

# Supplemental Material

*CBE—Life Sciences Education*

Gormally *et al.*

**Appendix A.** Pre- and post- semester prompts for the Reflection Assignments. This study is part of a larger project about students' experiences in inquiry-based laboratory classes. For the purposes of this study, analysis focused on a subset of questions marked with asterisk (\*).

The pre-semester reflection questions were:

1. Why are you taking this lab? What do you hope to learn in this lab this semester?
2. Describe your prior experiences with biology and other science classes: describe a typical class--what the teacher did and what the students did. "My prior science lab classes were fill in the blank, for example, enjoyable, boring, exciting, frustrating, fascinating, made me hate science or... because..." and explain why.\*
3. How did these prior science learning experiences benefit you? For example, how do you use what you learned now?\*
4. Explain your understanding of the science research process or scientific method. What does "doing science" mean to you?\*
5. When you think of a scientist, what images or characteristics come to mind? Describe what you see.

The post-semester reflection questions were:

1. What did you learn from this lab that you anticipate using in other classes, your job, or your life? What helped you to learn in lab (consider: what you did to help yourself, what other students did that helped you, and what the instructor did)?\*
2. Describe your positive experiences in lab. Describe your negative experiences in lab. Describe a typical day in lab: what the teacher did and what the students did. "My lab class was fill in the blank, for example, enjoyable, boring, exciting, frustrating, fascinating, made me hate science or... because..." and explain why.\*

3. How did this lab learning experience benefit you? For example, how will you use what you learned?\*
4. Consider how you described your understanding of the scientific research process at the beginning of the semester (note: look back at your first Reflection Assignment). How has your understanding of the science research process or doing scientific experiments changed from the beginning of the semester to now?\*
5. When you think of a scientist, what images or characteristics come to mind? Describe what you see. Did you see yourself as a scientist while working in lab this semester? If no, please explain why. If yes, explain when and how.