**Participant 10**

**Consent for Participation**

Participation in this study is voluntary. You are free to stop participating in the research at any time and may withdraw your consent at any time. You are not obligated to submit the survey, and you may skip any questions in the survey you want. There are no foreseen risks or benefits to you as a participant. We will not identify you by name in any reports using information obtained in the survey, and your confidentiality as a participant in this study will remain secure.

**Contact Information**

If you have any questions about the survey or this research project, you may contact me ([elijah.meyer@montana.edu](mailto:elijah.meyer@montana.edu)), Jennifer Green ([jg@msu.edu](mailto:jg@msu.edu)), or Stacey Hancock ([stacey.hancock@montana.edu](mailto:stacey.hancock@montana.edu)). If you have additional questions about the rights of human subjects, you may contact the Chair of the Institutional Review Board, Mark Quinn ([mquinn@montana.edu](mailto:mquinn@montana.edu)).

**Study Description and Purpose**

The purpose of this research study is to develop an instrument to measure graduate student instructors’ (GSIs’) motivation to use active learning teaching techniques. The instrument’s target population is GSIs who teach an introductory statistics course or a recitation section.

Within the context of this study, we are currently defining active learning and motivation in the following way:

Active learning refers to “classroom practices that engage students in activities, such as reading, writing, discussion, or problem solving, that promote higher-order thinking” (CBMS, 2016, 1).

Motivation is a multi-dimensional construct characterizing why individuals choose to use (or not use) active learning teaching techniques. Motivation is the “why” of behavior (Deci & Ryan, 1985).

There are many different types of active learning techniques GSIs may use when teaching introductory statistics. The purpose of this survey is to gather experts’ opinions about which active learning techniques are most valuable to include on an instrument measuring GSIs’ motivation. Your opinions will help us identify which techniques to address when creating research instrument items.

**Survey Questions**

1. At your institution, what are the teaching roles and responsibilities of graduate student instructors (GSIs) who teach statistics? Please also state whether GSIs at your institution are sole instructors of any statistics courses and, if so, which ones. If you do not have GSIs at your institution, please type, “We do not have GSIs at our institution.”

GSIs in the Department of Statistics at the University of Michigan teach labs for courses. Our GSIs are part of a union, so there is a contract that dictates what they do over the term. We also have graduate student mentors (GSMs) and administrative GSIs. GSMs serve as mentors for new GSIs. Those GSMs associated with our large intro stats course also take on leadership roles for the course. Administrative GSIs handle things like making sure things are updated within our LMS (Canvas), including transferring grades from our homework tool to Canvas.

I can add that GSIs at Ohio State (where I was prior to Michigan) were able to serve as sole instructors. In this role, GSIs had the opportunity to teach several courses in the department.

1. Based on the GAISE Guidelines and other literature on active learning in statistics classrooms, we have selected four activities for you to review. These are:

**Group work** – Method of instruction that gets students to work together in groups of two or more. Group work involves strategies that allow students to communicate with peers, share their ideas, and think critically about the topic(s). This may include think-pair-share, group presentations, or other small group work activities that have the characteristics described above.

**Technology** – Technological tools that assist in the communication, development, and exchange of knowledge. Using technology is about designing a lesson that allows students to acquire information through discovering material for themselves. This may include having students work with Tableau, CODAP, R, etc. to discover information. This does not include passive technology, such as displaying a power point.

**Real data** – Data that is not fake or simulated. Using real data may include preparing real world data to integrate into a lesson that focuses on the data’s context and purpose or collecting data. Collecting data may involve the administration of an in-class survey or an out-of-class survey to obtain information from students.

**Large-group discussions** – Conversation about the topic(s) at the class level. Large-group discussions are designed to help students think about and express their ideas with others in the class. During discussion, instructors prepare open-ended questions and move the discussion forward by having students elaborate on their thinking through providing explanations, evidence, or clarifications, and inviting others to react and respond by providing similar and/or alternative viewpoints.

* 1. These definitions will be provided to GSIs when filling out the research instrument. Please review these definitions and answer the following questions:
     + Do you agree with each definition? If not, please explain.
     + Do you find these definitions specific enough to clearly describe these activities to a general graduate student teaching audience? If not, please explain.

Group work—definition seems fine to me.

Technology—since you’re including Tableau, CODAP, and R, I feel like there should be something that refers to performing data analysis as well. I would also list R before CODAP (had to look up CODAP). Since we’re currently doing remote learning, do you want to address Zoom in some way (either as a technology that is or is not included in your definition)? The reason I mention Zoom is that it is clearly being used in the communication, development, and exchange of knowledge, but I don’t think it’s what you’re thinking of as technology.

Real data—see my edits above. Also, you might want to clarify what you mean by “preparing real world data”—does this include curation, cleaning, something else? It might also help to clarify if real data needs to come from studies or be compelling in some way (thinking about the examples of tips and midterm scores on page 61 of the 2016 GAISE report).

Large-group discussions—definition seems fine to me.

* 1. If applicable, please use the space below to refine the definitions and address any concerns you noticed. See above

1. Please list any other active learning techniques that you would like us to consider having on the research instrument we are developing. Please include a working definition and description of each active learning teaching technique you list.

Clickers and/or other polling software

Backchannel as is used in HyFlex classrooms (feel free to ask me more about HyFlex)

Using something like Jamboard (<https://edu.google.com/products/jamboard/>)

Jigsaws (e.g., https://www.jigsaw.org/)

1. Please rank the following active learning techniques (including your own listings) in order of which techniques you would like to be included on an instrument measuring GSIs’ motivation to engage in active learning techniques. Assign a value of 1 to the active learning technique in which you have the largest interest, then continue numbering in order of preference until you have reached the total number of active learning techniques.

When I think about ranking these active learning techniques, I feel the need to separate out technology and real data. To me, both of these are essential and are separate from the active learning techniques. As such, I have not included them in the following ranking.

1. clickers and/or other polling software

2. group work

3. jigsaws

4. large-group discussion

5. something like Jamboard

6. backchannel (if appropriate)

1. Would you be willing to serve as an expert reviewer of drafted instrument items? As an expert reviewer, you would be asked to assess the validity of the items in relation to the chosen active learning techniques, as well as identify potential concerns or issues with each item’s wording. We expect to complete a draft of these items during the Spring 2020 semester. If willing, you will be sent an email with more information about the items and the review process at a later date. Thank you for your support in advancing this research.

Yes—happy to help

1. (Optional) If willing, please list the names and contact information of others you recommend contacting to complete this survey and/or review a draft of research instrument items.

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