



Relation Between 20 Successful First-Year Credits and Academic Success

The accumulation of 20 successful (C or higher) credits in the first academic year is one of the current Institutional Effectiveness Measures (IEMs) at Kapi'olani Community College (KapCC.) One of the institutional goals at KapCC is for at least 35% of the students enrolled in a fall term to accumulate at least 20 successful credits by the end of the first academic year. This is conceptualized to be a precursor for eventual student graduation and/or transfer. The actual relation between earning 20 credits in the first year and graduation and transfer had not been determined. The current research brief describes a study of a cohort of KapCC students and the relation between earning 20 successful credits in the first academic year and graduation and/or transfer.

Methodology

A cohort of 1,311 new, first-time students registered and home-based at KapCC in the fall 2008 term was identified as of the census freeze date (27 September 2008.) Special early admit students (concurrently enrolled high school students) were excluded. Eight of the 1,311 students in the cohort graduated with an associate degree or transferred to a UH 4-yr institution by the end of the first academic year. These eight students were excluded leaving 1,303 students in a revised cohort of students who could potentially earn 20 successful credits in the first academic year. Of the 1,303 students in the revised cohort, 389 (29.85%) earned 20 successful credits by the end of the year. Analyses were conducted on the revised cohort of 1,303 students. Correlations (Phi coefficients, Cramer's V, or point-biserial) between number of successful credits and graduation and/or transfer were calculated, and differences between the proportion of students who earned or didn't earn 20 credits and graduation and/or transfer were examined. Graduation included only associate degrees and transfers were only counted for changes in home base from KapCC to a UH 4-year institution. Graduation and transfer were examined within both three (150%) and four (200%) academic years of fall 2008.

Results

Correlations between earning 20 successful credits in the first year (earned 20 credits/did not earn 20 credits) and graduation and/or transfer (graduation and/or transfer/no graduation and/or transfer) were calculated using Phi coefficients (mathematically equivalent to Cramer's V for two dichotomous variables.) The Phi coefficient (ϕ) for earning 20 credits and graduation and/or transfer within three academic years was 0.512. This was statistically significant ($p < 0.0001$.) Students who earned 20 successful credits in their first academic year were more likely to graduate and/or transfer within three academic years. This relation also was true for graduation and/or transfer within four academic years ($\phi = 0.512$; $p < 0.0001$.)

Correlations between the number of successful credits earned in the first academic year and graduation and/or transfer also were calculated (using point-biserial correlation coefficients.) The point-biserial (r_{pb}) correlation between number of successful credits and graduation and/or transfer within three academic years was 0.556. This was statistically significant ($p < 0.0001$.) The more successful credits a student earned in their first academic year the more likely they were to graduate and/or transfer within three academic years. This relation also was true for graduation and/or transfer within four academic years ($r_{pb} = 0.577$; $p < 0.0001$.)

The relation between the proportion of students who earned 20 successful credits and graduation and/or transfer also was examined using Chi-Square analyses. Within three academic years, 48.59% of the students who earned 20 credits graduated and/or transferred versus 5.36% of the students who did not earn 20 credits. This was significant ($\chi^2 = 341.50$, $p < 0.0001$.) This relation also held true for graduation and/or transfer within four academic years. Students who earned 20 credits graduated and/or transferred 60.67% of the time, and students who did not earn 20 credits only graduated and/or transferred 11.49% of the time ($\chi^2 = 341.58$, $p < 0.0001$.) Students who earned 20 successful credits in their first academic year were over nine times more likely to graduate and/or transfer within three academic years, and were over five times more likely to graduate and/or transfer within four academic years.

The following table summarizes the results. All results were statistically significant.

	Graduation and/or Transfer within 3 Academic Years	Graduation and/or Transfer within 4 Academic Years
Correlation between Earning 20 Successful Credits in First Year and Graduation and/or Transfer	$\phi = 0.512$ $p < 0.0001$	$\phi = 0.512$ $p < 0.0001$
Correlation between Number of Successful Credits in First Year and Graduation and/or Transfer	$r_{pb} = 0.556$ $p < 0.0001$	$r_{pb} = 0.577$ $p < 0.0001$
Percentage of Students Who Graduated and/or Transferred (reenrolled / not reenrolled)	48.59% / 5.36% $\chi^2 = 341.50$, $p < 0.0001$	60.67% / 11.49% $\chi^2 = 341.58$, $p < 0.0001$

Conclusions

There was a robust relation between earning 20 successful credits in the first academic year and graduation and/or transfer. There were relatively high positive correlations between earning 20 credits and graduation and/or transfer measured over both three and four academic years. Students who earned 20 successful credits tended to graduate with associate degrees and/or transfer to UH 4-yr institutions more than students who did not earn 20 credits.

The consistency with which earning 20 successful credits in the first year is related to eventual academic success reinforces the idea that earning 20 successful credits is a useful IEM. Earning at least 20 successful credits in the first academic year is an effective predictor of academic success for entering students. Accumulating successful credits in the first academic year is an essential step along the pathway to graduation and transfer.

Contact Person:

Jeff Arbuckle
Senior Institutional Analyst
808-734-9764
jefferya@hawaii.edu