

Update on Highlander Early Start Academy Participants, Fall 2015

This brief provides an update on the Highlander Early Start Academy (HESA) at the University of California, Riverside (UCR). HESA allows incoming UCR freshmen to complete preparatory English or math during the summer quarter so that they may begin college-level calculus or English coursework in their first fall quarter. HESA students enroll in a preparatory English (ENGL 004) or math course (MATH 005 or MATH 008A), as well as a history course (HIST 015) that satisfies general education requirements, for a total of nine units during the summer. They also attend Early Start Seminars, which focus on college success skills, and participate in peer mentor led community building activities. The appendix shows demographics for HESA participants and all incoming freshmen. Using course data from the summer and fall terms of 2015, several observations can be made:

- All HESA students earned higher GPAs and course grades than incoming freshmen who took at least one of the same English, math, or history courses in the fall. For MATH 005A, HESA students have significantly higher grades.
- Thirty-six percent of HESA students (53 of 144) met the criteria to earn the scholarship (fall GPA greater than 2.5 and enrollment in 15 units or more). The scholarship group's average GPA was greater than 3.0 and their average unit count was 15.96. The scholarship group earned higher course grades, especially those in Math 008A. All these differences are statistically significant.
- During the summer of 2015, UCR solicited a large number of applicants so that the limited spaces in HESA could be filled by random selection to control for selection bias. However, a large share of potential participants had already earned AP credit for history. This credit could be used toward the same general education requirement as the history course offered during HESA, and many original applicants were not interested in participating in HESA. There were also logistical difficulties in constructing a control group due to late English and math placement testing and limited email communication with incoming freshmen. In comparing HESA students and the "control group", there were no significant differences in average GPA, course-specific grades and number of fall units. However completing AP credit may proxy for students' level of high school preparation and, thus, constitute a meaningful difference between the HESA students and the "control group."
- Due to challenges related to constructing a randomized control group, a matched comparison group was also constructed. Thus, for each HESA student there was an individual in the matched group that has a high school GPA within 0.25 grade points, the same scores on both the math and English placement exams, the same gender, and enrolled in one of the same courses during the fall term. HESA participants' grades in Math 005 were significantly higher than this matched comparison group. HESA participants also had higher GPAs and number of units, although these differences were not significant.
- In comparison to previous years, Summer Bridge students in 2012 and 2013 earned fall GPAs about 0.10 grade points lower than their respective matched comparison groups. (Significant testing was not performed.) HESA students in 2015 earned grades about 0.20 grade points higher.

UCR will further analyze data regarding the HESA participants who did not meet the criteria to earn academic year scholarships, in order to determine how to provide more effective academic and/or personal support for these students. Moreover, focus groups will be conducted among HESA participants with GPAs above and below 2.5 to identify areas for further program improvement.

Table One: Mean course grades, GPAs, and units taken for various groups (with number of students in parenthesis) with significance testing for differences between all HESA students and all freshmen and between HESA students who earned a scholarship and did not

	Current GPA fall 2015, all classes	Fall Units	English 004 Grade	Math 005 Grade	Math 008A Grade	History 015 Grade
Freshmen in Same Courses	2.61 (1,356)	14.12 (1,356)	2.09 (921)	2.69** (322)	2.40 (246)	2.66 (7)
All HESA	2.65 (144)	14.22 (144)	2.18 (78)	3.18 ** (48)	2.61 (18)	2.97 (134)

Note: ** p < 0.05, two-tail test

HESA Scholarship	3.04** (53)	15.96** (53)	2.34** (32)	3.55** (13)	3.24** (8)	3.15** (51)
HESA No Scholarships	2.39** (93)	13.11** (93)	2.07** (46)	3.06** (35)	1.90** (12)	2.86** (86)

Note: ** p < 0.05, two-tail test

Table Two: Mean course grades, GPAs, and units taken for various groups (with number of students in parenthesis) with significance testing for differences between HESA and select comparison groups

	Current GPA fall 2015, all classes	Fall Units	English 004 Grade	Math 005 Grade	Math 008A Grade	History 015 Grade
Applied but did not Participate	2.72 (85)	14.35 (85)	2.14 (58)	2.84 (9)	1.59 (17)	- (0)
All HESA	2.63 (144)	14.14 (144)	2.18 (78)	3.18 (48)	2.61 (18)	2.97 (134)

Note: ** p < 0.05, two-tail test

Matched Freshmen	2.55 (133)	13.95 (133)	2.21 (77)	2.38** (30)	1.78 (24)	-- (0)
Matched HESA	2.60 (133)	14.14 (133)	2.17 (71)	3.20** (45)	2.41 (17)	2.96 (124)

Note: ** p < 0.05, two-tail test

Appendix: Demographics of HESA Participants and all Incoming Freshmen

	All HESA (n=146)	All Freshmen (n=3805)
High School GPA	3.65	3.67
Academic Index ¹	4166	4256
Female	60.4%	53.9%
Male	39.6%	46.1%
Unknown	0.7%	2.2%
African American	3.5%	5.1%
Native American	0.7%	0.3%
Latino/a	59.0%	35.1%
Asian	27.8%	45.4%
Caucasian	8.3%	11.9%
First-generation ²	70.8%	51.9%
Engineering	10.3%	12.1%
Arts, Humanities, Soc. Sci.	44.8%	50.9%
Natural Sciences	44.8%	36.9%
	All HESA	All Freshmen
Five most common majors	Biology (14.5%)	Pre-Business (14.0%)
	Pre-Business (9.7%)	Biology (13.4%)
	Biochemistry (6.9%)	Undeclared (7.8%)
	Sociology (6.9%)	Biochemistry (6.3%)
	Undeclared (6.21%)	Psychology (5.7%)

¹ Academic Index is a composite measure used in admissions decisions. It is calculated from high school GPA, standardized test scores (SAT/ACT), number of college preparatory courses taken beyond the minimum (A-G requirements), eligibility status and UC admission preferences for first generation and low income college students.

² First Generation is defined as neither parent holding a four year degree.

³ Majors with less than five students not reported to preserve confidentiality.

	English (n=79)	Math 005 (n=47)	Math 008A (n=18)
High School GPA	3.66	3.61	3.71
Academic Index ¹	4101	4249	4232
Female	68.4%	51.1%	50.0%
Male	31.7%	48.9%	50.0%
Unknown	1.3%	0.0%	0.0%
African American	5.1%	2.1%	0.0%
Native American	0.0%	2.1%	0.0%
Latino/a	64.6%	46.8%	66.7%
Asian	24.1%	36.2%	22.2%
Caucasian	5.1%	12.8%	11.1%
First-Generation ²	76.0%	61.7%	72.2%
Engineering	5.1%	19.2%	5.6%
Arts, Humanities, Soc. Sci.	73.4%	12.8%	5.6%
Natural Sciences	21.5%	68.1%	88.9%
	English	All Math	
Five most common majors ³	Pre-Business (17.7%)	Biology (23.1%)	
	Sociology (12.7%)	Biochemistry (10.8%)	
	Poli. Sci. (8.9%)	Neuroscience (9.2%)	
	Biology (7.6%)	--	
	Undeclared (7.6%)	--	