

Foothill College

TO: Andrew LaManque, Ph.D.; Interim Vice President of Instruction

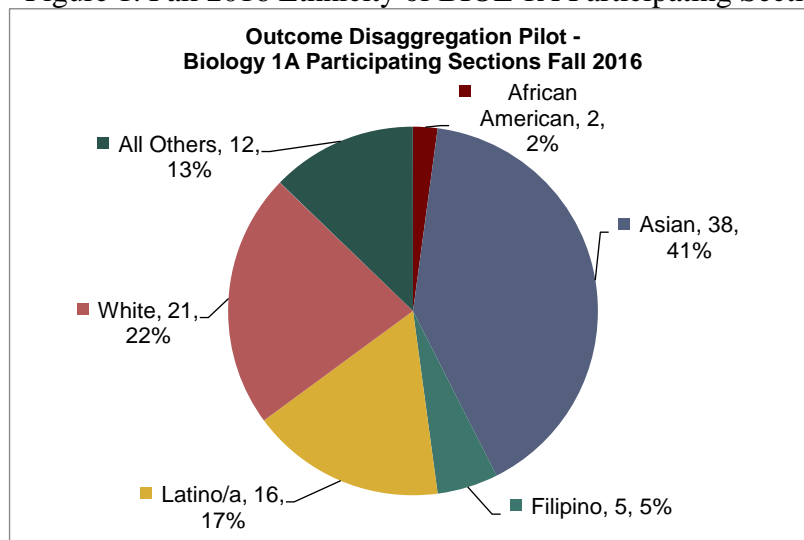
FROM: Angel Tzeng, Ph.D.; Instructional Services Coordinator-Student Equity

SUBJECT: Fall 2016 BIOL 1A Demographics and Prerequisites Courses Analysis

This analysis is part of a Student Equity Plan pilot project to use disaggregated data for Program Outcomes assessment. Several faculty members in the Biology Department are interested in tracking learning outcomes over the course of three consecutive quarters through a sequence of Biology courses (Biology 1A, 1B, and 1C) that are required for the major. The data below includes information of three sections of Biology 1A in fall 2016. This memo is based on 94 students who enrolled in BIOL 1A in Fall 2016 and provided below are simple descriptive statistics –“cross tabulations” – that examine the Course Level Student Learning Outcome (CL-SLO) scores by ethnicity and the prerequisite. The goal of this analysis is to enrich course outcome by providing information not readily available to the instructor. The scores of CL-SLO are based on the percentage correct out of 17 items. A review of the data finds that:

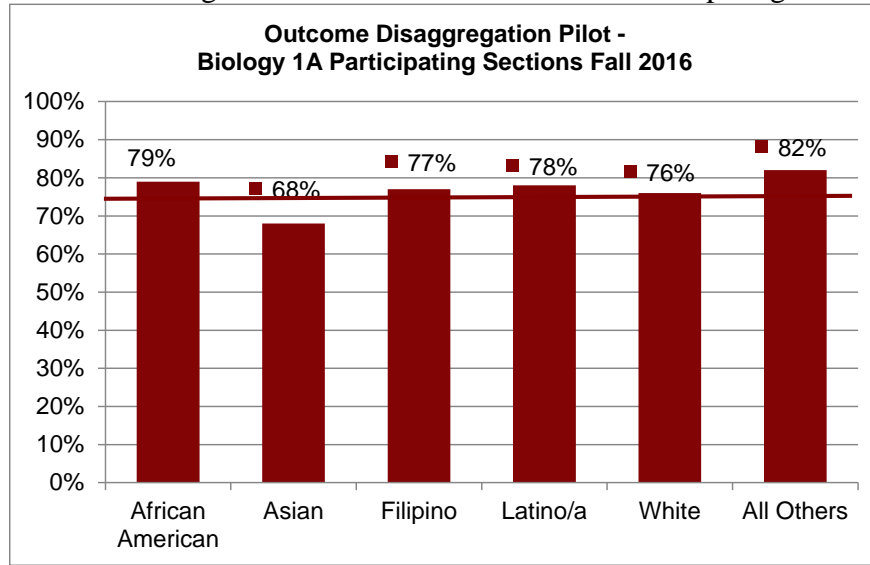
- 62% of the students were female, and 38% of them were male. Gender had the largest gap with 12 percentage point differences (Male of 79% versus Female of 67%).
- 55% of the students were Biology majors.
- 41% of the BIOL 1A students were Asians, then White (22%), Latino (17%). The rest accounts for 20% including African American, Filipino, and all others.
- African American, Filipino, Latino, and White students had above average learning outcome scores.

Figure 1. Fall 2016 Ethnicity of BIOL 1A Participating Sections



Four students did not have outcome scores, and they were two Asian, one Latino, and one White students. Among these four students, three students received final grades of W, and their outcome scores were excluded in the average shown in Figure 2. The outcome average of 91 students who received F and above grades is 94%.

Figure 2. Fall 2016 Average Outcome Scores of BIOL 1A Participating Sections by Ethnicity



Among Asian subgroups, students who identified as Chinese and Korean had above average outcome score while Indian, Japanese, Vietnamese, and Asian-others had the below average outcome scores as Table 1 shown.

Table 1. BIOL 1A Outcome Averages by Asian subgroup break down

Asian SubGroup	HC	Percent	Outcome Averages
Chinese	11	30%	82
Indian	6	16%	59
Japanese	1	3%	53
Korean	2	5%	94
Asian-Others	3	8%	61
Vietnamese	14	38%	60
Total	37	100%	68

Relationship between the Prerequisite and Outcome Scores

The average in Table 2 refers to the average of outcomes score (74%) of 94 students enrolled in the three participating BIOL 1A sections. It does not refer to the average of 74% by ethnicity in Figure 2. The final grades on the prerequisite course are based on the most recent grades received.

- Students who received an A in CHEM 1A are more likely to receive an above average outcome score compared to other students.
- Among the 94 participating BIOL 1A sections, 13 of them did not complete CHEM 1A at Foothill or De Anza College. Thus, the College has no record on the prerequisite information of those students.
- Student who completed CHEM 1A before Summer 2015 are more likely to receive an above average outcome score.

Table 2. Relationship between the Prerequisite and Outcome Scores

CHEM 1A	No Outcome Scores		Below Average		Above Average		Total	
	HC	Percent	HC	Percent	HC	Percent	HC	Percent
A	0	0%	3	11%	24	89%	27	100%
B	1	4%	16	57%	11	39%	28	100%
C	2	9%	15	68%	5	23%	22	100%
D /W	1	25%	1	25%	2	50%	4	100%
Prerequisites Total*	4	5%	35	43%	42	52%	81	100%
Completed time								
Prior Summer 2015	0	0%	4	40%	6	60%	10	100%
2015-2016	3	5%	25	44%	29	51%	57	100%
Summer & Fall 2016	1	7%	5	36%	8	57%	14	100%
No Prerequisite Information	0	0%	4	31%	9	69%	13	100%
Total	4	4%	38	41%	52	55%	94	100%

Note: *Prerequisites Total refers to the total of prerequisite final grades of 81 students who enrolled in BIOL 1A and completed CHEM 1A before Winter 2017.