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APPLICATION FOR STATISTICAL CONSULTING

LAST NAME: Young FIRST NAME: Barbara

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YOUR PRIMARY POSITION AT PURDUE: Faculty

Other:

(if a student) MAJOR PROFESSOR LAST NAME: FIRST NAME:

PHONE NUMBER:

MAJOR PROFESSOR CAMPUS ADDRESS (BLDG & DEPT): /

MAJOR PROFESSOR EMAIL:

HOW DID YOU FIND US: Department of Statistics website

LIST STATISTICS COURSES TAKEN AND STATISTICAL COMPUTING EXPERIENCE: N/A

STAGE OF RESEARCH: Presently collecting data

IF DESIGN STAGE IS COMPLETE, WAS A STATISTICIAN CONSULTED FOR DESIGN? No

PREVIOUS CONSULTANT – INSTITUTION/DEPARTMENT:

ESTIMATED NUMBER OF CONSULTING HOURS NEEDED THIS SEMESTER: <5 hours

EXPECTED COMPLETION DATE OF PROJECT: 10/31/2024

IMPORTANT DEADLINE OR DUE DATES RELATED TO YOUR PROJECT:

THE RESULTS OF THIS RESEARCH WILL PROBABLY BE PUBLISHED AS:

Journal Article

IS THIS RESEARCH SUPPORTED BY A GRANT OR CONTRACT? No

If so, give grant/contract title:

GIVE A BRIEF DESCRIPTION OF YOUR RESEARCH INCLUDING:

PURPOSE:

This is a follow-up study to assess a built classroom prototype using a mixed method research design (interviews, observations, and a survey). The specific tools were utilized in a previous study to develop the prototype (comparing interactions and perceptions of the same subjects in two unique spaces).

The goal of this study is to asses the prototype design intent by comparing perceptions and behavior in the prototype to the original rooms. Design intent determined from the original study included: ease of movement, single presentation location, ease of eye contact between students & instructors and students to other students. Overall, the prototype sought to support short lectures and collaborative group work.

DESCRIPTION OF VARIABLES TO BE MEASURED:

The study design utilized a mixed-methods approach to triangulate qualitative data.

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

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 to 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 a collaborator who also completed the statistical analysis in that study.

RESEARCH QUESTIONS THAT YOU WANT TO ADDRESS USING STATISTICAL METHODS:

Research question I am interested in assistance with:

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

Student Survey

6 questions about engagement on a 5-point Likert Scale

Administered at the end of the semester

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 not 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)

I have the original data from the previous study that I would like to compare to the built rooms.

STATISTICAL ISSUES:

I want to discuss the comparison of two unequal data sets: (296 & 103). I am assuming a Welch's t-test.

I am open to attempting to collect additional survey responses if you suggest the analysis would be strengthened.

For future studies, I would also like to discuss whether or not the timed observation instrument could be tooled for statistical analysis (my biggest concern is the number of observations/locations that would be required to make it meaningful)

ADDITIONAL INFORMATION YOU THINK WOULD BE HELPFUL:

ATTACHMENTS:

Attachment in Clients Folder