# Engaging Environment for Excellence

## Herbert Wertheim School of Public Health and Human Longevity Science

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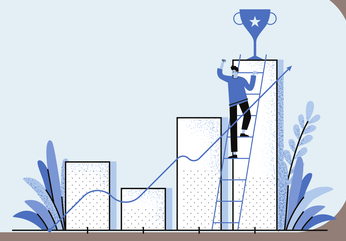

## INTRODUCTION

- Spatial attributes including room layout and furniture heavily influenced 32.5% of students' perceptions and ability to focus in the classroom[1,2]
- Students have less pain, greater comfort, and better posture when furniture suits the learning experience and is adjusted to their anthropometry[3]
- There is increased engagement from students whose classroom design promoted flexibility and openness[4]
- It is in the best interest of a college to invest in ergonomic products as ergonomics can be overlooked[5]

## OBJECTIVE

To examine the relationship between **ergonomic features** of different **classroom environments** at UCSD and the extent to which they affect **student engagement** in class.

## METHODS

**SAMPLE** Cross-sectional study using Qualtrics taken by undergraduate UCSD students. Participants were recruited by email, social media, and flyers around campus (**n = 124**)

**EXPOSURE** Ergonomic variables measuring importance levels of **temperature, seat support, seat arrangement, desk size, visibility, audio clarity and outlet accessibility** and classroom configuration experiences

**OUTCOME** Student engagement was assessed though participation in **active-listening, note-taking, following lecture-slides, raising hand/asking questions, group discussion/peer interaction** and perceptions of classroom configurations supporting engagement activities

**ANALYSIS** **Descriptive Statistics and Chi Square Test of Independence** using Microsoft Excel
- Class configurations (1,2,3,4) assessed with Student Engagement Activity Participation (Participation in Any Engagement Activities vs No Participation in Engagement Activities)

## RESULTS

### Chi Square Test on All Classroom Configurations and Engagement Activities

There is a **significant association** between Classroom Configuration and Participation in Engagement Activities.

### Figure 1. Chi Square P-Values Between Individual Classrooms and Engagement Activities

**Class 3: Biomedical Sciences Building** — Fixed Table and Mobile Seating — **p-value < 0.05**

**Class 4: Tata Hall** — Mobile Table and Mobile Seating — **p-value > 0.05**

**Class 2: Faustina Solis Hall** — Mobile Desk and Mobile Seating — **p-value < 0.05**

**Class 1: Warren Lecture Hall** — Fixed Desk and Fixed Seating — **p-value < 0.05**

### Figure 2. Ergonomic Features and Engagement Activities by Classroom Configuration


## POLICY IMPLICATIONS

**INVESTMENT IN STUDENT LEARNING NEEDS:**

- Design Classroom Environments accounting for ergonomic features of Desk size, Seat support, & Seat Arrangement to support student engagement in active-listening, note-taking, and following lecture-slides
  - e.g. implementing a fixed table with mobile seating
- Design Classroom Environments promoting more student engagement in raising their hand/asking questions, and group discussion/peer interaction
  - e.g. implementing adaptable spaces with mobile table and seating

## CONCLUSION

- Biomedical Sciences Building **ranked highest** overall in supporting ergonomic features and student engagement
  - Top Three Ergonomic Features: **Desk Size, Seat Support, Seat Arrangement**
  - Top Three Engagement Activities: **Active-Listening, Note-Taking, Following Lecture Slides**
- Reject the null hypothesis and conclude there is a **significant association** between Classroom Configuration and Participation in Student Engagement Activities
- No statistical significance between individual Class 4 Configuration (Tata Hall) and Participation in Student Engagement Activities
- **Visibility** was ranked most important compared to ergonomic features of temperature, audio clarity, and outlet accessibility

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## REFERENCES