Classroom Observation Report: Combined COPUS/BERI Protocol

January 1, 2019

Dear Dr. Doe,

Thank you for participating in the ASSETT Visualizing Instructional Practices service! We hope you found the experience useful. The data presented in this report should allow you to examine various patterns of behaviors and activities that occur in your classroom, and help you answer pointed teaching questions. Importantly, you have complete ownership of these data and are free to share and use them in any way you see fit.

Trained observers attended three of your class periods on X/X/XX, X/X/XX, and X/X/XX, and recorded classroom events using two research-backed observation protocols: the COPUS and the BERI. The COPUS (Classroom Observation Protocol for Undergraduate STEM; Smith, Jones, Gilbert, Wieman, 2013) is a widely used and validated tool that enables an observer to record pre-established types of student and instructor activities throughout a class period. The instrument is designed to extract as objective data as possible from a relatively subjective classroom experience. Each class period is divided into 2-minute intervals, and for each time interval the observer records both what the students are doing and what the instructor is doing. The COPUS protocol is made up of 25 different types of activities, or codes (Appendix 1), that can occur at any given time interval.

The BERI (Behavioral Engagement Related to Instruction; Lane & Harris, 2015) protocol is a validated tool that attempts to measure and quantify student engagement in university classes. At the beginning of each class, the observer selects a sample of 10 students to observe. During each 2-minute time interval, the observer records whether each student in the sample is displaying specific types of engaged or disengaged behaviors. There are 6 possible engaged behaviors and 6 possible disengaged behaviors, which are listed in Appendix 2. The BERI data are reported as a count of students in the sample displaying engaged behavior, on a scale from 0-10.

The time-locked collection of tandem COPUS and BERI observation data is powerful because it allows an instructor to examine how patterns of variation in student engagement coincide with different instructor actions and classroom activities. The following visualizations are intended to display which of the COPUS activities occurred in your classroom, along with the level of engagement of students during those activities.

If you have any questions, comments, or requests stemming from your data or this report, please don't hesitate to reach out!

Sincerely,

Shane Schwikert, *Educational Technology Researcher, ASSETT, Office of Information Technology, CU Boulder*
James Foster, *Educational Technology Research Assistant, ASSETT, Office of Information Technology, CU Boulder*
Mark Werner, *Associate Director for Academic Technology, Office of Information Technology, CU Boulder*

Instructor: **Dr. Jane Doe** Course: **JANE 101** Dates of Observations: **1/1/2019, 1/2/2019, 1/3/2019**

Occurrence of Activity and Engagement by Time

The figures below show student engagement and which activities occurred in each two-minute time interval across each of your observed class periods. Each block indicates that the activity occurred for at least a portion of that interval. See Appendix 1 for a description of all codes.

Figure 1. Timeline of student and instructor activities and student engagement from **1/1/2019**

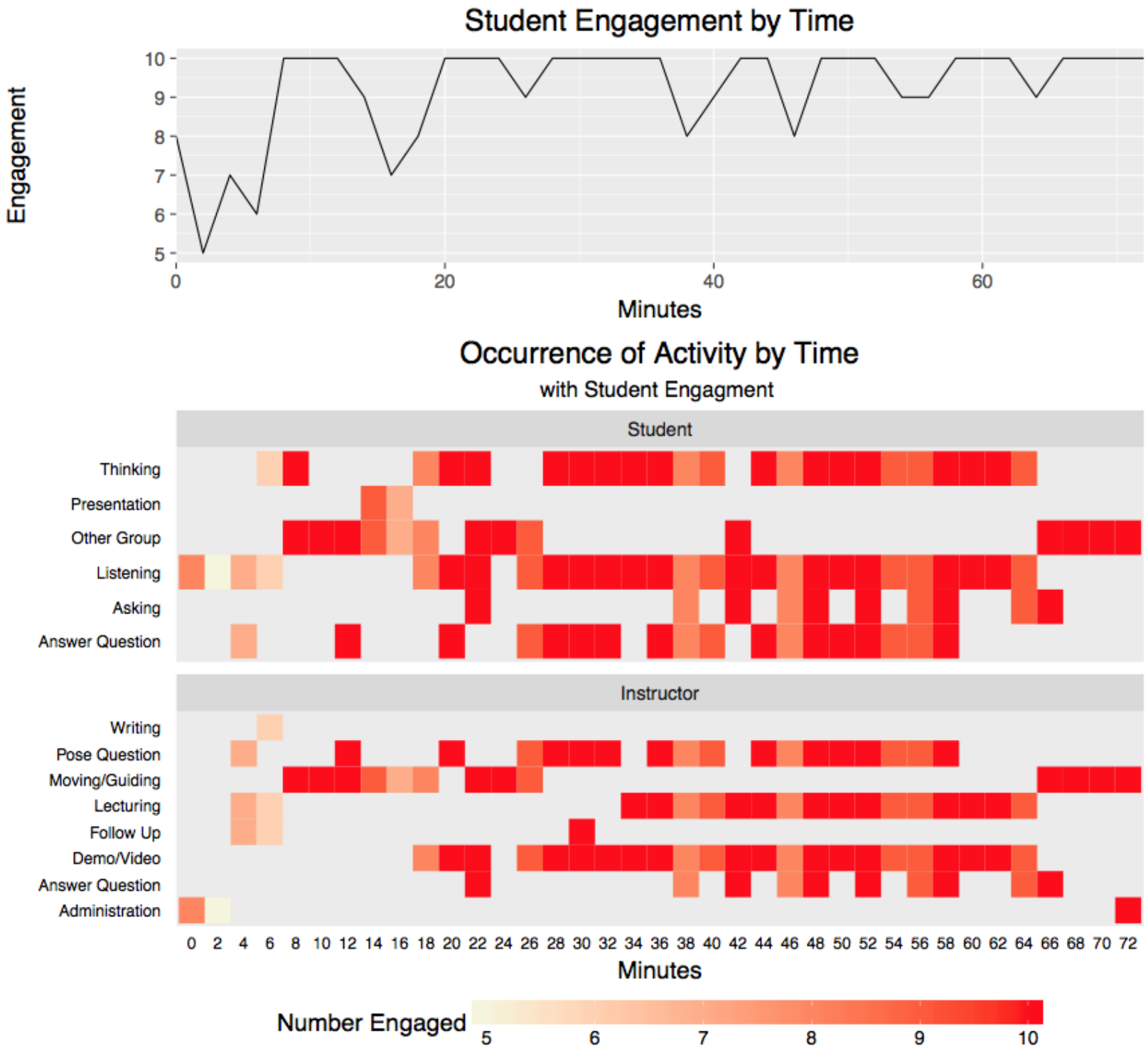

Figure 2. Timeline of student and instructor activities and student engagement from **1/2/2019**

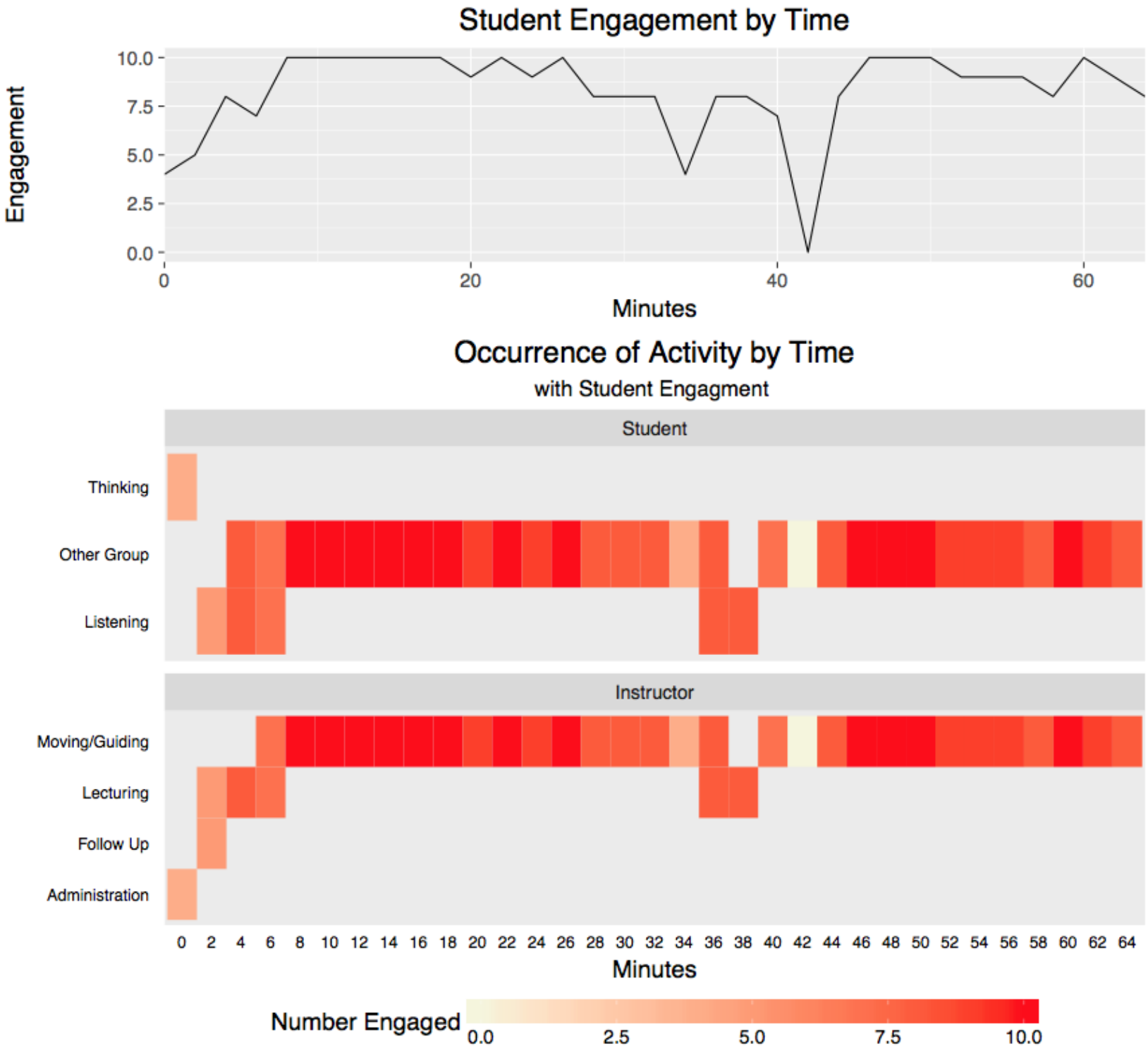

Figure 3. Timeline of student and instructor activities and student engagement from **1/3/2019**

Activities as Percentage of Total Class Time (Aggregate)

Figure 4 represents the percent of all time intervals, from all observations, during which each of the activities were observed, and average student engagement for that activity..

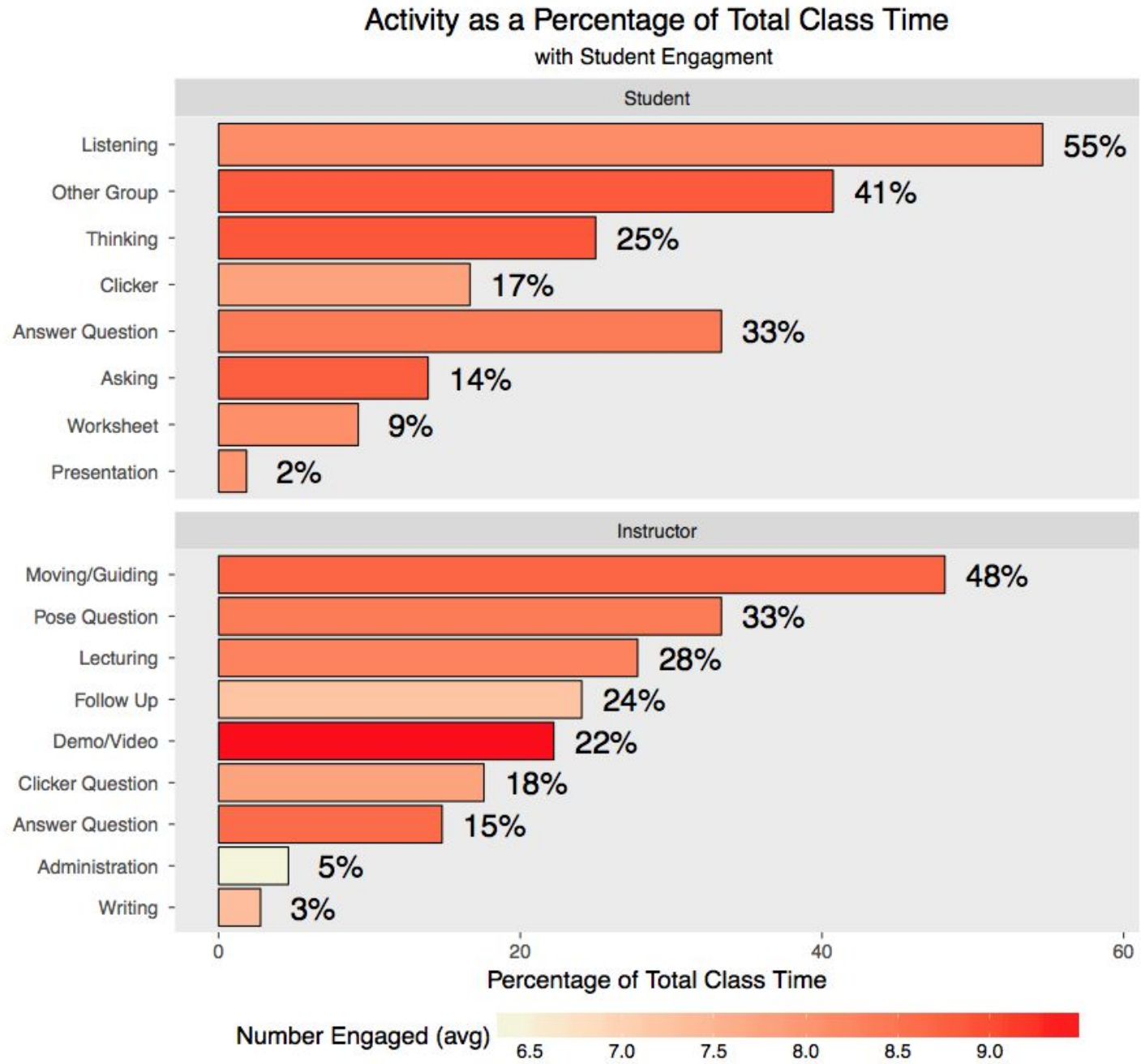

Figure 4. Percentage of time intervals during which each coded activity occurred, as a percentage of the total class time. Data is aggregated across all three classroom observations (*Note: we can provide these figures for individual classes upon request)*.

Notes from Post-Observation Consult on XX/XX/2018

Wrap-up

Caveats

While observers are trained to follow the COPUS and BERI code descriptions, sometimes there is an unintentional divergence, or a code definition may be less intuitive than it appears. Student engagement can sometimes be difficult to assess from observable behaviors, and some behaviors like computer use can shift rapidly between on-task and off-task. When a pattern seems off-kilter from your knowledge of the class, it makes sense to trust your interpretation.

No observation tool can capture everything that is happening in a classroom. The COPUS and BERI tools are focused on directly observable activities. While they capture some breadth of objective activity in a useful way, they does not provide qualitative information about instructional practices that are more subjective. In their simplicity, the protocols are not able to capture complex student-instructor interactions, mood and atmosphere, the full range of student engagement and participation, and higher level pedagogical strategies. We are continuously working to build up the VIP Service, and hope to fill some of these gaps in the near future by further diversifying the types of observation protocols we offer, and creating a more customizable experience for each instructor.

Assessment, Consultations, and Other Services

We hope the synchronized COPUS and BERI results above provide a window into your instruction that is useful to you. These observations are confidential and will only be used in aggregate for internal research purposes, unless otherwise notified. While ASSETT appreciates any willingness to share your data for internal research and assessment purposes, we fully respect your wishes and will manage your data in whichever manner you select on the ASSETT VIP Data Management Agreement (*Note*: If you have not yet received or signed this document, please contact us at assett@colorado.edu or call 303-735-7426).

If you would like to discuss these results further, we are happy to meet with you and/or point you towards any other resources that might be helpful. ASSETT staff specializes in pedagogical strategies, classroom assessment, integrating academic technologies into your course, and changing methods of course delivery (i.e. creating flipped or hybrid courses). We are available to support you in pursuit of your teaching goals. Feel free to contact assett@colorado.edu to learn more or request a consultation.

The VIP Service is currently under development, and is being internally assessed. We greatly appreciate hearing about any insights or impacts that result from your participation in the VIP service, and truly appreciate your responses to the follow-up survey that you'll receive prior to the end of the semester. We are also interested to hear any further feedback you have about your observations, visualizations, and consultation (if applicable). Feel free to contact shane.schwikert@colorado.edu with your thoughts, comments, and questions - we'd love to hear from you!

If you are interested in gaining additional insights into your teaching, we highly recommend:

- Asking a peer to observe your class, keeping an eye toward specific patterns that you are most interested in learning about
- Talking with peers about how they tackle teaching challenges, and sharing each other's strategies
- Observing other classes on campus to explore new ideas and/or further refine your teaching goals

Our staff is more than happy to help you find partners for such observations and discussions. ASSETT also offers a variety of teaching and learning communities, workshops, consultations, and various other events geared toward faculty members. Visit assett.colorado.edu for more information.

Thank you again for participating in the VIP Service, and we hope to work with you again in the future!

Appendix 1. COPUS Codes

Code	**What Students are Doing**
Listening	Listening to instructor/taking notes, etc.
Individual Thinking	Individual thinking/problem solving. Only mark when an instructor explicitly asks students to think about a clicker question or another question/problem on their own.
Clicker Group	Discuss clicker question in groups of 2 or more students
Working Group	Working in groups on worksheet activity
Other Group	Other assigned group activity, such as responding to instructor question
Answer Question	Student answering a question posed by the instructor with rest of class listening
Student Question	Student asks question
Whole class discussion	Engaged in whole class discussion by offering explanations, opinion, judgment, etc. to whole class, often facilitated by instructor
Prediction	Making a prediction about the outcome of demo or experiment
Student Presentation	Presentation by student(s)
Test or Quiz	Test or quiz
Waiting	Waiting (instructor late, working on fixing AV problems, instructor otherwise occupied, etc.)
Other	Other – explain in comments

Code	What Instructor is Doing
Lecture	Lecturing (presenting content, deriving mathematical results, presenting a problem solution, etc.)
Real-Time Writing	Real-time writing on board, doc. projector, etc. (often checked off along with Lec)
Follow Up	Follow-up/feedback on clicker question or activity to entire class
Posing Question	Posing non-clicker question to students (non-rhetorical)
Clicker Question	Asking a clicker question (mark the entire time the instructor is using a clicker question, not just when first asked)
Answer Question	Listening to and answering student questions with entire class listening
Moving/Guiding	Moving through class guiding ongoing student work during active learning task
1-on-1	One-on-one extended discussion with one or a few individuals, not paying attention to the rest of the class (can be along with MG or AnQ)
Demo/Video	Showing or conducting a demo, experiment, simulation, video, or animation
Administration	Administration (assign homework, return tests, etc.)
Waiting	Waiting when there is an opportunity for an instructor to be interacting with or observing/listening to student or group activities and the instructor is not doing so
Other	Other – explain in comments

COPUS codes from Smith, Jones, Gilbert, & Wieman (2013)

Appendix 2. BERI Examples of Engaged and Disengaged Behaviors

TABLE 1

Descriptions of student in-class behaviors that indicate they are engaged.

	Engaged
Listening	Student is listening to lecture. Eye contact is focused on the instructor or activity and the student makes appropriate facial expressions, gestures, and posture shifts (i.e., smiling, nodding in agreement, leaning forward).
Writing	Student is taking notes on in-class material, the timing of which relates to the instructor's presentation or statements.
Reading	Student is reading material related to class. Eye contact is focused on and following the material presented in lecture or preprinted notes. When a question is posed in class, the student flips through their notes or textbook.
Engaged computer use	Student is following along with lecture on computer or taking class notes in a word processor or on the presentation. Screen content matches lecture content.
Engaged student interaction	Student discussion relates to class material. Student verbal and nonverbal behavior indicates he or she is listening or explaining lecture content. Student is using hand gestures or pointing at notes or screen.
Engaged interaction with instructor	Student is asking or answering a question or participating in an in-class discussion.

TABLE 2

Descriptions of student in-class behaviors that indicate they are disengaged.

	Disengaged
Settling in/ packing up	Student is unpacking, downloading class material, organizing notes, finding a seat, or packing up and leaving classroom.
Unresponsive	Student is not responsive to lecture. Eyes are closed or not focused on instructor or lecture material. Student is slouched or sleeping, and student's facial expressions are unresponsive to instructor's cues.
Off-task	Student is working on homework or studying for another course, playing with phone, listening to music, or reading non-class-related material.
Disengaged computer use	Student is surfing web, playing game, chatting online, checking e-mail.
Disengaged student interaction	Student discussion does not relate to class material.
Distracted by another student	Student is observing other student(s) and is distracted by an off-task conversation or by another student's computer or phone.

Table 1 and 2 from Lane & Harris, 2015