



# Building, Teaching & Learning in a Classroom of the Future:

## How Oregon Tech's Entrepreneurial Center Drives Innovation

April 13, 9:00 – 9:40 AM



# Building, Teaching & Learning in a Classroom of the Future: How Oregon Tech's Entrepreneurial Center Drives Innovation

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**How do educators prepare students to work in the innovative, dynamic, and evolving 21<sup>st</sup> century work environments when most of our classes are held in traditional front-facing classrooms designed for 20<sup>th</sup> century learning?**

## Session Objectives

1. **Explain** the design process and features that were used in creating the entrepreneurial center.
2. **Understand** how this center supports an innovative mindset and learning for students.
3. **Apply** active learning and design thinking practices when teaching in modern classroom.
4. **Design** an entrepreneurial learning space that supports innovation and prepares students for a modern workplace.

# Background | Pedagogy & Learning Spaces

## Background

# Pedagogy & Learning Spaces

## Active Learning Pedagogy

- Constructionist Theory – Build & Engage to Learn
- Student-to-Student, Instructor as the Guide
- Increased Student Learning Outcomes

## Active Learning Spaces

- Mobile Furniture to Support Active Learning
- Increase Student Learning Outcomes & Experiences

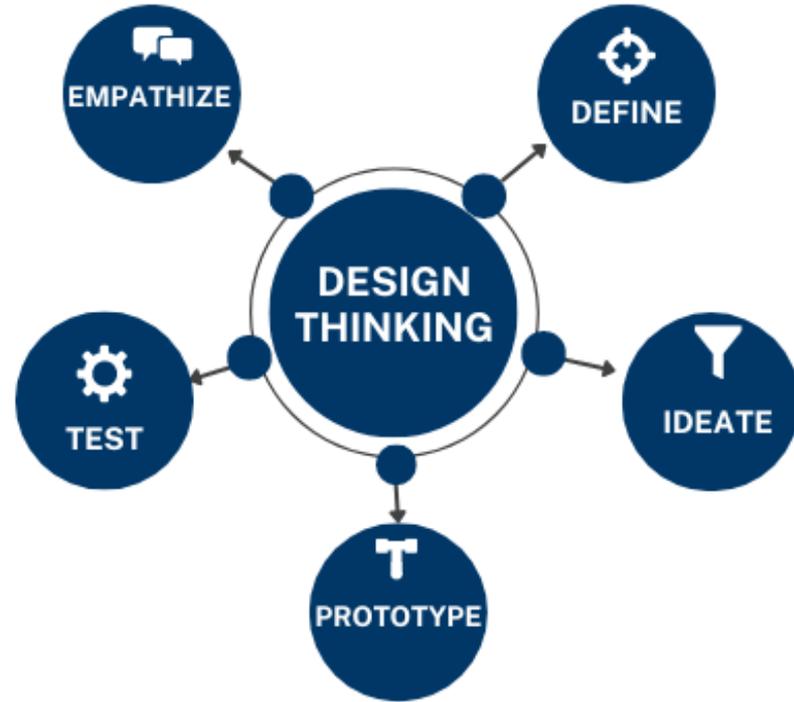


## Background

# Pedagogy & Learning Spaces

## Innovation Pedagogy

- Idea Generation, Prototyping, Feedback Loops
- i.e. Stanford's Design Thinking
- Increased Collaboration
- Employers are seeking these skills

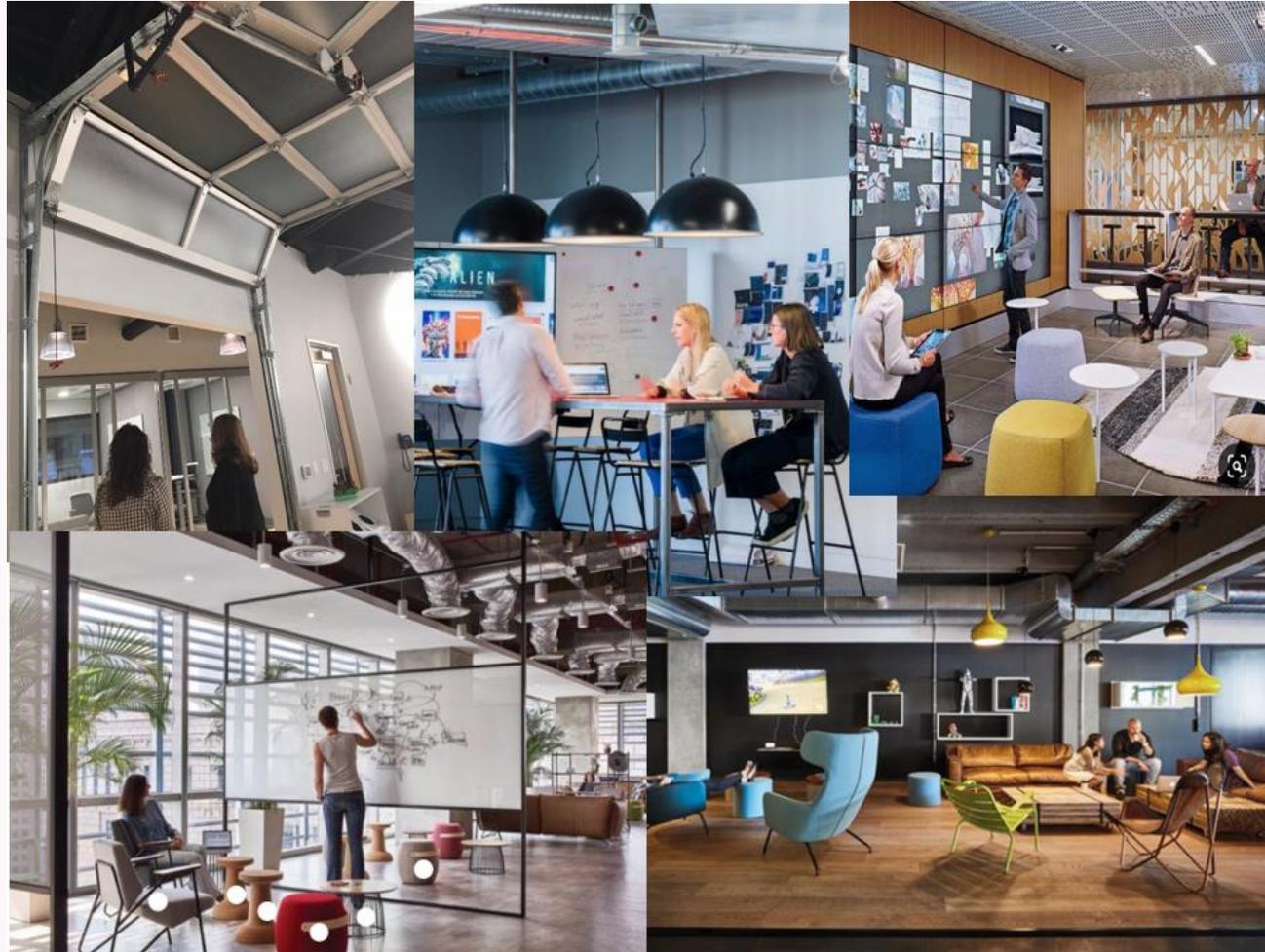


# Design | Designing & Building an Entrepreneurial Center

Design

# Inspiration

- Modern Offices Spaces
- Collaboration Spaces
- Stanford's D School



Design

## Inspiration

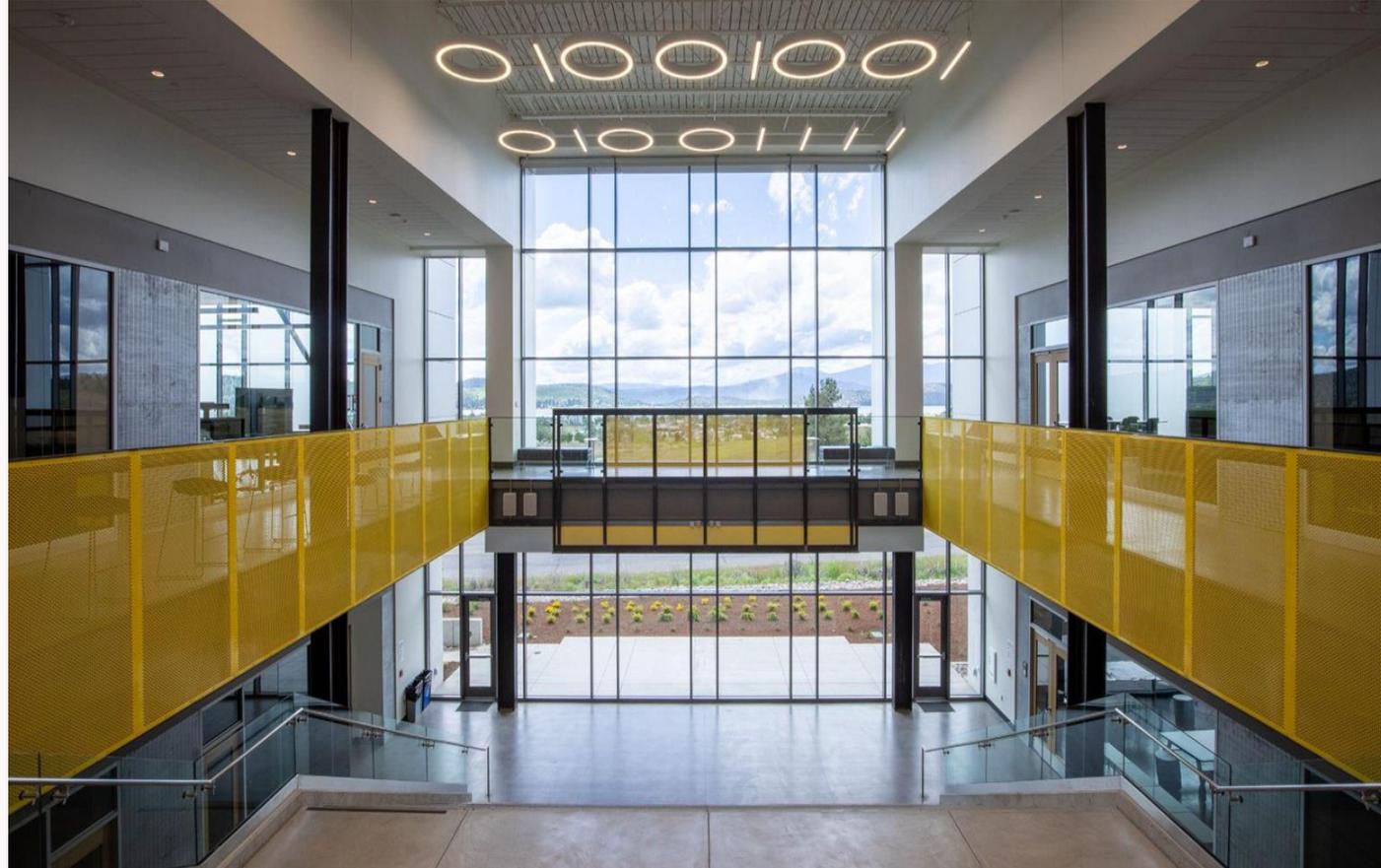
- Modern Offices Spaces
- Collaboration Spaces
- Stanford's D School



Design

## Funding

- Developed a Proposal
- Shared with Development & Leadership
- New Building = Top Priority



Design

# Design Principles



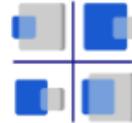
## Me + We

Equally support individual  
and team work



## Fixed to Fluid

Design for greater  
flexibility and mobility



## Open + Enclosed

More enclosed "me" and  
more open "we" spaces



## Braiding Digital + Physical

Enhance the human  
experience through technology

# Design



CARPET



**MOBILE LOUNGE**  
DESIGNTEX  
(GRADE 6)  
BILLIARD CLOTH  
NAVY



**TABLE TOPS**  
CLEAR OAK



**NODE WIRE (GRADE 7)  
SOFA (GRADE 11)**  
DESIGNTEX  
SILICONE ELEMENT  
NIGHTSPOT



**FLEX WALL, CART  
+ STANDS**  
MELE



**OTTOMAN + LOUNGE  
CHAIR**  
HBF TEXTILES (COM)  
AGAINST THE GRAIN  
LAUGH OUT LOUD



**NODE TRIPOD SHELL**  
LAGOON



**NODE WIRE BASE**  
HONEY



**NODE WIRE SHELL**  
MIDNIGHT (SOLAR BLACK)



**TABLE + NODE TRIPOD  
BASES**  
PLATINUM

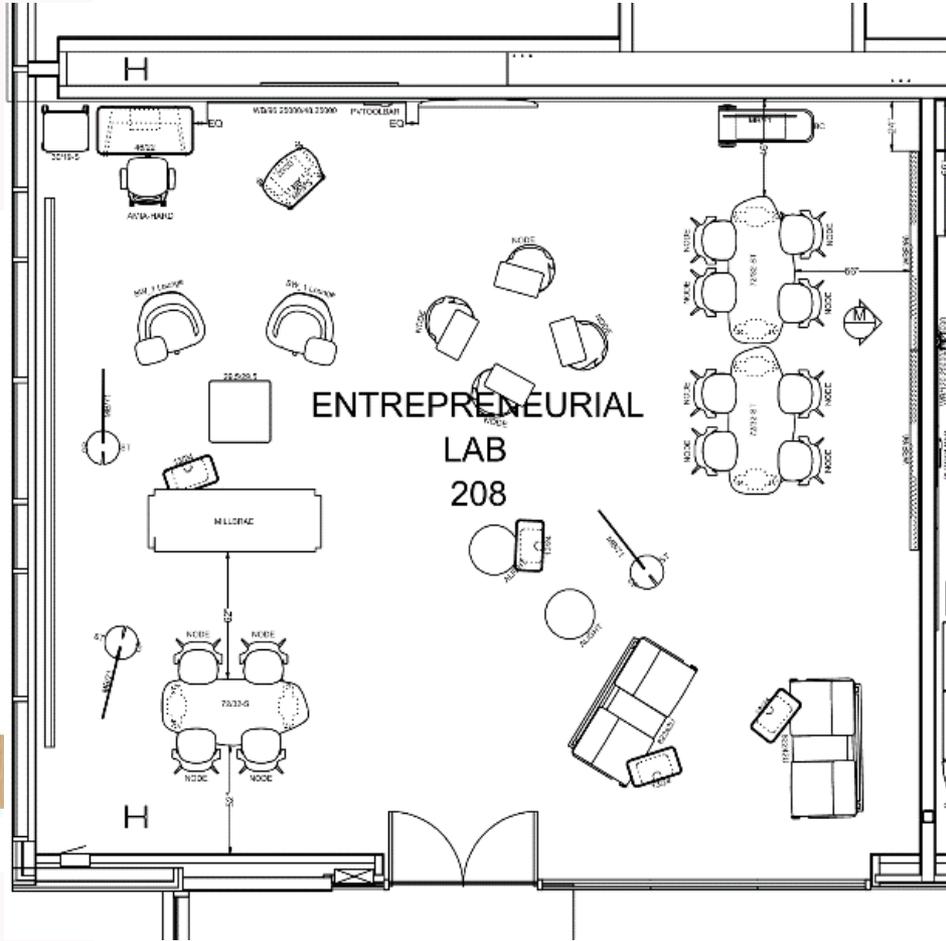


**BASE**  
LUSTER  
GREY

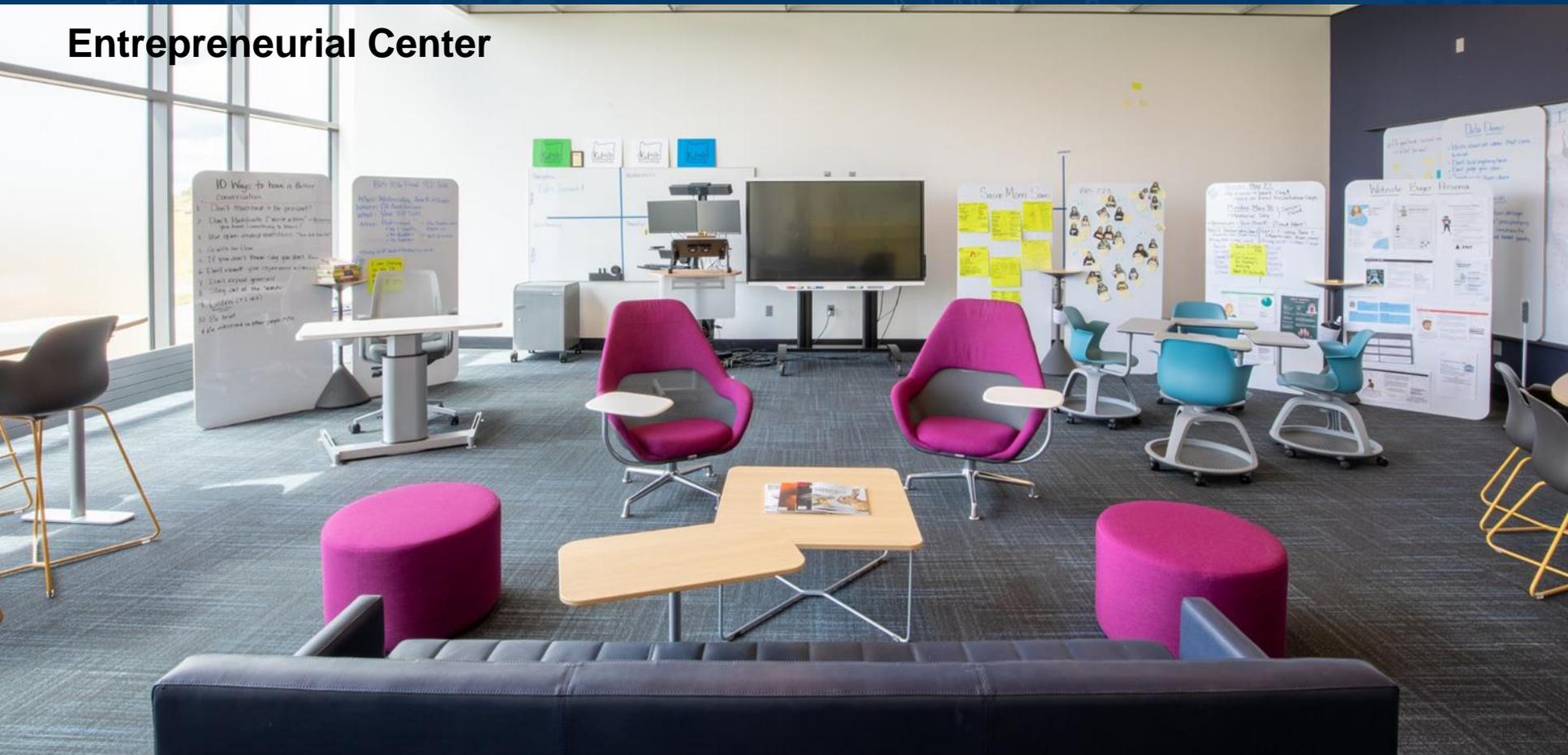


**TABLE  
LINEN**

**MOBILE LOUNGE**



# Entrepreneurial Center



# Entrepreneurial Center



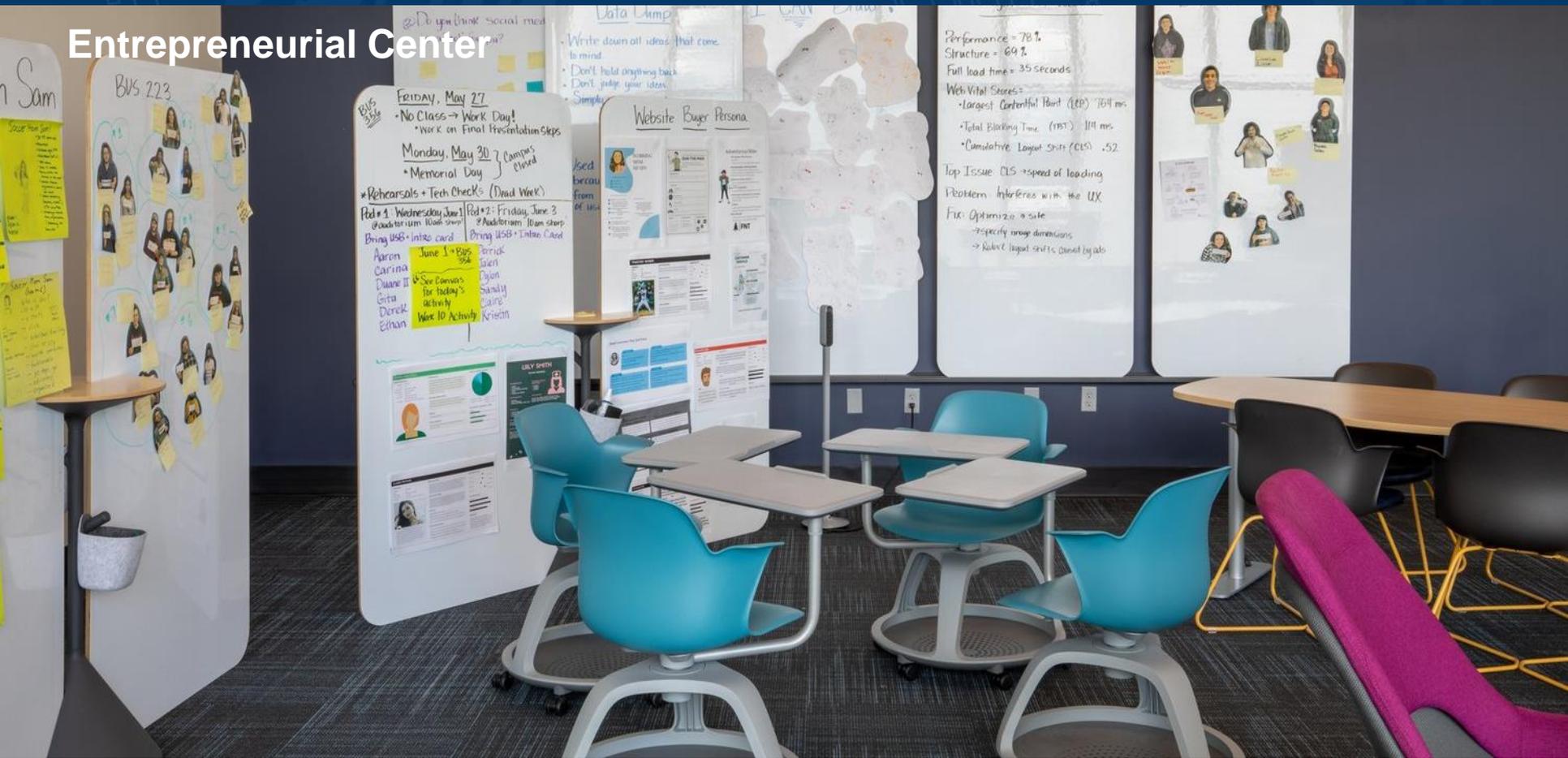
# Entrepreneurial Center



Green Tech Website  
Performance = 78%  
Structure = 69%  
Full load time = 35 seconds  
Web Vital Scores=  
• Largest Contentful Paint (LCP) 764 ms  
• Total Blocking Time (TBT) 114 ms  
• Cumulative Layout Shift (CLS) .52  
Top Issue CLS → speed of loading  
Problem - Interferes with the UX  
Fix: Optimize a site  
→ specify image dimensions  
→ reduce layout shifts caused by ads



# Entrepreneurial Center



# Entrepreneurial Center



# Entrepreneurial Center



# CEET Entry



# Research | Understanding How the Space Supports Innovation & Student Success

## Research Questions

- How do the classroom tools and features aid students in their learning?
- How does the classroom help to develop innovation skills?
- How does the classroom support student success (i.e. motivation and retention)?

## Research Methods

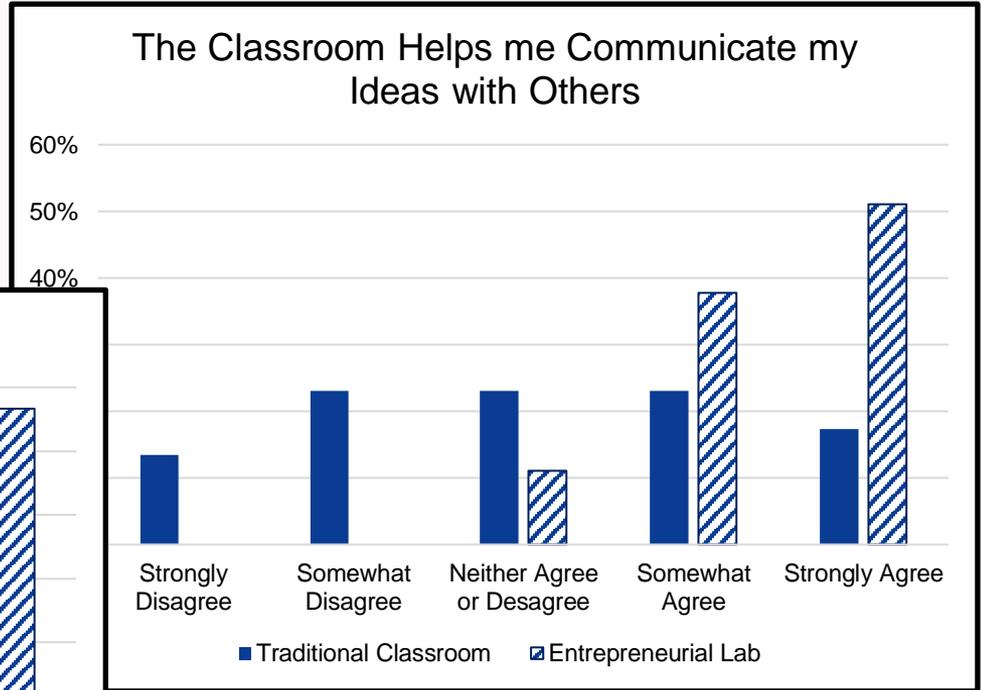
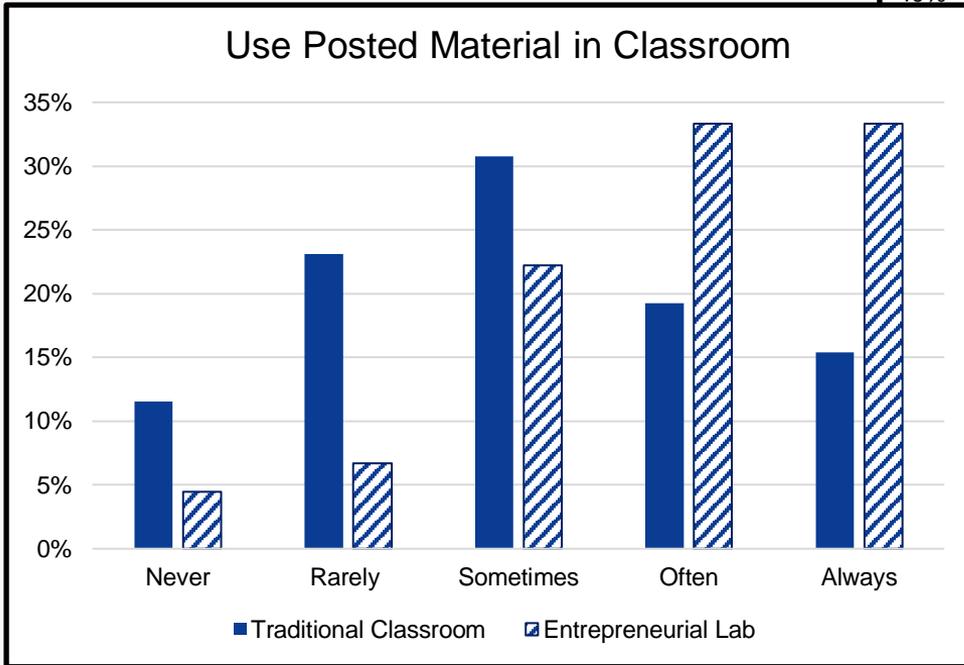
- Pre vs Post Survey
- Traditional vs Entrep Space Experience
- 22 Likert Questions & 2 text questions
- Fall 2022

### Demographics

- First-Year 26%
- Sophomore 7%
- Junior 46%
- Senior 14%
- Mix of Business, Technology, Communication & Engineering Majors

## Research

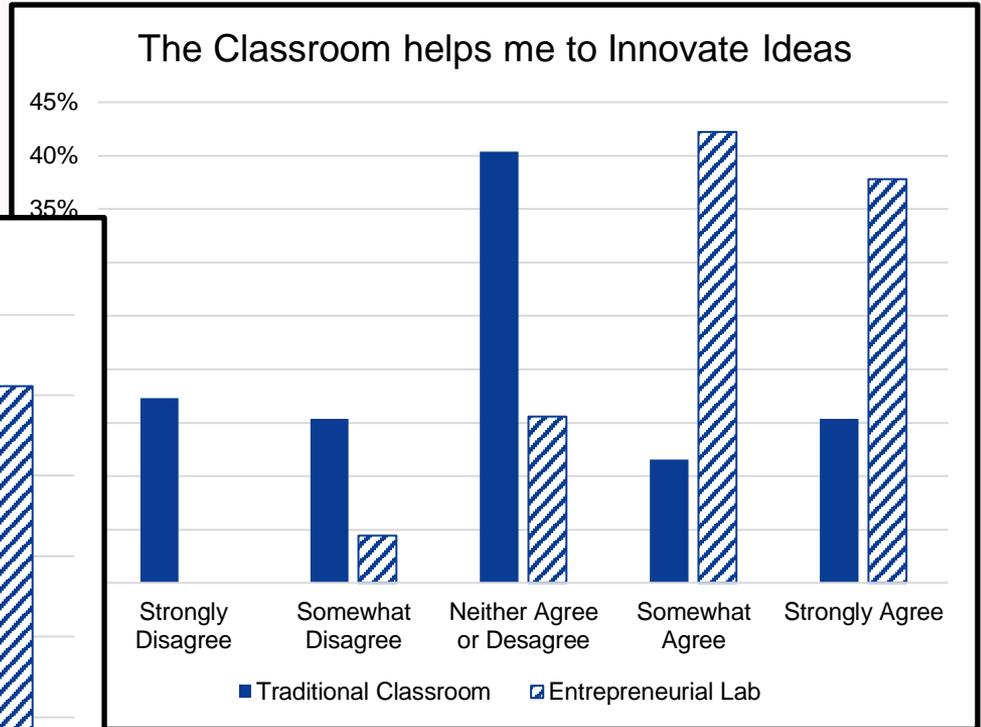
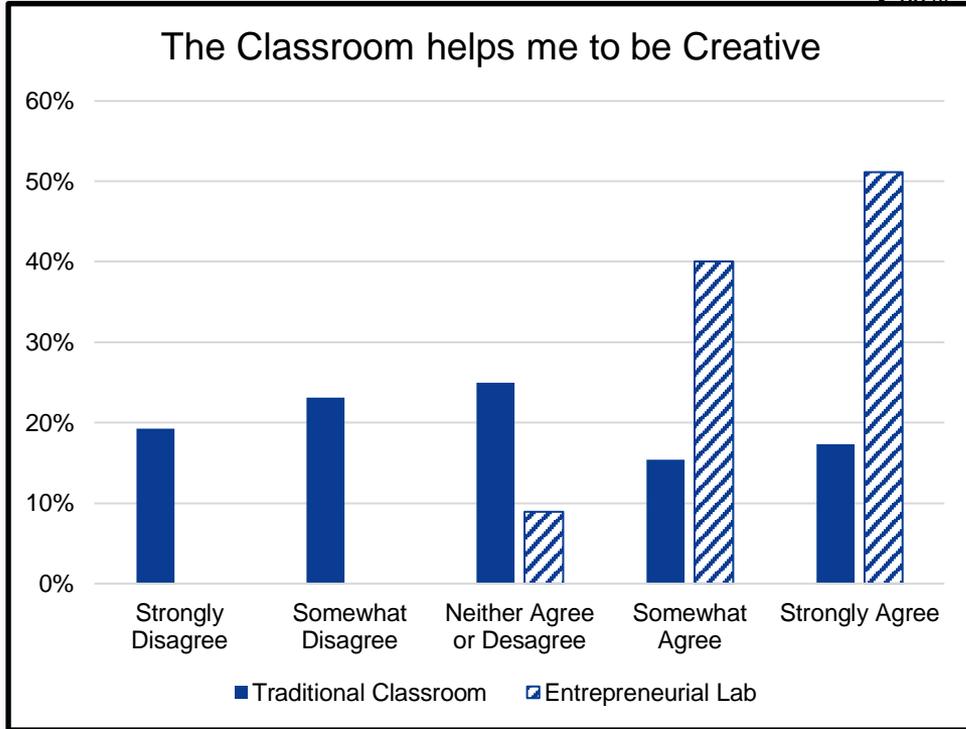
# How do the classroom tools and features aid students in their learning?



Increased use of writing surfaces to think through ideas.

## Research

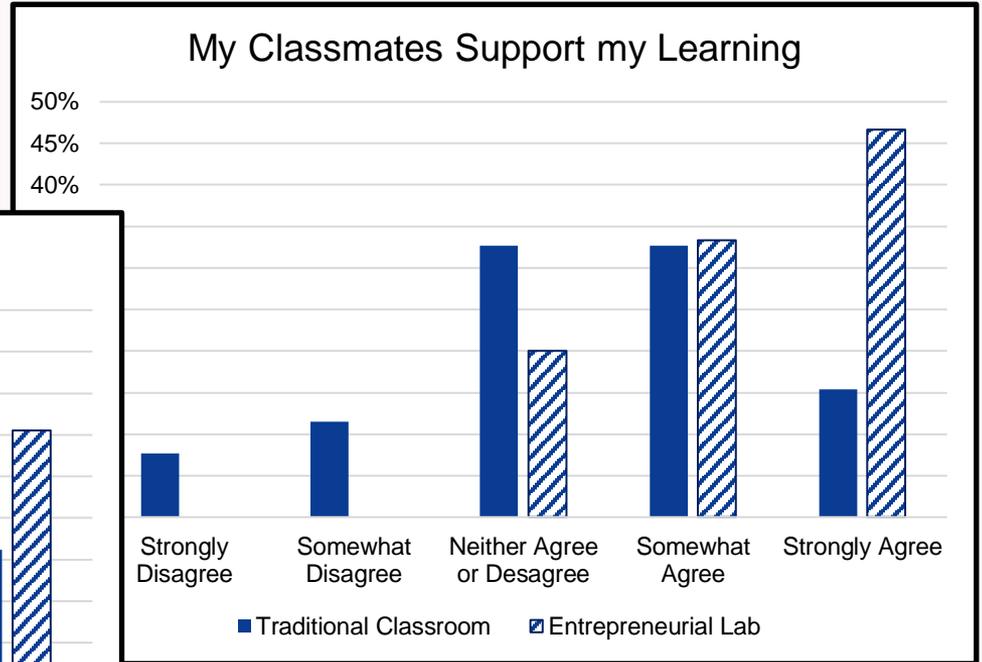
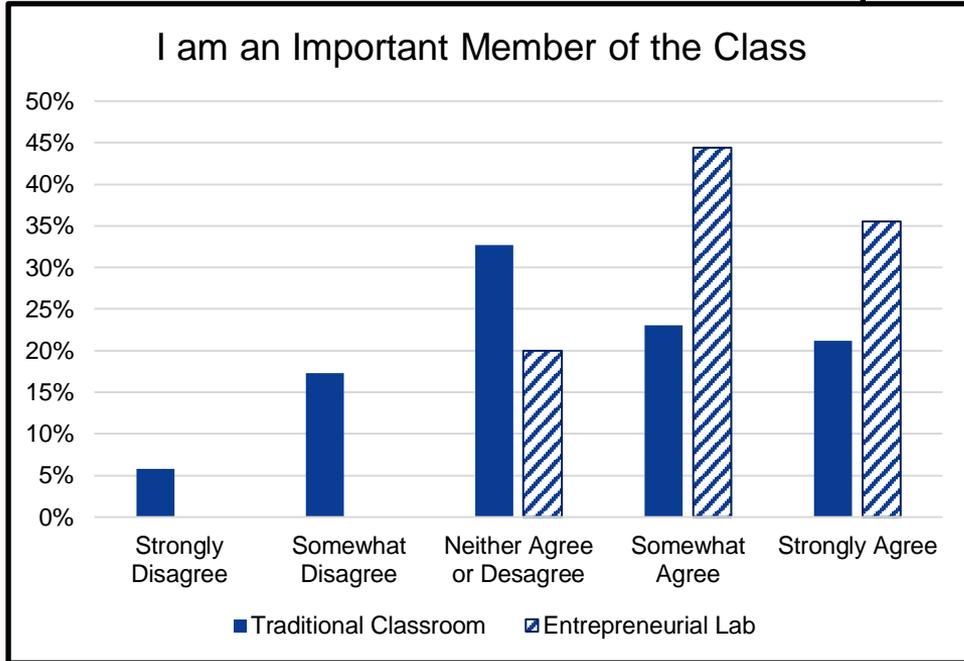
# How does the classroom help to develop innovation skills?



Increased risk-taking, collaboration, critical thinking

## Research

# How does the classroom support student success?



Increased level of motivation, making a friend, feeling confident to participate

## Impact of Space on Learning

Traditional Classroom Experience



Entrepreneurial Lab Experience



## Impact of Space on Creativity and Innovation

Traditional Classroom Experience



Entrepreneurial Lab Experience



## Instructors' Insights

### Embracing the Space

- No Time Needed to get used to Space
- Encouraged to try New Teaching Techniques

### Connections

- Natural Movement
- Immediate Student-to-Student Connections
- Easier Student-to-Faculty Connections

### Activities Observed

- Creativity & Iteration of Ideas
- Risk-Taking
- Managing Projects

**“The space is conducive for those who appreciate and celebrate the student-centric active learning environment.”**

## Key Discoveries | Research Outcomes

Discoveries

## Key-Discoveries

### Re-Envisioning the Classroom

- Even active learning classrooms look like classrooms
- Learning can be enhanced in a non-traditional space

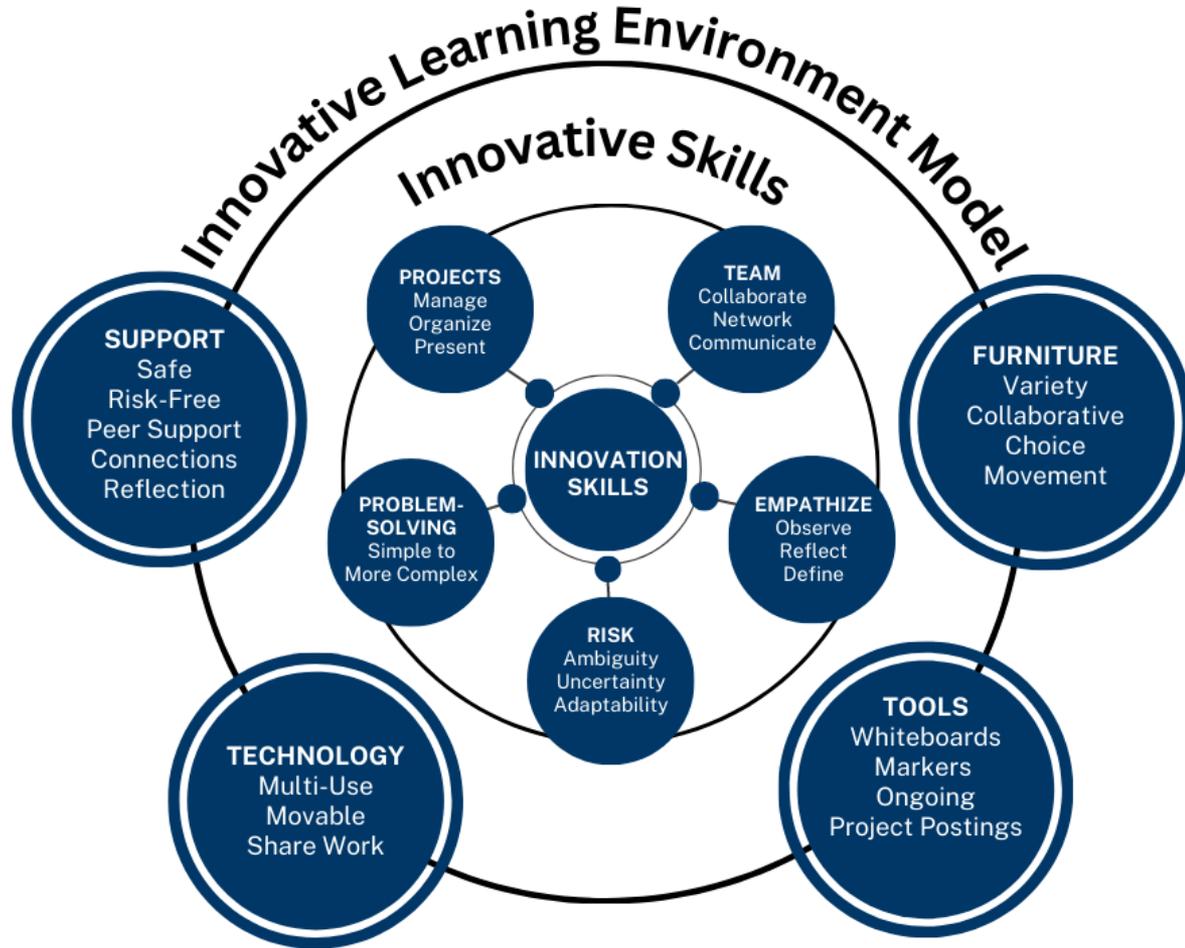
### Sense of Awe & Pro-Social Space

- Sense of being part of something greater than self

### Development of Innovation Skills

- Development of a framework to create a space to support innovation skill development







William A Olson, Jr. Entrepreneurial Lab, Oregon Tech

Vancouver Innovation, Technology & Arts School

Strascheg Center of Entrepreneurship, Germany

## Key Conclusions

Space Matters!!

Re-Thinking the Classroom?

Space Design to Support Connection  
& Innovation Skill Development  
to Prepare Students

## Next Steps

Deep Dive  
Innovation Learning Environment Model

Multiple Space Research:  
K-12, Higher Ed (US & Europe)  
Workspace

Grant Support

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# Want More Info About The Research Study & CEET Project?



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