

Appendices

Appendix 1 – Descriptive demographics for each participant.

Demographic Variables	Faculty, <i>n</i>	Faculty, #
Sex		
Female	10	5, 7, 8, 9, 11, 12, 13, 15, 16, 19
Male	9	1, 2, 3, 4, 6, 10, 14, 17, 18
Course level taught		
Graduate	10	1, 4, 6, 8, 11, 14, 15, 16, 17, 18
Undergraduate	9	2, 3, 5, 7, 9, 10, 12, 13, 19
Year teaching		
First	8	4, 10, 11, 14, 15, 16, 17, 18
Second	5	5, 6, 8, 12, 19
Third	3	7, 9, 13
Fifth	3	1, 2, 3

Appendix 2 – Modified TBI protocol used in this study.

1. What is your role in the classroom?
2. How do you think students successfully learn in your classroom?
3. How do you maximize student learning in your classroom?
4. How do you decide what to teach and what not to teach?
5. How do you decide when to move onto a new topic?
6. How do you know when students understand?
7. What are your main strengths as a teacher?
8. What are some areas of your teaching that you would like to improve?
9. Which scenario is worse: getting through all of the topics while only a minority of students understand them or getting through only some of the topics while a majority of students understand them?

Note that the question “How do your students learn best?” of the original TBI protocol was excluded from the TBI protocol used in this study because during the pilot testing of the protocol with our research participants, we received redundant responses from this question and “How do you maximize student learning in your classroom?” Furthermore, we included three additional questions to capture our study participants’ perceptions of their own teaching (questions 7-9).

Appendix 3 – Descriptive demographics for each cluster.

Demographic Variables	Cluster 1 <i>n</i> = 7	Cluster 2 <i>n</i> = 3	Cluster 3 <i>n</i> = 3	Cluster 4 <i>n</i> = 4
Sex				
Female	4	0	0	4
Male	3	3	3	0
Course level taught				
Graduate	3	3	1	3
Undergraduate	4	0	2	1
Year teaching				
First	2	2	1	3
Second	3	0	1	0
Third	1	0	0	1
Fifth	1	1	1	0

Appendix 4 – Components of LCTR used to analyze classroom observations and course artifacts.

Dimensions	Components
I. The function of content	<ol style="list-style-type: none"> 1. In addition to building a knowledge base, the instructor uses content to help students understand why they need to learn the content for courses within or outside their major and for their future career. 2. The instructor uses content to practice using scientific practices in the discipline or to solve authentic problems 3. The instructor helps students acquire in-depth conceptual understanding of the content to facilitate deep learning and use of transferable skills
II. The role of the instructor	<ol style="list-style-type: none"> 1. The instructor creates a supportive and success-oriented environment for learning and for accomplishment for all students through proactive, clear, and overt course-specific techniques 2. The instructor uses diverse teaching strategies that promote the achievement of student learning 3. The instructor develops and uses a variety of learning outcomes/goals 4. The instructor aligns two essential components of a course: learning outcomes/goals and assessment methods in terms of content and consistent verbs representing the same cognitive processing demands/intellectual skills placed on the students
III. The responsibility for learning	<ol style="list-style-type: none"> 1. The instructor sets student expectations, which enable the responsibility for learning to be shared between the instructor and the students 2. The instructor fosters students' engagement in reflection and critical review of their learning through well-structured activities
IV. The purposes and processes of student assessment	<ol style="list-style-type: none"> 1. The instructor uses formative assessment within the learning process 2. The instructor promotes students to use peer-assessments 3. The instructor allows the students to demonstrate mastery of the objectives and ability to learn from mistakes 4. The instructor uses authentic assessments (e.g., research report, case study)
V. The balance of power	<ol style="list-style-type: none"> 1. The instructor allows for some flexibility of course policies, assessment methods, learning methods, and deadlines or how students earn grades

Appendix 5 – Dendrogram illustrating the results of the agglomerative hierarchical cluster analysis.

