

# Supplemental Material

CBE—Life Sciences Education

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# Enthusiastic but Inconsistent: Graduate Teaching Assistants' Perceptions of their Role as an Instructor in the CURE Classroom

## Supplemental Materials

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## Appendix 1. GTA Interview Card Sort Statements

EVT Construct (Sub-Construct)	Card statement <sup>1</sup>
Attainment (Ideals)	I think research-based courses like the CURE are valuable because they allow for increased numbers of students to gain research experience.
	I think research-based courses like the CURE are the best way to teach undergraduate biology labs.
	I think research-based courses like the CURE are important because they allow undergraduates to develop skills that will be important in their future.
	I think it is important to use teaching practices that are supported by research on teaching and learning.
	I think it is important for undergraduates to experience research in their classes.
Attainment (Identity)	Teaching the CURE allows me to connect my research and teaching identities simultaneously.
	Teaching the CURE aligns with my identity as a researcher.
	Teaching the CURE aligns with my identity as a teacher.
	I intend to have teaching to be a significant part of my future career.
	I strive to be an excellent teacher.
Intrinsic	It is fulfilling to see students get engaged with their projects in the CURE.
	Teaching the CURE is rewarding.
	Teaching the CURE is intellectually stimulating.
	Teaching the CURE is enjoyable.
	Teaching the CURE allows me to have a better relationship with my students.
	I would like to continue to teach research-based courses like the CURE in the future.
	I feel more pride as a teacher of the CURE.
	Teaching the CURE is fun.
Utility (Personal Development)	Teaching the CURE broadens my knowledge of biology.
	Teaching the CURE improves my mentoring skills
	Teaching the CURE improves my teaching.
	Teaching the CURE allows me to build a better relationship with faculty at my institution.
	Teaching the CURE improves my research skills.
Utility (Tangible)	Getting paid and/or receiving tuition remission is the primary reason I teach.
	Teaching the CURE could result in me being included on as an author on published research papers related to the class.
	Teaching the CURE looks good on my CV.
	Teaching the CURE will help me in getting a future job.
Cost (Emotional)	The lack of structure makes teaching the CURE challenging.

	I do not always have enough teaching experience or training to be confident in the decisions I make when I teach.
	It can be difficult to get students to be excited about the CURE.
	Teaching the CURE is emotionally exhausting.
	I do not always have the appropriate research skills and expertise to guide my students through their research projects.
	The uncertainty of research makes teaching the CURE challenging.
	I do not always have enough content knowledge ( <i>i.e.</i> knowledge of bacteriophages or the host species) to provide reliable information to my students.
Cost (Time)	I have more responsibilities in teaching the CURE than I would in a different type of course. <sup>2</sup>
	Teaching the CURE is more work than teaching other types of classes.

<sup>1</sup> Statements have been slightly modified when necessary to preserve anonymity of the course and term. <sup>2</sup> Interviews revealed that GTAs variably interpreted this item as either a cost or a benefit.



### Appendix 3. GTA Interview Protocol

#### *Card-Sort Specific Questions*

1. How did that activity go for you?
2. Could you explain a bit about your reasoning for placing these cards in the “Most like your experiences” end of the grid?
3. Could you explain a bit about your reasoning for placing these cards in the “Least like your experiences” end of the grid?
4. Are there any other thoughts you want to share about these cards and this activity?

#### *General Questions (Post Card Sort)*

5. If you were designing your own laboratory course for biology undergraduates, would you use a research-based model like the CURE?
6. What are the most important things that undergraduates should walk away with after participating in the CURE?
7. Do you think your students were doing “real science” in the CURE this term? *Why?*
8. What are your most meaningful responsibilities as a TA for the CURE?
9. In science education literature, it has been proposed that students in a research-based course should have opportunities for novel discovery, collaboration, project relevance, iteration, and use of scientific practices. Do you think your students had the opportunity to practice each of these things in the CURE this term?
10. What do you see as the role of the undergraduate TA in your classroom?
  - a. How do you support them in this role?
  - b. Do you think you would be able to teach this class without an undergraduate TA?
11. Would you recommend this course to others as a good course to TA for?
12. Are there any costs or challenges you’ve encountered as an instructor for the CURE?
  - a. Do you think these challenges are encountered in other TA-led classes, or only research-based courses?
13. Are there benefits to you for teaching this course?
14. Has being an instructor for this course helped you develop skills that you think will be useful for your graduate/undergraduate studies or for your future career goals?
15. Has being an instructor for this course had an impact on the way you think or feel about teaching or mentorship?
16. Has being an instructor for this course had an impact on the way you think about your research?
17. If you could have any additional knowledge, experiences or training to improve your instruction for the CURE, what would it be? *Why?*