

Supplemental Material

CBE—Life Sciences Education

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GTA Survey Instrument

Q2 The purpose of this portion of the survey is to gauge the Teaching Assistant (TA) group's knowledge of teaching principles, not to test anyone's individual knowledge. The results from this survey will help the staff to organize our weekly TA meetings. If you do not know the answer to a question, you can either take a guess, or if you do not have a guess, leave the question blank.

Q3 In general, which process would best promote learning?

- Listening to material (1)
- Manipulating material (physically) (2)
- Looking at material (3)
- Thinking about material (4)

Q4 Which of the following is not a defining characteristic of a high-quality objective for student learning?

- The objective is difficult to attain (1)
- The objective references subject matter content (2)
- The objective is the result of instruction (3)
- The objective is written in behavioral terms (4)

Q5 Which of these activities would be least likely to promote active engagement of students with the material?

- 1-minute paper (1)
- Lecture (2)
- Small-group discussion (3)
- Data interpretation (4)

Q6 Which of the following is not a strategy used to ensure that grading is fair?

- De-identify work products (1)
- Consider each student's typical performance (2)
- Score papers in random order (3)
- Use a rubric or scoring guide (4)

Q7 Which of the following is a reasonable ordering in terms of cognitive complexity (ordered from least to most complex)?

- Factual knowledge, knowledge application, conceptual understanding, analytical thinking (1)
- Factual knowledge, conceptual understanding, knowledge application, analytical thinking (2)
- Conceptual understanding, factual knowledge, knowledge application, analytical thinking (3)
- Conceptual understanding, factual knowledge, analytical thinking, knowledge application (4)

Q20 This instrument is intended as a measure of teaching progress. It is administered either before one has started teaching or early in one's teaching position. If you have not actually started teaching yet, then think of yourself as a teacher in your subject and imagine how you would respond as a new/beginning teacher.

Q21 Please indicate your level of agreement with each of the following statements.

	Strongly disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly agree (5)
I feel certain how to present new information about biology concepts in the classroom. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a definite positive reaction when I teach biology topics. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incorporating biology concepts into my lessons is enjoyable for me. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel confident when I come across a complex concept in biology that I have to incorporate into my lesson. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am confronted with teaching a new concept in biology, I know I can	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>cope with it. (5)</p>					
<p>I am confident about the methods of teaching biology concepts. (6)</p>	○	○	○	○	○
<p>I have a lot of self-confidence when it comes to planning lessons that incorporate biology topics. (7)</p>	○	○	○	○	○
<p>I love teaching biology concepts in my classes. (8)</p>	○	○	○	○	○
<p>I feel at ease explaining biology concepts. (9)</p>	○	○	○	○	○
<p>I enjoy the challenge of teaching biology concepts. (10)</p>	○	○	○	○	○
<p>The idea of teaching new biology concepts in my classes is exciting to me. (11)</p>	○	○	○	○	○
<p>I feel confident in my ability to improvise during a lesson</p>	○	○	○	○	○

<p>involving biology. (12)</p>					
<p>When thinking about biology topics that I am going to incorporate into my lessons, I am confident that I will explain the material clearly. (13)</p>	○	○	○	○	○
<p>I'm the type of teacher who can teach biology concepts very well. (14)</p>	○	○	○	○	○
<p>I would feel calm if observed in my classroom while I was teaching a lesson that incorporated biology topics. (15)</p>	○	○	○	○	○
<p>I feel secure about incorporating simple biology concepts into my lessons. (16)</p>	○	○	○	○	○
<p>I can create lively and engaging discussions about biology issues. (17)</p>	○	○	○	○	○
<p>I can keep the students interested in the biology</p>	○	○	○	○	○

concepts that I teach. (18)					
It makes me nervous when I simply think about incorporating biology topics in my lessons. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The thought of incorporating complex topics about biology into my lessons scares me. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am panicked when a student asks me a biology question that I can't answer. (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about teaching biology topics makes me depressed. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When teaching biology concepts, my heart begins to beat faster. (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about teaching biology topics makes me anxious. (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

biology concepts makes me restless, irritable, or impatient. (25)					
Worrying about teaching biology topics makes me exhausted. (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I approach teaching biology topics with dread. (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have dreams that I did poorly in explaining a biology concept in a class. (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worries about teaching biology topics make me sick. (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel terrified when teaching biology topics. (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Undergraduate Student Instrument

Q6 Please indicate your level of agreement with each of the following statements regarding your Teaching Assistant (TA).

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
My TA was well organized. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA was enthusiastic about the subject matter. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA articulated the goals for student learning. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA answered students' questions clearly. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA made him/herself available outside of class. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA provided valuable feedback on our work. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA knew how to teach students with different backgrounds, needs, and interests. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA knew the subject matter well. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MY TA provided clear explanations. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>My TA provided engaging activities for the class to do. (10)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>My TA evaluated our work fairly and impartially. (11)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>My TA implemented class exercises that were interesting and stimulating. (12)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>My TA knew how well his/her students understand the material. (13)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>My TA provided good examples of concepts. (14)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 Please indicate your level of agreement with each of the following statements regarding your Teaching Assistant (TA).

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
My TA regularly asked stimulating discussion questions. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA asked discussion questions that require students to think. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA asked discussion questions that are appropriate given our knowledge of the topic. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA asked discussion questions that draw out the class' existing knowledge. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My TA asked discussion questions that reflect the goals for student learning. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>