

# Supplemental Material

CBE—Life Sciences Education

O'Leary *et al.*

## Supplementary Material

**Supplemental Table S1.** Logistic regression model for propensity score estimates that predict a student's likelihood of taking LS30A versus Math 3A ( $N=909$ ).

	B	S.E.	Wald	Exp(B)	Significance	
Constant <sup>a</sup>	-10.770	1.907	31.898	0.000	0.000	***
Sex: Female	-0.321	0.158	4.157	0.725	0.041	*
Race: AAPI <sup>b</sup>	0.085	0.193	0.197	1.089	0.657	
Race: Black	0.237	0.496	0.229	1.268	0.632	
Race: International <sup>c</sup>	-0.037	0.461	0.006	0.964	0.936	
Race: Hispanic	-0.309	0.293	1.116	0.734	0.291	
Race: Other (inc. unknown)	-0.139	0.465	0.090	0.870	0.765	
Pell Grant Recipient	-0.218	0.183	1.421	0.804	0.233	
First Generation, 4-yr Graduate	0.108	0.202	0.286	1.114	0.593	
High School GPA	1.231	0.366	11.311	3.426	0.001	***
SAT Math Score	0.007	0.001	25.852	1.007	0.000	***
AP Biology Exam: Scored 3 or Higher	0.363	0.164	4.890	1.438	0.027	*
AP Calculus Exam: Scored 3 or Higher	-0.818	0.167	24.100	0.441	0.000	***
PEERS Participant <sup>d</sup>	1.193	0.388	9.461	3.296	0.002	**
Life Sciences Major	-0.257	0.218	1.387	0.774	0.239	

<sup>a</sup>Reference category for all race variables is "White". <sup>b</sup>AAPI refers to students identifying as Asian American and/or Pacific Islander. <sup>c</sup>The university codes international students' race or ethnicity as "foreign". Here we will simply refer to this race/ethnicity group as International students. <sup>d</sup>The Program for Excellence in Education and Research in the Sciences (PEERS) is a cohort-based undergraduate STEM student retention initiative that recruits students from race/ethnicity groups underrepresented in STEM, low-income students, and students who enter the institution with challenging life circumstances. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Summary of Survey Administration Protocol:** A post-survey was administered to students at the end of LS30A and again at the end of LS30B. These surveys included closed- and open-ended questions. Here we highlight our analysis of responses from a subset of closed-ended questions addressing affective gains in student confidence, relevance, and classroom climate. Survey data was collected in the LS30A and LS30B courses through winter term 2016 as part of the grant-funded program evaluation. 11.5% of invited students responded to the post-survey administered at the end of LS30A and LS30B, yielding a total of 332 responses ( $N=263$  for LS30A,  $N=69$  for LS30B). Post-survey results are shown in **Supplemental Table S2**.

**Supplemental Table S2.** Post-survey results indicating the percentage of LS30A or LS30B students ( $N = 332$ ) who "agree somewhat" or "strongly agree" with the following statements.

<b><i>Confidence</i></b>	<b>% of students</b>
This course increased my confidence in my science ability.	74.8
This course increased my confidence in my math ability.	79.7
<b><i>Relevance</i></b>	
The coursework was relevant to my academic major.	90.8
The coursework was relevant to my professional goals.	86.0
I saw the real-life application or relevance of what I learned.	94.2
<b><i>Classroom Climate</i></b>	
The instructor encouraged collaboration among students.	93.3
I received feedback that helped me learn and improve.	82.1
I look forward to taking more courses in the life sciences.	90.9

**Supplemental Figure S1.** Student Ratings of Instruction (SRI) instrument containing the questions gauging student interest before (Q3.1) and after (Q3.2) completing their math course.

**UCLA Department**

**Instructor Class Section**

**Welcome to Online Evaluation from the Evaluation of Instruction Program**

Your careful and candid evaluation is important. Student course evaluations provide feedback to the instructor to help improve teaching and they provide information for faculty evaluation and promotion. Summaries of these evaluations are returned to the instructor and to the department chair. Please provide thoughtful and constructive comments regarding the instructor and course at the end of this evaluation.

### 1 Background Information:

1.1 Year in School:  
 Freshman    Sophomore    Junior    Senior    Graduate    Other

1.2 UCLA GPA:  
 Below 2.0    2.0 - 2.49    2.5 - 2.99  
 3.0 - 3.49    3.5+    Not Established

1.3 Expected Grade:  
 A    B    C    D    F    P    NP  
 ?

1.4 What requirements does this course fulfill?  
 Major    Related Field    G.E.  
 None

### 2 To What Extent Do You Feel That:

	Very Low or Never	1	2	3	4	5	6	7	8	9	Very High or Always	Not Applicable
2.1 Instructor Concern – The instructor was concerned about student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.2 Organization – Class presentations were well prepared and organized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.3 Interaction – Students felt welcome in seeking help in or outside of the class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.4 Communication Skills – The instructor had good communication skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.5 Value – You have learned something you consider valuable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.6 Overall – Your overall rating of the instructor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.7 Overall – Your overall rating of the course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 3 Your View of Course Characteristics:

3.1 Subject interest before course	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High	<input type="radio"/> N/A
3.2 Subject interest after course	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High	<input type="radio"/> N/A
3.3 Mastery of course material	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High	<input type="radio"/> N/A
3.4 Difficulty (relative to other courses)	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High	<input type="radio"/> N/A
3.5 Workload/pace was	Too Slow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Too Much	<input type="radio"/> N/A
3.6 Texts, required readings	Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent	<input type="radio"/> N/A
3.7 Homework assignments	Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent	<input type="radio"/> N/A
3.8 Graded materials, examinations	Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent	<input type="radio"/> N/A
3.9 Lecture presentations	Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent	<input type="radio"/> N/A
3.10 Class discussions	Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent	<input type="radio"/> N/A

### 4 Comments:

(maximum of 5,000 characters allowed)

4.1 Please identify what you perceive to be the real strengths and weaknesses of this instructor and course. (maximum 5000 characters)

PLEASE NOTE: Each year, the Academic Senate Committee on Teaching gives awards to outstanding faculty and teaching assistants. If you wish to nominate an instructor or teaching assistant for such an award, please contact the instructor's department.

THANK YOU! Your assistance in improving teaching is appreciated.

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