Client 24-107

Meeting time: 10/22, Tuesday, 10:30 AM

Current stage: Design (Data is being collected)

Expected completion date: 10/31/2024

Goal: Journal Publication

Supported by a grant or contract: No

**Background:**

The client is a faculty member in the Arts + Design department. They are conducting a follow-up study to assess a classroom design using feedback obtained from interviews, observations, and a survey. The specific tools were utilized in a previous study to develop the prototype classroom (comparing interactions and perceptions of the same subjects in two unique spaces). The client’s goal is to assess the prototype design intent by comparing perceptions and behavior in the prototype classroom to the original rooms. The original design variables from the original study included: ease of movement, single presentation location, ease of eye contact between students & instructors and students to other students. The change with the prototype classroom was to explore the support of short lectures and collaborative group work.

Design:

The study design utilized a mixed-methods approach (Interviews, Observations, Survey) to triangulate qualitative data.

There are two built rooms with the same layout; Client collected data from both rooms.

Variables:

* Tools (all used in previous study)
* Interviews (Qualitative): Transcribed and coded
* Timed Observations: Timed instrument to record frequency and duration of activities + "engagement" defined as % of students making eye contact with instructor, presentation, peers, or paper/computer as appropriate to the activity.
* Behavioral Mapping (Qualitative): Marked location of instructor at each timed interval.
* Student Survey (Quantitative/Qualitative): 5-point Likert + open ended response, coded

The survey design was developed in the previous study by client’s collaborator who also completed the statistical analysis in that study.

Survey Description:

* Already got IRB approval.
* 4 questions total. The first 2 ask what room the student is taking the exam in, and what kind of class they are taking (Science, Math, Technology, History, etc).
* The Likert Scale question is about how the student enjoyed the class experience, the various interaction-based activities (Group work, instructor interaction, etc). And how they enjoyed taking the class in that specific room.
* The open-ended question is about what changes the students would make to the space to improve their learning experience.

Previous Study Notes:

Previous study compared student perceptions in 2 rooms (n=296)

The same students experienced both rooms: (Findings resulted in a prototype design similar to the rooms targeted in this study)

* Due to study limitations that weren’t present in the previous study, the survey (same questions only with room name changes, administered at the end of the semester) only recorded 103 responses for the built rooms.
* Student responses were random: self-selected by QR code on flyers left in the rooms. (Not necessarily the same classes observed)
* The client has the original data from the previous study that they would like to compare to the rooms built.

**Research questions from client:**

How do student perceptions of engagement in the built prototype compare to perceptions of engagement in the two unique rooms of previous study?

**Statistical issues**

* The client wants to discuss the comparison of two unequal data sets: (296 & 103). They want to explore using the t-test.
* They want to collect additional survey responses if this strengthens the analysis.
* For future studies, they would also like to discuss whether or not the timed observation instrument could be tooled for statistical analysis (The concern is the number of observations/locations that would be required to make it meaningful)

**Discussion points:**

* The dataset from the previous study wasn’t attached. It needs to be attached.
* How does the client measure engagement from her survey itself. The only questions were the Likert scale question and the open ended one.
* What does the client want to see for the result? Is it that the design of the prototype classroom will perform a lot better than the original?
* Is she collecting the data from the classes at the same time, or over a period of time?