

Effectiveness of Early Assessment Program (EAP) Placement

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Purpose of Brief

This brief analyzes the effectiveness of placements determined through EAP assessment tests.

Summary of Findings

- 308 students used their EAP placement to earn a GOR in a math or English course.
- EAP students were substantially ($d > 1.25$) and statistically significantly ($p < 0.001$) more likely to earn a GOR in MATH-102 or ENGL-101 than other students in their first math or English course at CHC.
- EAP students were substantially ($d > 0.20$) and statistically significantly ($p < 0.05$) more likely to:
 - Successfully complete their math course
 - Complete their math course
 - Complete their English course
- EAP students were statistically significantly ($p = 0.045$) more likely to successfully complete their English course (78%) than students in the same section (72%).

Overview

In their junior year of high school, students take the Early Assessment Program (EAP) test, which assesses the students' preparedness for college-level math and English. A placement in math and English courses at Crafton Hills College (CHC) is generated from the students' EAP test scores, which a student may use within a year of graduating from high school in lieu of taking a placement test at CHC. This brief analyzes the number of students who used their EAP placement to enroll in math and English at CHC and the students' performance in those courses compared to other students who are enrolled for the first time in the same math and English sections.

Methodology

Student EAP placement results, section enrollment, and grades data was obtained from Ellucian. Students with any EAP placement results were identified, and students with expired and unidentifiable EAP equivalencies were excluded from analysis. In all, 505 students between December 2012 and January 2017 were identified. The identified students (intervention group) were then matched with their first grade on record (GOR) earned in math and English using their EAP placement. Their enrollments were compared to other students with first-time enrollments in math and English at CHC (first control group). Identified students' course completion (formally retention) and success were then compared to other students earning a GOR in the same section in the same terms (second control group). While the first control group compared other first-time math and English students in the same courses as EAP-placed students, the second control group only compared students within the same sections. Course completion is defined as earning a GOR of A, B, C, D, F, P, NP, or I in a course. Success is defined as earning a GOR of A, B, or C in a course.

The effect size (d) statistic and statistical significance (p) were used to compare the intervention group with both control groups. Effect size is calculated by dividing the difference of the two means by the pooled standard deviation. Jacob Cohen developed one method of interpreting effect size (d) where 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. Accordingly, using Cohen as a guide, a substantial effect would be .20 or higher. 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., $p < .05$).

Findings

Table 1 identifies the number of students enrolling in math and/or English courses using their EAP placement results. Of the 505 students who had equivalencies generated from the EAP test scores, 308 students used their EAP placement to earn a GOR in a math or English course at CHC within one year of graduating from high school. Of these students, 17.5% earned a GOR in both a math and English course with their EAP placement.

Table 1. Students earning a GOR in math and/or English course with EAP placement within one year of graduating from high school.

Student Group	#	%
Earned a GOR in one EAP placement course	254	82.5
Earned a GOR in two EAP placement courses	54	17.5
Total	308	100.0

Table 2 compares the number of students in the intervention group earning a GOR in a math or English course with the number of students in the first control group earning a GOR in their first math or English course at CHC. EAP students were substantially ($d = 1.29$) and statistically significantly ($p < 0.001$) more likely to earn a GOR in ENGL-101 (96%) than students in their first English course at CHC (34%). Similarly, EAP students were substantially ($d = 1.29$) and statistically significantly ($p < 0.001$) more likely to earn a GOR in MATH-102 (48%) than students in their first math course at CHC (6%). Most importantly, EAP students were substantially ($d = -1.17$) and statistically significantly ($p < 0.001$) less likely to earn a GOR in a basic skills English course (1%) than students in their first English course at CHC (59%). Similarly, EAP students were substantially ($d = -1.88$) and statistically significantly ($p < 0.001$) less likely to earn a GOR in a basic skills or development math course (9%) than students in their first math course at CHC (82%).

Table 2. Students earning a GOR in their first math or English course by comparison group.

Course	First Control Group		Intervention Group		<i>d</i>	<i>p</i>
	#	%	#	%		
English						
Basic Skills	4,393	58.6%	2	.8%	-1.17	< 0.001
ENGL-101	2,528	33.7%	233	95.5%	1.29	< 0.001
Other Transfer Level English	572	7.6%	9	3.7%	-0.15	0.002
<i>Total</i>	7,493	100.0%	244	100.0%		
Mathematics						
Developmental/Basic Skills Math	5,882	82.2%	6	9.4%	-1.88	< 0.001
MATH-102	438	6.1%	31	48.4%	1.72	< 0.001
MATH-103	210	2.9%	5	7.8%	0.29	0.150
MATH-108/110	309	4.3%	7	10.9%	0.32	0.093
MATH-160	68	1.0%	1	1.6%	0.06	0.696
MATH-250	103	1.4%	7	10.9%	0.78	0.016
MATH-251	47	0.7%	5	7.8%	0.85	0.034
Other Transfer Level Math	98	1.4%	2	3.1%	0.15	0.424
<i>Total</i>	7,155	100.0%	64	100.0%		

Table 3 compares the course completion (formally retention) and success of students in the intervention group with the second control group of first-time math and English students earning a GOR in the same section. EAP students were substantially ($d = 0.26$) and statistically significantly ($p < 0.001$) more likely to complete their English course (97%) than students in the same section (90%). EAP students were also substantially ($d = 0.23$) and statistically significantly ($p = 0.011$) more likely to complete their math course (98%) than students in the same section (93%). Moreover, EAP students were substantially ($d = 0.29$) and statistically significantly ($p = 0.021$) more likely to successfully complete their math course (80%) than students in the same section (66%). Lastly, EAP students were statistically significantly ($p = 0.045$) more likely to successfully complete their English course (78%) than students in the same section (72%).

Table 3. Students course completion and success rates in their first math or English course by comparison group.

	Second Control Group		Intervention Group		<i>d</i>	<i>p</i>
	#	%	#	%		
English						
Course Completion	642	89.8%	236	97.1%	0.26	< 0.001
Successful Completion	514	71.9%	190	78.2%	0.14	0.045
Mathematics						
Course Completion	285	92.5%	58	98.3%	0.23	0.011
Successful Completion	203	65.9%	47	79.7%	0.29	0.021