**Participant 14**

**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.”

*We have multiple “flavors” of introductory statistics. For example, there is an introductory statistics (101) for any students, one for business students, one for math/stat students, and more. One commonality is that each course has a lecture with an associated lab period. Labs are typically used as cooperative learning activities or a time students learn how to use software (JMP). The roles of GSIs are different for each. Here are some roles we have:*

1. *GSI teaches a lab that is associated with a course. The lab activities are provided to them by a faculty member and they just carry out the activities. They also grade anything students hand in.*
2. *GSI teaches a lecture. They are given the freedom to teach how they want, but are given examples that they can build on if they want. They are required to teach a set of topics defined by faculty members. They are the sole instructor of that lecture.*
3. *GSI teaches a lecture with the paired lab. They are required to cover the examples given to them by a faculty member in lecture and lab. They are the sole instructor of the lecture and lab.*
4. 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 collecting data from students during class or preparing real world data to integrate into a lesson that focuses on the data’s context and purpose. 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.

*For these “activities,” are their definitions supposed to be specific to how they would be applied to active learning? I would define these terms differently if they were not specific to active learning. Maybe it would be better to give a generic definition and then say what aspects are your focus. For example:*

***Technology*** *– Technological tools that assist in the analysis of data, communication, development, and exchange of knowledge. When using active learning, 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.*

*On another note, I would not say these are “activities.”*

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

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.   
   ***Discovery*** *– Learning a new statistical topic by self-discovery either individually or in a group. Rather than presenting a topic and defining a statistical technique, students are guided through an activity where they discover the technique. For example, rather than defining a p-value, students are led through a simulation of a null hypothesis and find the probability of observing a statistic as or more extreme in the simulation. Students learn what a p-value is from the simulation rather than direct instruction.*
2. 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.

***1 - Discovery***

***2 - Group work***

***3 - Real data***

***4 - Technology***

***5 - Large-group discussions***

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.*

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.