated with success, $\Delta\chi^2(1) = 64.09$, $p < .001$, such that students who sought help more times were more successful. This impact on course success was not significantly different across courses or instructional modes. In other words, the impact of SA was not different for students in online courses, English writing, and English reading. Similarly, the impact of SA on equity gaps was tested. Overall, SA did not change equity gaps on the basis of ethnicity ($\Delta\chi^2(7) = 8.60$, *ns.*) or gender ($\Delta\chi^2(2) = 1.62$, *ns.*). Thus, although students benefited from visiting their SA, equity gaps for students persisted.

Finally, high school GPA was significantly correlated with success, $\Delta\chi^2(1) = 33.79$, $p < .001$, such that students with higher GPAs were more successful in English. Thus, the above analysis was repeated for students who had GPA data available – controlling for race/ethnicity, gender, course, instructional mode, *and* high school GPA. In this case, visiting an SA was still significantly associated with course success, $\Delta\chi^2(1) = 53.04$, $p < .001$. The total number of visits to the SA was also significantly associated, $\Delta\chi^2(1) = 39.30$, $p < .001$. This means that a student who visited their SA had a higher likelihood of success compared to a student who did not – *with the same GPA, race/ethnicity, gender, course, and instructional mode*. Put another way, SA was effective for students of all GPA ranges, and the impact of SA is not explained by the fact that more academically motivated students are more likely to seek help.