

Supplemental Material

CBE—Life Sciences Education

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Appendix A: Interview Protocol

Introductory Statements: Thank you for agreeing to participate in this interview study. This interview is designed to help us understand your experiences of research during the last section of your recent course (give name of course). Take a few moments just to recollect about your experiences in this course and especially during the last sections of the course (wait about a minute).

1. In your own words, could you tell me what you did in class during the first section of the course (before the research experience)?
2. What was this section of the course like? What aspects of this educational experience did you value? In what ways do you think this part of the course contributed to your education? Please try to offer specific examples to back up your answer.
3. In your own words, could you tell me what you did in class during the second section of the course in which you were involved in a research experience?
4. What was this section of the course like? What aspects of this educational experience did you value? In what ways do you think this part of the course contributed to your education? Please try to offer specific examples to back up your answer.
5. Reflect for a second on the two sections of this course. Do you think that there is a difference between the two parts? If so please specify what you think the difference is and how this contributed to your education.
6. I would like you to directly compare the two sections of the course in relation the following specific components:
 - a. When you compare both sections of the course, which section would you say you were more engaged with? Please explain why?
 - b. When you compare both sections of the course, which section would you say you was more important to you on a personal level? Please explain why?
 - c. When you compare both sections of the course, which section would you say you had a more positive emotional response to? Please explain what the positive emotional response was and why you think you had this response?
 - d. When you compare both sections of the course, which section would you say taught you more about working as a scientist? Please explain why?
 - e. When you compare both sections of the course, which section would you say made you feel like you were a scientist? Please explain why?
 - f. When you compare both sections of the course, which section would you say helped you to understand to value the importance and usage of scientific data? Please explain why?
 - g. Did you talk about this course with your friends, parents or other professors? If so which section of the course did you talk about?
7. Do you intend to complete a degree in a science major?
8. What are your future plans for your career? Did either sections of this course help you in any way to fulfill your career goals? If so please explain what was helpful.

Final Comments: Thank you for your help with this project.

Supplemental Table 1: Demographic Information for Quantitative Studies by Course Section

(SRE, n=124)

SRE Participants

<i>Course Section</i>	Community College 1	Community College 2	Community College 3	Research University
<i>Demographic Category</i>	Frequency	Frequency	Frequency	Frequency
Gender				
<i>Male</i>	6	3	35	8
<i>Female</i>	12	3	45	11
<i>Missing</i>	0	0	1	0
Class Level				
<i>Freshman</i>	0	1	7	0
<i>Sophomore</i>	0	5	32	9
<i>Junior</i>	5	0	20	8
<i>Senior</i>	13	0	5	1
<i>Undefined</i>	0	0	17	1
Ethnicity*				
<i>American Indian</i>	0	0	2	1
<i>Asian</i>	7	1	15	4
<i>African American</i>	1	0	4	4
<i>Hispanic/Latino</i>	5	2	23	5
<i>Hawaiian</i>	1	1	2	0
<i>White</i>	12	4	56	10
<i>Other</i>	1	2	9	1
<i>Multi-ethnic</i>	0	2	5	1
GPA				
<i>Below 2.5</i>	1	0	3	0
<i>2.6-3.0</i>	7	1	20	3
<i>3.1-3.5</i>	6	1	29	9
<i>3.6-4.0</i>	4	4	28	7
<i>4.1 and Higher</i>	0	0	0	0
<i>Missing</i>	0	0	1	0
Parent's Educational Level				
<i>No college degree</i>	5	2	30	4
<i>Associate degree</i>	3	3	14	4
<i>Bachelor's degree</i>	3	0	21	7
<i>Master's degree</i>	5	0	10	3
<i>Doctorate or Professional degree</i>	2	1	5	1
<i>Missing</i>	0	0	0	0
Parent's Occupation				
<i>Unskilled labor</i>	2	0	10	1
<i>Skilled labor</i>	2	0	19	6
<i>Clerical</i>	2	0	1	1

<i>Service</i>	2	0	6	1
<i>Managerial</i>	4	3	14	4
<i>Professional</i>	6	3	30	6
<i>Missing</i>	0	0	1	0

* Participants could report more than one ethnicity and thus the total number of participants is above 124