

# Supplemental Material

*CBE—Life Sciences Education*

Walter *et al.*

Online Supplementary Material

**Postsecondary Instructional Practices Survey (PIPS)**

**INFORMATION**

This survey was designed by researchers at Author's University to collect self-reported teaching practices from individuals teaching at institutions of higher education. This version includes 6 additional questions used for the validation of the PIPS.

**INSTRUCTIONS**

The survey has 24 teaching practice items and 9 demographic questions. It should take about 10 minutes to complete.

Each teaching practice item is a statement that may represent your current teaching practice. As you proceed through the survey, please consider the statements as they apply to teaching your *lowest level, largest enrollment undergraduate course taught in the last two years.*

Please read each statement, and then indicate the degree to which the statement is descriptive of your teaching. There are no "right" or "wrong" answers. The purpose of the survey is to understand how you teach, not to evaluate your teaching.

- 0 - Not at all descriptive of my teaching
- 1 - Minimally descriptive of my teaching
- 2 - Somewhat descriptive of my teaching
- 3 - Mostly descriptive of my teaching
- 4 - Very descriptive of my teaching

**I. Questions about the Course** (Optional - used in PIPS validation phase)

**Directions.** Please consider the lowest level, largest enrollment undergraduate course you are currently teaching or have taught in the last two years:

1. Enrollment:

\_\_\_\_ % Majors in your discipline  
\_\_\_\_ % Majors in other disciplines

2. Is this a general education course? Yes / No / Not Applicable

3. Weekly contact hours you teach per section:

Lecture:

Lab:

Combined Lecture/Lab:

Discussion/Recitation:

Other (please specify):

4. If you think we need more information about your class, please explain:

**I. Questions about the Course** (Optional - used in PIPS validation phase)

**Directions.** Please consider the lowest level, largest enrollment undergraduate course you are currently teaching or have taught in the last two years:

5. How are most decisions about teaching practices made?

\_\_\_ I make the decisions.

\_\_\_ I'm part of a team that makes decisions.

\_\_\_ Someone else makes the decisions.

Describe if applicable:

6. If you teach lecture and/or integrated lab, please indicate what proportion class time *during a typical week* is spent in the following activities. The sum of these questions should equal 100%.

The instructor talking to the whole class.                      \_\_\_ %

Students working individually.                                      \_\_\_ %

Students working in small groups.                                   \_\_\_ %

Students doing something else.                                      \_\_\_ % Other Activity: \_\_\_\_\_  
(please specify)

\_\_\_ % Other Activity: \_\_\_\_\_

\_\_\_ % Other Activity: \_\_\_\_\_

**II. Teaching Practice Statements**

Please indicate the degree to which the following statements are descriptive of your teaching in your *lowest level, largest enrollment undergraduate course taught in the last 2 years*.

	Not at all descriptive of my teaching	Minimally descriptive of my teaching	Somewhat descriptive of my teaching	Mostly descriptive of my teaching	Very descriptive of my teaching
P01. I guide students through major topics as they listen and take notes.	0	1	2	3	4
P02. I design activities that connect course content to my students' lives and future work.	0	1	2	3	4
P03. My syllabus contains the specific topics that will be covered in every class session.	0	1	2	3	4
P04. I provide students with immediate feedback on their work during class (e.g., student response systems, short quizzes)	0	1	2	3	4
P05. I structure my course with the assumption that most of the students have little useful knowledge of the topics.	0	1	2	3	4
P06. I use student assessment results to guide the direction of my instruction during the semester.	0	1	2	3	4
P07. I frequently ask students to respond to questions during class time.	0	1	2	3	4
P08. I use student questions and comments to determine the focus and direction of classroom discussion.	0	1	2	3	4
P09. I have students use a variety of means (models, drawings, graphs, symbols, simulations, etc.) to represent phenomena.	0	1	2	3	4

**II. Teaching Practice Statements**

Please indicate the degree to which the following statements are descriptive of your teaching in your *lowest level, largest enrollment undergraduate course taught in the last 2 years*.

	Not at all descriptive of my teaching	Minimally descriptive of my teaching	Somewhat descriptive of my teaching	Mostly descriptive of my teaching	Very descriptive of my teaching
P10. I structure class so that students explore or discuss their understanding of new concepts before formal instruction.	0	1	2	3	4
P11. My class sessions are structured to give students a good set of notes.	0	1	2	3	4
P12. I structure class so that students regularly talk with one another about course concepts.	0	1	2	3	4
P13. I structure class so that students constructively criticize one another's ideas.	0	1	2	3	4
P14. I structure class so that students discuss the difficulties they have with this subject with other students.	0	1	2	3	4
P15. I require students to work together in small groups.	0	1	2	3	4
P16. I structure problems so that students consider multiple approaches to finding a solution.	0	1	2	3	4
P17. I provide time for students to reflect about the processes they use to solve problems.	0	1	2	3	4
P18. I give students frequent assignments worth a small portion of their grade.	0	1	2	3	4

**II. Teaching Practice Statements**

Please indicate the degree to which the following statements are descriptive of your teaching in your *lowest level, largest enrollment undergraduate course taught in the last 2 years*.

	Not at all descriptive of my teaching	Minimally descriptive of my teaching	Somewhat descriptive of my teaching	Mostly descriptive of my teaching	Very descriptive of my teaching
P19. I require students to make connections between related ideas or concepts when completing assignments.	0	1	2	3	4
P20. I provide feedback on student assignments without assigning a formal grade.	0	1	2	3	4
P21. My test questions focus on important facts and definitions from the course.	0	1	2	3	4
P22. My test questions require students to apply course concepts to unfamiliar situations.	0	1	2	3	4
P23. My test questions contain well-defined problems with one correct solution.	0	1	2	3	4
P24. I adjust student scores (e.g. curve) when necessary to reflect a proper distribution of grades.	0	1	2	3	4

**III. Demographic Questions**

1a. Please indicate your academic rank.

- |  |  |
|--|--|
| <input type="checkbox"/> Professor                       | <input type="checkbox"/> Adjunct or Part-time Instructor |
| <input type="checkbox"/> Associate Professor             | <input type="checkbox"/> Graduate Student Instructor     |
| <input type="checkbox"/> Assistant Professor             | <input type="checkbox"/> Other (please specify): _____   |
| <input type="checkbox"/> Full Time Lecturer / Instructor |  |
| <input type="checkbox"/> Visiting Professor              |  |

1b. If applicable, what is your role as a graduate student instructor?

- Instructor for a stand-alone course
- Instructor for a lab or discussion section associated with another course
- Grader
- Other (please specify): \_\_\_\_\_

2. Please indicate your academic department. You may provide more than one department should you teach and/or have an appointment in more than one department.

3. What is your gender?

- Female                       Male                       Prefer not to respond

4. Please identify the racial or ethnic group with which you most identify.

- |  |  |
|--|--|
| <input type="checkbox"/> Asian                               | <input type="checkbox"/> White                 |
| <input type="checkbox"/> Black                               | <input type="checkbox"/> Multi-ethnic          |
| <input type="checkbox"/> Hispanic or Latino/a                | <input type="checkbox"/> Other                 |
| <input type="checkbox"/> Native American or Alaskan Native   | <input type="checkbox"/> Prefer not to respond |
| <input type="checkbox"/> Native Hawaiian or Pacific Islander |  |

5. What is your tenure status?

- Tenured
- Untenured, but on tenure track
- Untenured, not on tenure track

6. How many years have you been teaching in higher education?

7. How many years have you been teaching at your current institution?

8. What proportion of your job duties is related to teaching?

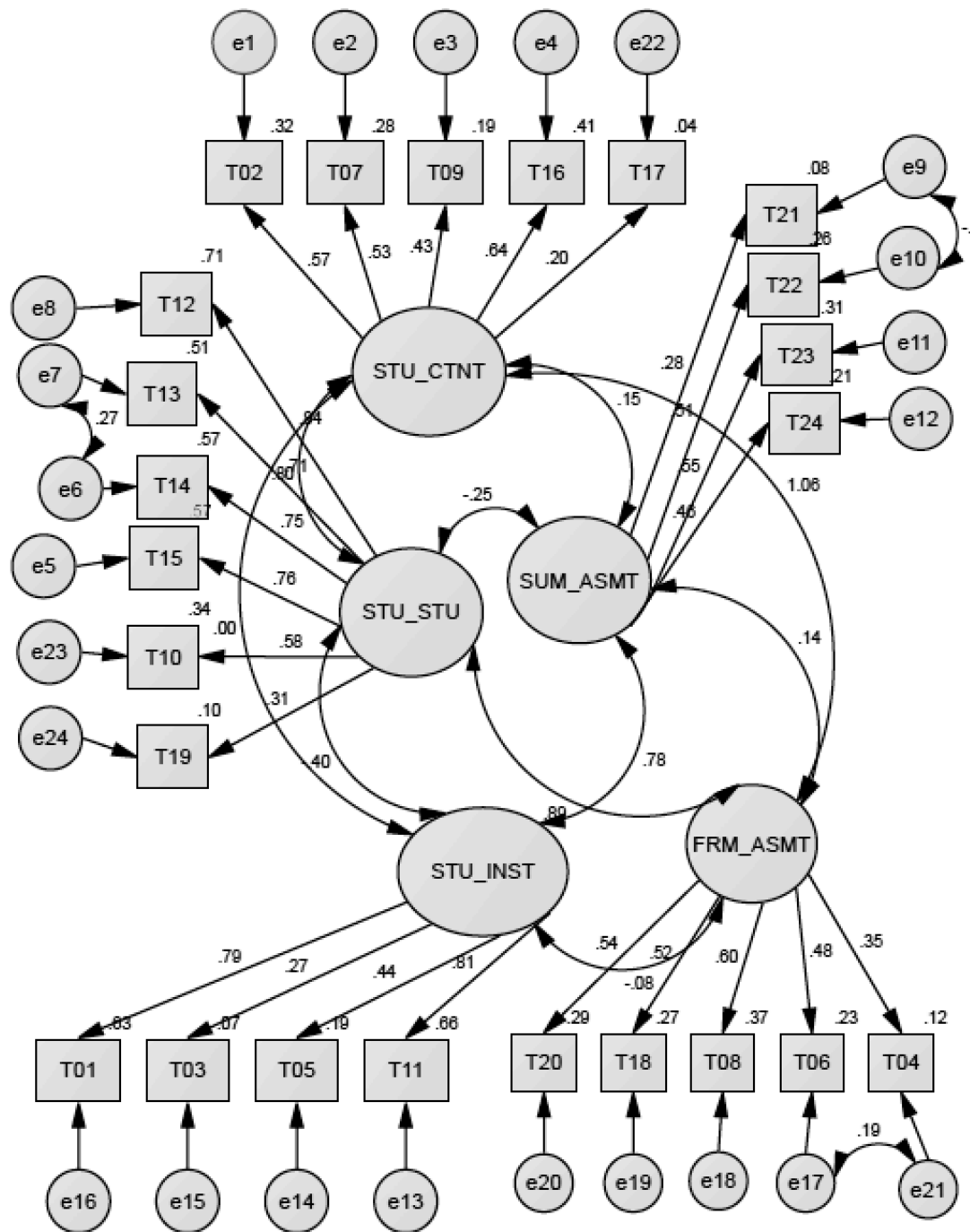
9. What leadership role, if any, do you have in your department?

- I do not have a leadership role.
- I am the Chair/Head of the department.
- I am the Associate Chair/Associate Head of the department.
- I am the Chair of the Curriculum Committee in the department.
- I have another leadership role in the department. Please specify: \_\_\_\_\_

PIPS Item	Factor	
	Student-Centered Practice	Instructor-Centered Practice
P02	.530	
P04	.414	
P06	.509	
P07	.467	
P08	.583	
P09	.475	
P10	.589	
P12	.766	
P13	.683	
P14	.728	
P15	.654	
P16	.621	
P18	.481	
P19	.443	
P20	.484	
P01		.743
P03		.365
P05		.445
P11		.773
P17		.315
P21		.383
P22		.379
P23		.473
P24		.323

**Online Supplement A.** Pattern matrix for exploratory factor analysis for the Postsecondary Instructional Practices Survey (PIPS), supporting a 2 factor solution. Generated using maximum likelihood extraction method and Promax with Kaiser normalization rotation method. Rotation converged in 3 iterations.





**Online Supplement B.** Confirmatory factor analysis map generated for 5-factor model of the Postsecondary Instructional Practice Survey (PIPS). STU\_INST represents the Content Delivery factor, STU\_STU represents Student-Student Interactions, STU\_CTNT represents Student-Content Engagement, FRM\_ASMT represents formative assessment, and SUM\_ASMT represents Summative Assessment.