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2021 CREATIVE SCHOLARSHIP AWARDS

Best in Category – Design as Art

Annie Coggan, Pratt Institute

Textile Technique as Muse: Interrogating Scale Shifts for the Interior Realm

Best in Category - Design as Idea

Cameron John, UNCG Department of Interior Architecture
Interior Speculation in Residence: Eden, Exodus, and Residual Traces

Best in Category – Design as Interior

Charles Sharpless, University of Arkansas and Jessica Colangelo, University of Arkansas

The Nicolett: French Cooking in the Texas Panhandle

Best Presentation - Member's Choice

Rana Abudayyeh, University of Tennessee Living Wall: Advancing the Role of Plants in the Interior Volume

2021 IDEC AWARDS OF EXCELLENCE

Best Presentation – Scholarship of Design Research

Dr. Leah Scolere, Colorado State University and Dr. Laura Malinin, Colorado State University

Virtual Interdisciplinary Collaboration: The Process of Creating an AR Application for Interior Design Experiences

Best Presentation – Scholarship of Teaching & Learning

Dr. Marlo Ransdell, Florida State University and Chasen Bloch, Florida State University

Long Distance Relationship: The Virtual Studio and the Remote Maker Space

Best Poster Presentation

Corrie Ostrander, Florida State University and Steven Webber, Florida State University Interior Design in State Mental Health Facilities: How Interior Design Elements Can Impact Patient Wellbeing

Best Graduate Student Presentation

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Scholarship of Design Research | Practice | Panel

A Panel Discussion on Interior Design Initiatives in the K-12 Public School System

Dr. Alana Pulay, Washington State University Susie Tibbitts, Utah State University Travis Wilson, Western Kentucky University Stephanie Clemons, Colorado State University

ABSTRACT

Students are rarely exposed to the field of interior design in the public K-12 school system (Clemons, 2006). Interior design differs from the architecture field which has developed programs and partnerships targeting the K-12 student sector. These programs aim to introduce the field of architecture to students at a young age while also teaching STEM concepts. The architecture profession benefits from this introduction at an early age to help clarify any misconceptions about the profession and recruit students into university architecture programs (AIA, 2017). This differs from the interior design field. While there are individual efforts to promote and expose students to interior design in the K-12 population, currently a standard program to deliver interior design content to these young individuals does not exist. Typically, interior design is taught in Family and Consumer Sciences (FCS) classes at the high school level in public schools (NASAFACS,2020). While there are national FCS standards, individual states determine their own curriculum. This is problematic because some states require interior design content while others do not. Of those states that do require the FCS curriculum to include interior design content, it is focused on residential design, leaving behind commercial design, which makes up 89% (BLS, 2018) of the design profession. Another issue with the lack of interior design presence in the K-12 public school system is that the industry is missing many students who would be a perfect fit for the profession merely because design is typically thought of as art rather than with the STEM fields. However, interior design projects naturally support STEM learning with project-based application, innovation, group work and utilizing technology. These

projects integrate STEM applications through ergonomics, sustainability, acoustics, thermal properties, estimating, and lighting calculations, just to name a few (Etheredge, et al., 2014). If interior design was introduced into the public K-12 school system as a STEM field when students were at a young age, other than high school as it currently is now, it would be an opportunity to attract diversity and first-generation students into the discipline by exposing them to the field early in their education. This helps prepare students both scholastically as well as financially to consider and be successful in this program of study at the higher education level (AIA, 2017). With numerous benefits to the profession, the K-12 education system has failed to introduce students to the interior design field. If it is, it's by FCS educators. The panel presentation aims to share individual research and collaborative initiatives to integrate interior design content into K-12 schools. This presentation panel consists of four professionals from four different universities and states. The following topics will be discussed in the presentation by each panel member with audience feedback. 1. Explain interior design K-12 initiatives across the four states and participants' connection with state K-12 FCS programs. 2. Discuss the development of a K-12 community inside of IDEC and how we can leverage the group to recruit first generation students and add diversity to the field. 3. Share the development of ID curriculum content that focuses on targeting curriculum to younger aged students in grades K-3, 4-6, 7-9, 10-12. 4. Generate ideas about available storage, usage, and dissemination of ID STEM curriculum content for use in the K-12 public schools. 5. Review ideas on partnerships with existing educational programs. 6. Finally, discuss how to expose younger students to the field.

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PECHA KUCHA

Pecha Kucha

A Tale of Two Courses Operating as One: Unexpected Opportunities in Remote Interior Design Internship Alternatives

Emily Smith, Virginia Commonwealth University Alexis Holcombe, Virginia Commonwealth University

ABSTRACT

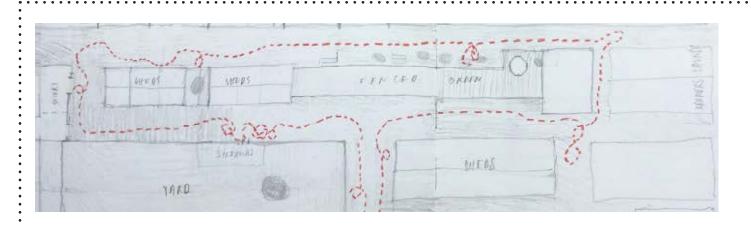
MOTIVATION Developing new coursework often involves a substantial investment in time, research and planning. Such was not the case in spring 2020. Amid the confusion and uncertainty of remote learning in late spring, it became apparent that many of our students would be unable to gain the summer internship experience that our BFA and MFA programs require. What was a reasonable alternative that responded to both student needs and degree requirements? With limited time to plan or test ideas, we developed a new course type that could be modified to address the needs of both BFA and MFA students. Our primary question, in developing this new course, was, "What are the core objectives of the design internship?" We came to the following answers: 1) to develop an understanding of the depth and breadth of professional practice; 2) to develop relationships with practicing designers; and 3) to build research skills essential in the pursuit of thesis work. ISSUE There were administrative obstacles and pedagogical drivers early in the coursework planning. A course summary was developed and submitted to the interior design department and college of the arts for approval of the courses as the university issued a mandate that all summer courses be remote only. Information sessions were held to gauge the interest of rising 2nd-year MFA students and 4th-year BFA students. The pedagogical drivers were equally challenging and being a new course type, we wanted to explore the opportunities (vs the limitations) of remote coursework. Featuring guest speakers (designers) each week was ambitious but knowing they could be based anywhere and access the course via Zoom alleviated some of the logistics that otherwise proved problematic. We scrambled to gather a list of

potential speakers and began reaching out to them by email and DM, requesting their participation. Some could not or did not respond, but many did, and with a few tentatively confirmed before the first scheduled session, we anxiously awaited to see whether students would enroll in time to begin on May 18, just seven days after we submitted final grades for the spring semester. METHOD The undergraduate course had a final enrollment of 16, four of whom had recently graduated but still required internship credit. The graduate course had an enrollment of 8. The courses ran concurrently - two classes per week, for 2 ½ hours each class. Each week, the classes overlapped for 1 hour for a guest speaker. A structured course calendar meant weekly, recurring deadlines and course events. These weekly deadlines involved lowstakes assignments to provide students with more opportunities to pause and reflect on their learning (Flowers Darby and James M. Lang, 2019). This helped students and faculty manage expectations and coordinate efforts more easily. Learning tools included charrettes, site investigations, research skills, guest speakers, design interventions, readings and student reflections. RESULTS, REFLECTIONS, CONCLUSIONS Follow up surveys were sent to all students and guest speakers in fall 2020 to aid in our reflection and evolution of the courses. The responses were insightful and helped to point out the ways in which different assignments and experiences were received. Observations from this phase of our work (reflections and conclusions) include the following: 1) consistency - having a summer course instructor who would continue to work with the students in the fall in a thesis seminar was valuable; 2) external events - the killing of George Floyd / urgent calls for racial justice all had a significant impact on student and faculty morale and focus; and 3) remote learning challenges - many students were working in homes with family members and roommates and still adjusting to these unique challenges.

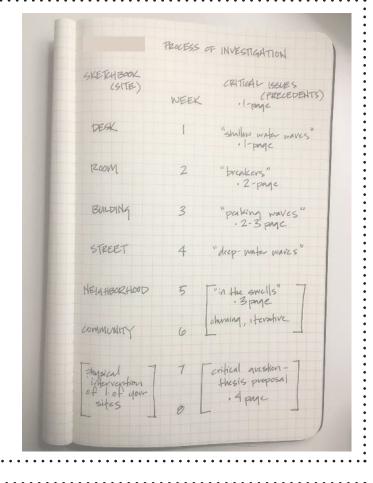
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sketchbook as a vehicle for site investigations and the development of drawing skills and personal process



expansion of sketchbook tools and media to support broader, deeper, more personal investigations a course scaffolding that used lowstakes recurring assignment types that evolved in complexity as the course progressed



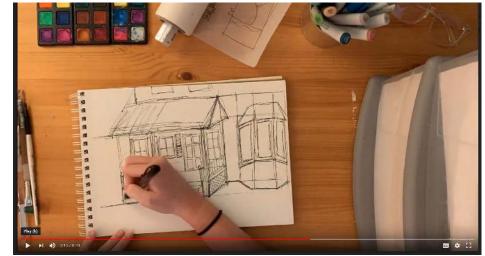
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use of parallel course structures to create opportunities for overlap and shared resources







use of video as a means of sharing individual process and developing skills that support remote team work

Pecha Kucha

All that Jazz: Teaching Diversity and Inclusion Through a Service-Learning Project During a Pandemic

Mia Kile, University of Oklahoma Rick Skaggs, University of Oklahoma Ron Frantz, University of Oklahoma

ABSTRACT

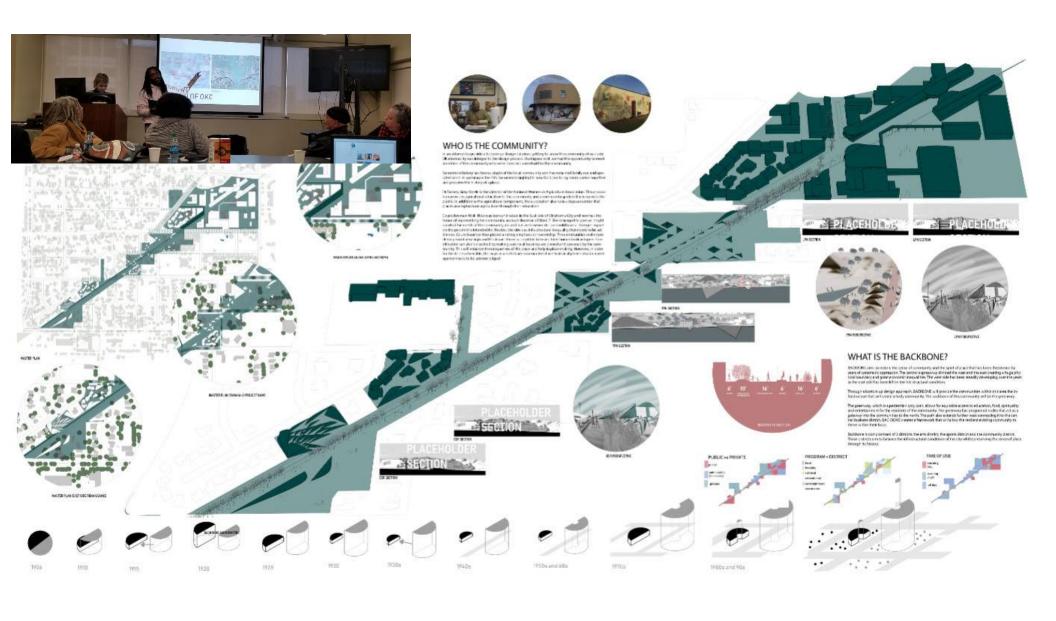
Diversity and inclusion are topics which is at the forefront of many discussions in the United States and globally. Teaching diversity and inclusion in an interior design program where the population is primarily Caucasian females is another challenge. Add to that challenge a major pandemic which closes school mid semester, this is the recipe which only a Pecha Kucha presentation could embrace. The National African American Jazz Legacy Museum was founded March 15, 2016 and is meant to serve as a resource to educate and inform the world about the origins of Jazz. The museum did not have a permanent home and was pursuing the purchase of a church that was constructed in 1939 and located in a residential neighborhood. As a request from the local community engagement officer, our class was presented with the opportunity to take on this project as a service-learning opportunity. Students were introduced to this city's rich history in jazz music producing more than forty-eight significant musicians who played with wellknown artists like Benny Goodman, Charlie Parker, Count Basie, Louis Armstrong, and others. The project explored human needs and activities as design determinants, design implications of spatial relationships, scale and function, advanced building codes, and design programming as they relate to educational and museum facilities. The initial project kickoff meeting brought members of the museum planning committee to campus to present the history of the museum and jazz and to discuss programming requirements for the new location. One requirement the design embrace community outreach bringing the history and education of jazz to this underserve part of the city. Through their research, discussions and client feedback, design teams of two

determined what some of the key features of a museum dedicated to this mission might include. A key feature conveyed by the client was the inclusion of a performance space within the building where local and visiting jazz artists could share their music with the community. It was also requested this space be flexible in order to accommodate banquets and other special fundraising events. On March 2, design teams presented their schematic design proposals to representatives of the planning committee for their review and input. This was the second time the teams were able to interact in person with the committee. March provided challenges which required students, faculty, and the client to think creatively in order to keep the momentum going with this project. The Corona Virus put a halt to face to face meetings. The transition to ZOOM meetings required everyone learn to communicate in an online platform. This was a learning curve for everyone, but though contemplative practices which centers on being present in the moment, the students were very responsive and stayed engaged (Christian, 2019). In this studio, theory became practice as the design project incorporated the ideas and concepts put forth from the disciplines of Physiology, Psychology, as well as Environmental Issues. Through hands-on investigation of the relationship of human needs, environment, and architectural design the students provided the community client with several design options to consider which were all well received. The overarching outcomes from this experiential learning project was the cultural awareness it provided the students. This presentation will highlight the progress and outcomes of a lively studio project.

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CLASSROOM FINISHES/FURNISHING









Acoustical Panel Upholstery















POSTERS

Creative Scholarship | Design as Art | Poster

Collaborative Corners: Embracing Our Interior Environements

Ashika Amarnath, University of Louisiana, Lafayette

ABSTRACT

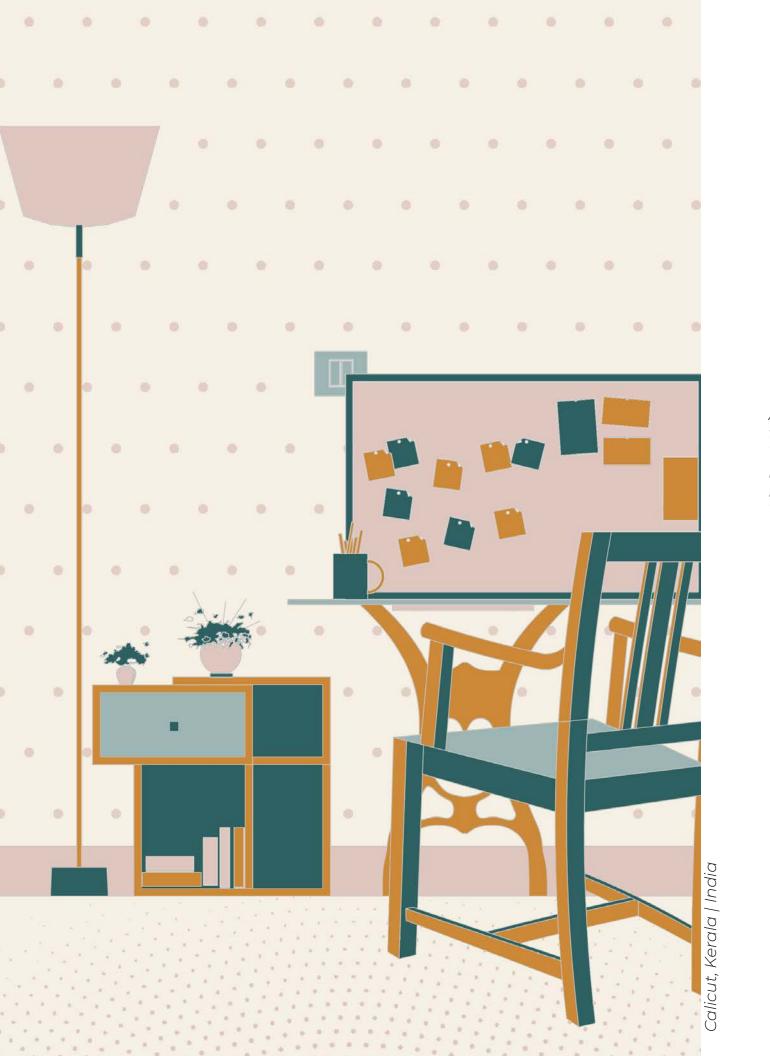
"Collaborative Corners" began as an Illustration pet project to embrace our new reality of staying indoors, and quickly grew into a larger, global outreach where one felt part of community that was now embracing their favorite corners. With the world now in tune with their homes, this was in a way bringing people together through social media, and to share their stories. It also showed the true power in how design & art are collaborative in nature, by bringing joy to those people who sent in their favorite corners to be illustrated. Conversations began about Materials & Memories, Plants & Personalities, Furniture & Friends! The ability to share stories, images and conversations across India, Singapore, United States & Europe - brought their worlds, one step closer to each other. It continues to bring joy to people, who want to embrace the small joy's in their home and share them with the world, through these illustrations.

Collaborative

Corners

Creative Scholarship Submission
D e s i g n
as Art

Interior Design Educators Council



A illustration project that spanned across countries like United States, Belgium, India, Dubai etc. To celebrate people and their favorite corners, at times like now when they have been so in tune with their environments. These illustrations speak their stories through objects.



Brooklyn, New York | United States

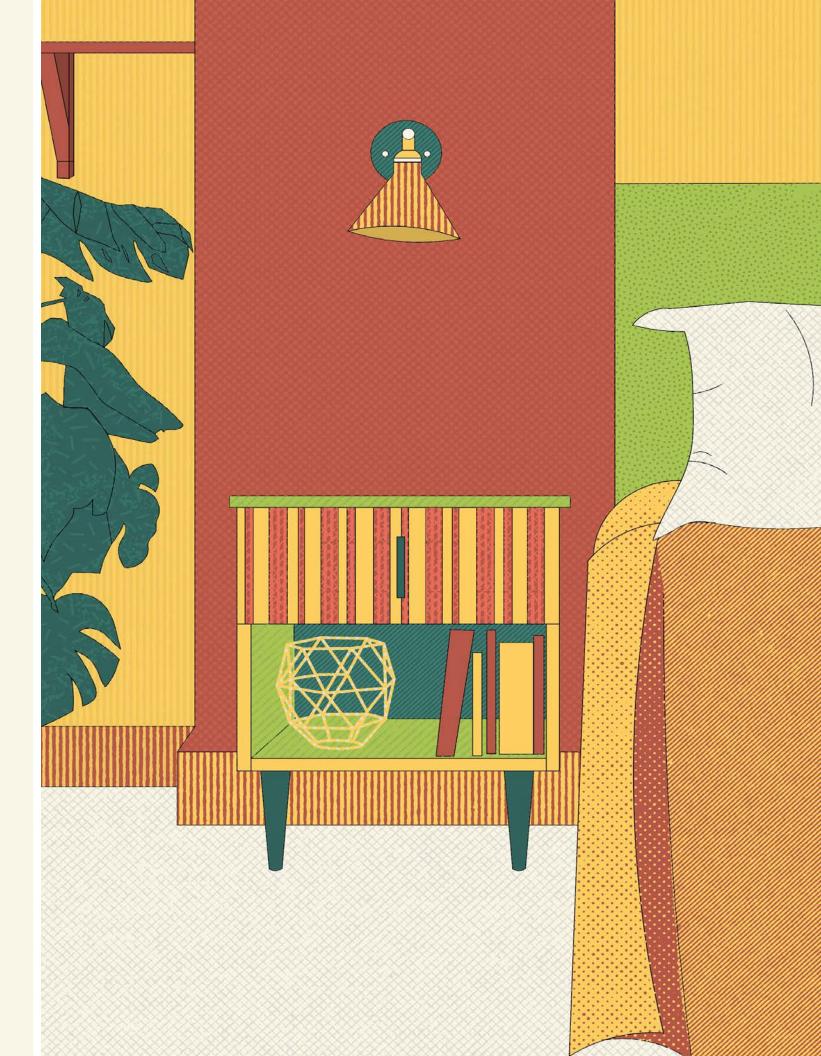
Collaborative Corners

"I noticed that people's favorite corners had a similar element that elevated the space - and it was their Plants!"

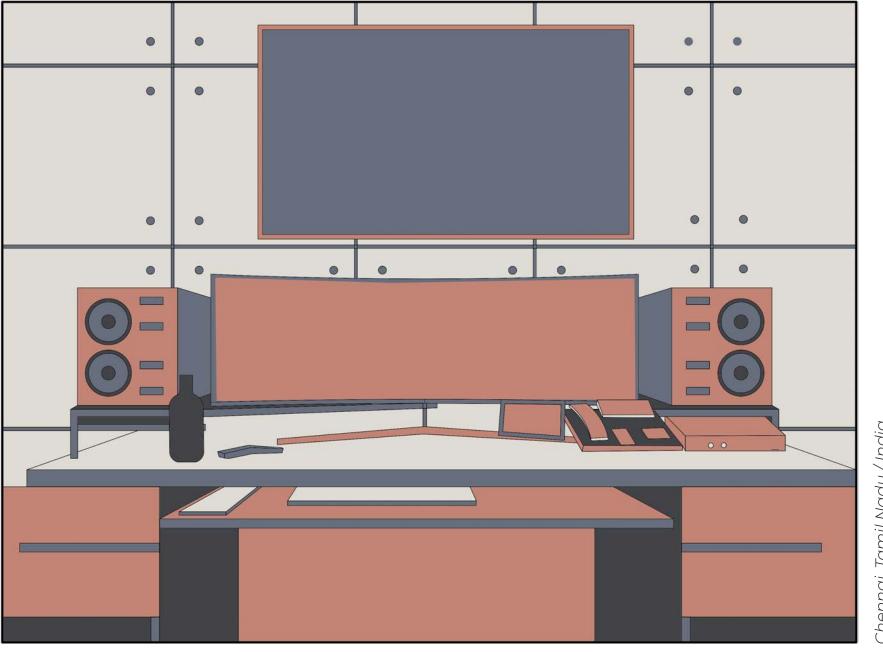


Collaborative Corners

"Don't let the fear of limited space keep you from buying more plants"



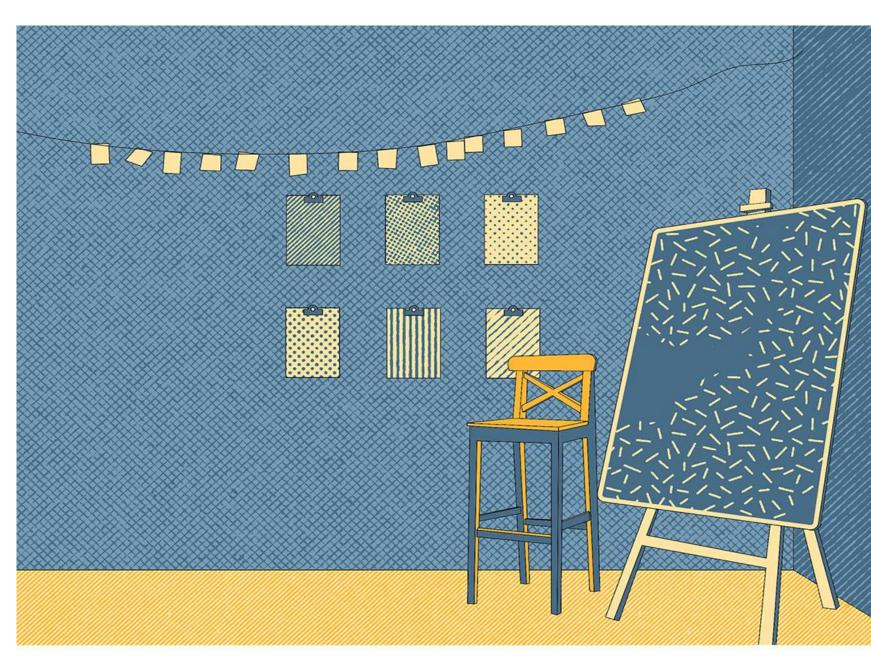




Chennai, Tamil Nadu / India







Kochi, Kerala / India

Built-Environment Complexity, Well-Being, and Place: Design Constructs of the Wellness Center ReGenesis

Tyler de la Plaine, Texas Tech University Amani Khan, Texas Tech University Debajyoti Pati, Texas Tech University

ABSTRACT

The studio project ReGenesis is motivated by the complexity of the built environment, environment behavior, well-being, and place; primarily, how the quality of place-based factors and placemaking would contribute to wellness. In this, the author considers the essence of place as a construct in the context of quality of life indicators indicative of well-being (Cresswell, 2004; see also Heidegger, 1971; Seamon, 2015). Envisioned are place-based theories and paradigms (often found in the urbanscape) applied to building-scaled spaces as lifestyle solutions to individually-scaled lives. Posited is that placemaking can make a space a place and that that place could offer, through affordance capability, healthy lifestyle choices. Human dis-ease has reached epidemic proportions in the United States, where, by one estimate, more than 20% of U.S. national health expenditures, more than \$190 billion, is spent treating obesity-related illnesses (Cawley & Meyerhoefer, 2012). Physical and mental health-related diseases, as comorbidity, are often systemic of individual choice (Hills, King, & Armstrong, 2007), with unhealthy nutrition, sedentary lifestyles, and pre-acute care at its core (Bettinghaus, 1986; see also Lakka, et al., 2003; Willett, et al., 2006). Recent literature suggests urban design and sprawl, as an automobile-centric paradigm, contribute to poor health (Lopez, 2004). Additionally, research indicates urban development as a contributor to non-communicable, lifestyle-related diseases; furthermore, that human-centered urban design might improve wellness (Jackson, 2003) were central themes to this wellness-centered design. Finally, with 84% of U.S. citizens living in urban/suburban areas (U.S. Cities Factsheet, 2019), there is an urgency for urban

environment determinants research and their offer to one's pursuit of a healthy lifestyle. Broadly, this author considers a capabilities approach that might offer physical life-choices constitutive of good health and well-being (Sen, 1991; see also Jasek-Rysdahl, 2001), specifically, a builtenvironment solution that offers a synergistic place-based approach (Bai, Nath, Capon, Hasan, & Jaron, 2012). Considered is a broad audience of interior designers, urban ecologists, environmental designers, urban developers, sociologists, public health officials, and municipal leaders keen on wellness-centric built-environments. The basis of this design was transforming a placeless 148,000 sq.ft vacant Sears building (Any Town Mall, USA) into a pre-acute care center so transcendent that its prototype and model might, through similar projects across the nation, reverse the obesity health epidemic. The author first considered a theoretical lens from which to view human choice and agency through a capabilities approach. Physical solutions were delivered as affordances to offer environmental discovery and phenomenological experience (Evernden, 1987; see also Gibson, 1979) rather than architectural form and function normative structures. Other constructs researched were environmental complexity, push-pull phenomenon, Sensory Targeted Experiential Design (STED), biophilic agriculture, aesthetic attraction, exploration, and enlightenment. What emerged from a placeless building is the ReGenesis Health and Wellness Center: an enlightened and vibrant place where informed discovery and experiential affordances offer ameliorative life-choices towards the pursuit of well-being.

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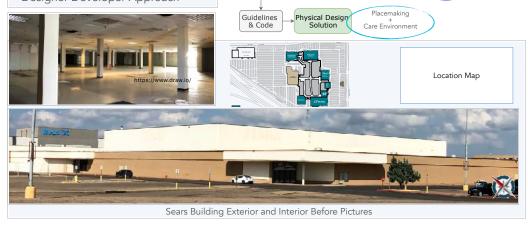
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I. BACKGROUND

The US healthcare system has reached \$3.8T (18% of GDP) and continues to escalate to unsustainable levels. Obesity has tripled in the US over the last fifty years, and health-related diseases continue to escalate. Lack of individual preventive-care (and acutecare predominance) coupled with unhealthy lifestyle choices are core to this problem. This design study proposes converting a vacant Sears building into a viable health and wellness center in Any Mall, USA. Design innovation and human experience were the lenses through which the project focused. The goal was to create a course-changing design capable of altering unhealthy human choices and ultimately ameliorating the healthcare crisis.

II. SCOPE & CHALLENGES

- Vacant Sears Building
- Any Mall, USA
- 148,000 Ft2 Outdated, Unattractive
- Existing 26' Grid Column Layout
- Multiple Targeted Cohorts
- Placemaking a Non-Place
- Designer-Developer Approach



& Challenges

Program

US Healthcare Crisis Framework

Nutrition &

Influenced

Individual

Acute-Centric Non-Enjoyabl

Literature

Review

Theory

Selection

perations &

Patient Care

Business

Health

III. METHODOLOGY FRAMEWORK

Design Thinking - Problem to Solution

Desired

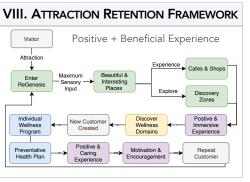
Determine

Question

Principles

IV. Programming & Goals

- 1. Design Primary & Urgent Care Centers
- 2. Innovate the Healthcare Experience
- 3. Patient/Customer Journey & Lean Analysis
- 4. Attract and Retain Customers
- 5. Target Groups: Men, Gen X & Y, & Obese
- 6. Maximize Revenue Space
- 7. Distribute Healthcare Space Appropriately
- 8. Work Within Envelop & Columns



V. THEORETICAL APPROACH

- Place Theory Identity, Attachment, Attraction (Aesthetics)
- Choice Theory Agency vs Structure, Informed vs Influenced
- <u>Nudge Theory</u> Influence on Behavior and Decision Through Positive Reinforcement and Indirect Suggestion
- Localization Theory Geolocation Business Synergies
- Complexity Theory System, Social, Environs, Mechanisms
- Affordance Theory Affordances and Actionable Choices



VI. HEALTHCARE ANALYSIS

Business

Concent

Constructs

Design

Sublime Place

Attraction

Healthcare +

and

Theoretical

Framework

Paradigms

Human

Centered

Efficient +

- Health Domains Holistic Contribution to Individual Health and Wellness
- Health Domains: Physical, Psychological, Emotional, Spiritual, and Social
- Saluto-Centric Environments Encourage Movement; Provide Beneficial Healthy Affordances
- Operational Flow of Healthcare Staff and Patient
- Typical Physical Design of Preventative Healthcare
- Input From Healthcare Staff on Preferences
- Types of Preventative Focused Healthcare
- Factors Contributing to US Healthcare Crisis
- Special Challenges Attracting Targeted Cohorts

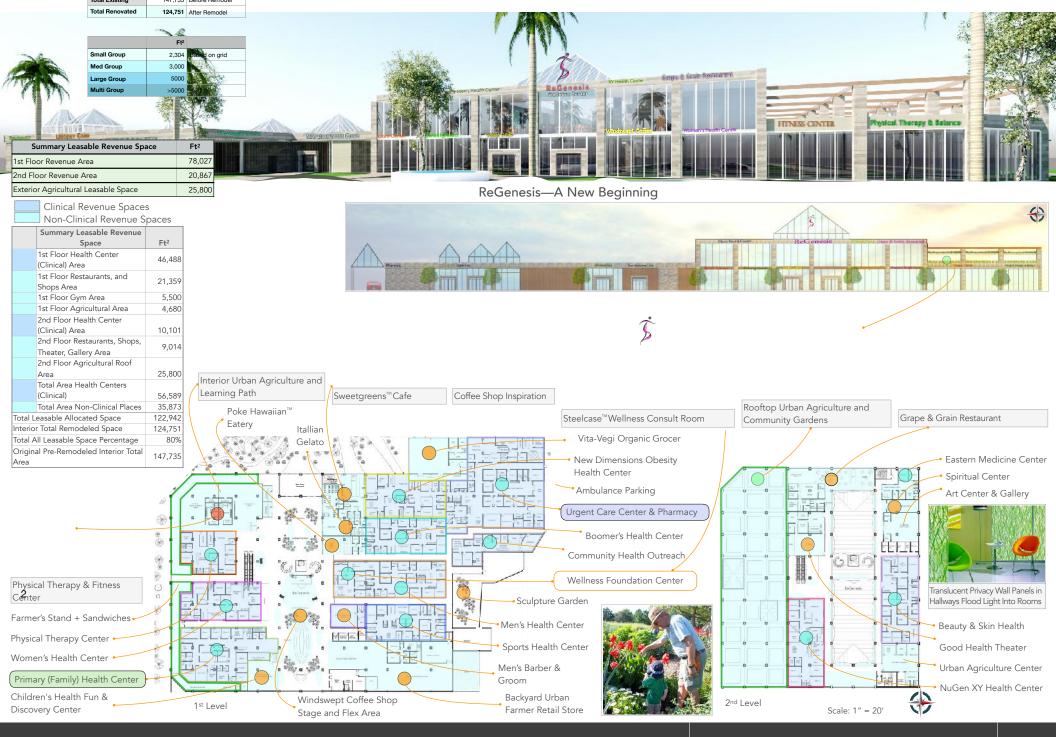
Patient/Customer Care Journey (Lean Analyzed) Patient/Customer Care Jou

VII. DESIGN CONCEPTS

- Analysis of Health Domain Experience
- Factored Design for Sensory Input (Five Senses)
- Phenomenological Factors Design Concepts
- Affordances for Curiosity and Exploration
- Paradigms Solutogenic, Biophilic, Landscape Urbanism (Micro), Lean, Urban Agriculture
- Developer/Designer Mindset for Viability









- Placemaking for Experience
- Vibrancy Colorful & Rich
- Vitality Lively & Experiential
- Viability Resilient & Sustainable
- Sensory Targeted Experiential Design (STED) — Connected to Health Domains To Effectuate Informed, Positive Health Choices and Behavior.
- Attraction, Exploration & Enlightenment
- Inform Individual Choice (Agency) & Lifestyle Motivation

Place Attraction, Social Exchange, Nature (Biophilia), and Natural Light Foster Wellness Across Health Domains



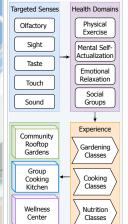
Spiritual, Social, and Mental Health

Art Center for Restorative

Interactive Health and Wellness Learning Kiosks Along Discovery Paths

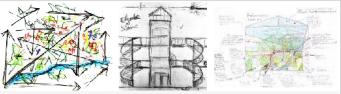




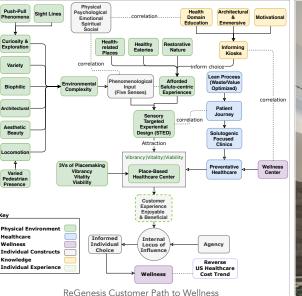




STED Example



Concept Sketches: Multi-Directional Visual Perception Engagement to Peak Curiosity and Encourage Exploration Through Locomotion





Atrium Events and Performance Area

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"Me, We, They", an Urban Furniture Design in Berlin's Mauerpark

Fangming Cai, Pratt Institution Alison B. Snyder, Pratt Institute

ABSTRACT

Based on the global pandemic situation, with the Coronavirus seriously affecting people from all over the world, the relationship between people and space is changing. Through this time period and moving forward, how to improve people's happiness and the degree of comfort can be formed when meeting with others in public spaces, has become increasingly crucial. Urban spaces show an unprecedented need to illustrate social responsibility, elevating the status of these places within social culture. The design of urban space, considered here as a series of interior spaces, should include "accessibility, vitality, and presence of activities, comfort, and sociability" (Amini & Semiari in Allahdadi: 2017, 172). >This project grew out of a class assignment that asked for a re-design of a global city park site with regards to the new social distancing enforced around the world. The idea was to study local heritage, site use, and existing site geometry, to suggest and produce a new design of interior spaces that would enhance the existing condition, while working to apply definitions of urban interiority within the outdoor urban environment. >This hypothetical urban furniture design project called "Me, We, They," located in Berlin's Mauerpark, is placed on the sloping ground below the length of the Berlin wall, and seeks to balance the intimacy and comfort level of people in urban spaces, while building upon the existing cultural diversity and meaning associated with the remnant of the Berlin Wall, which serves as both a memorial and a continued public canvas for people's expression. Street artists create contemporary art there, while others—both tourists and locals visit to face the painful history, while also having a healthy attitude and confidence in the future (figures 1, 2 show site information). >Quarantine periods at home can make the desire for expression stronger and stronger, so the intention for this design is to continue to celebrate this

place by rethinking how public furniture can re-order the crowds that gather there. According to Allahdadi, an industrial design thinker, "...the design of urban landscape ... will lead to the creation of a space in which people can come together and share and unite in common memories and experiences of life" (2017, 174). This urban furniture is thus designed to be playful in coloration and pattern, and adaptable to different group sizes for interaction and also viewing the visitors near the wall, while being ordered. >Therefore, seen in the perspective and plan presented (figures 3, 4), social distancing should feel natural. There are three different social distancing strategies introduced through pattern and ratios based on six foot dimensions. All of the new furniture rings and patterned ground spaces, follow variations of these measurements (figure 5). >The design of the circular ringed concrete tables and patterned ground spaces are inspired by the masonry concrete of the Berlin Wall, and chalk drawing on these new designed spaces allows for new free expression. A series of thin vertical metal columns have been installed in the sloped area and along the path closest to the Wall for tarps and banners to be hung temporarily. The simple palette of colors for the furniture and ground pattern markers are inspired by those found in the local graffiti art. >In conclusion, the city becomes a place that everyone can enjoy the outdoors as a home away from home. This urban furniture design solution for Mauerpark re-defines the chaotic open grass area for many visitors and increases its use, in a safe and new manner. The series of new designed interior spaces open for the individual or group to express their private thoughts in the public. The social distance ratios embedded into the design, are invisible so they silently add another phase in the continual inheritance of Berlin's free culture.

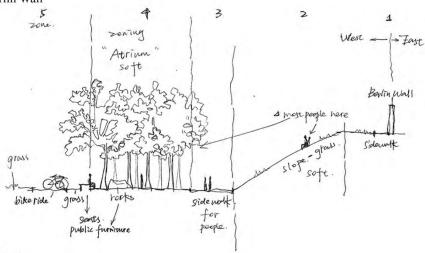
Figure List

- Figure 1, Mapping collage of Berlin's Mauerpark taken and adapted from Internet sources.
- Figure 2, Designer's sectional sketches to analyze the park as a site for re-adaptation.
- Figure 3, The sloped grass area and the urban furniture depicted in perspective.
- Figure 4, The plan view of the design lets one feel the choice of furniture or marked ground spaces.
- Figure 5, Multi-degree social distancing spaces and dimensions depicted in pattern and for the built into furniture and grass, and ground pattern markers.



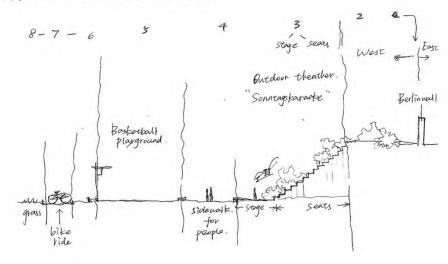
Section A-A

"Atrium" - Berlin Wall



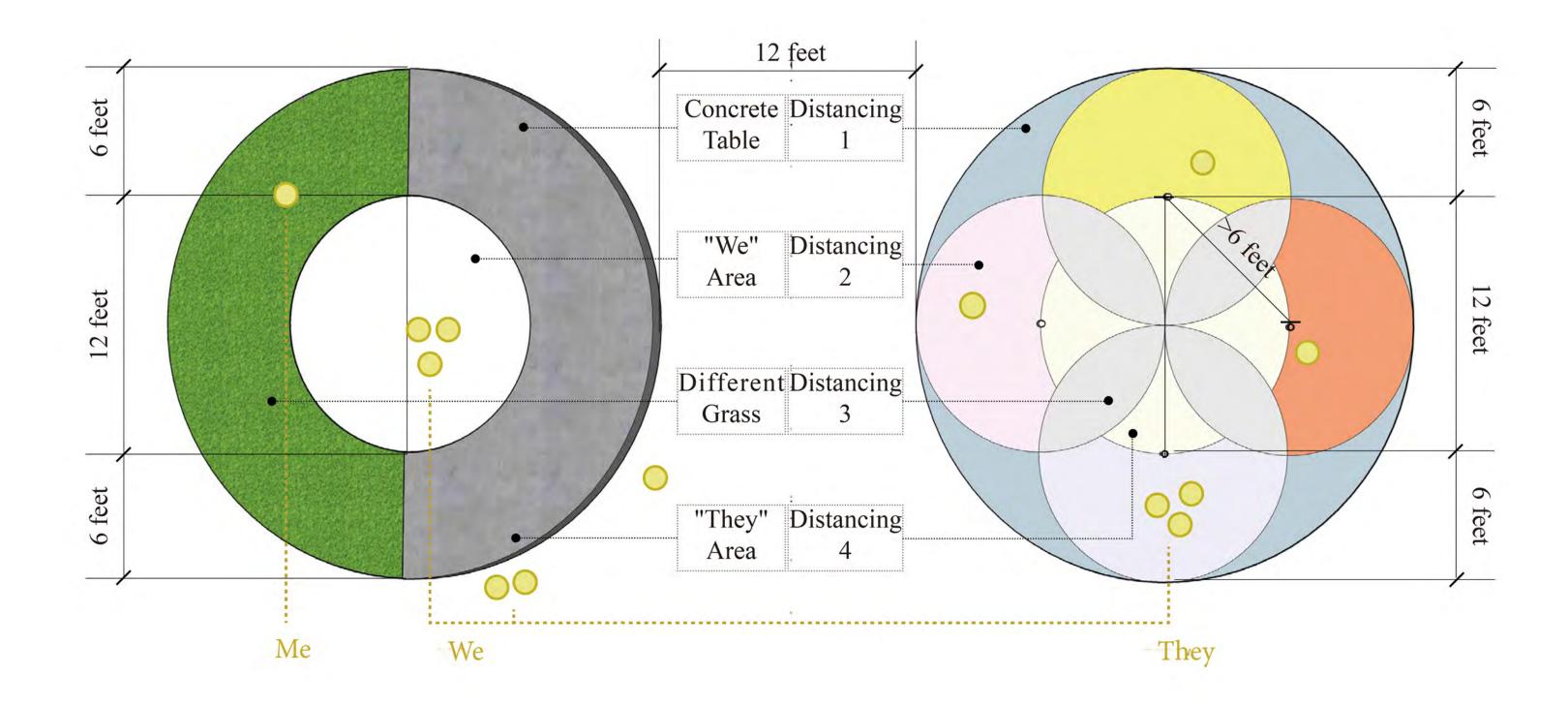
Section B-B

Basketball Playground - Outdoor Theatre - Berlin Wall









Research, Render, and Re-imagine, Repeat; Entertainment Design Iterative Process as Exhibition

Ahna Packard, University of Nebraska at Kearney

ABSTRACT

Research, Render, and Re-imagine, Repeat; Entertainment design iterative process as exhibition. "Drawings... are important because they embody abstract and high level design ideas; they allow a degree of uncertainty about particular physical attributes to exist and they impose constraints" (Purcell and Gero, 1998, p. 390). "Draw, Discard, Draw. The Art of Process in Stage and Entertainment Design" exposes the hidden iterative process and "information – based ideation" (Marki & Jones. 2019, p.775) used by two entertainment designers through the display of their notes, research, drawings, drafting and other design tools. The metaphor of an iceberg is well suited to describe the work behind the designs in theatre, television and film. The exhibition demonstrates the "working memory, imagery reinterpretation and mental synthesis" areas of the design (Purcell & Gero, 1998 p. 389). It also introduces the idea that theatre and film are collaborative arts and the designers represent one aspect of that collaboration. Most people never see the behind the scene work and the collaboration that build the designs. This exhibit flips the view and presents the portion of the iceberg unseen, demonstrating the work behind the polished images and experiences. Each production represented illustrates the "process of unfolding" as each designer moved through one idea to the next to create a final design (McDonnell, 1997, p. 458) Artists Statement: "Draw, Discard, Draw. The Art of Process in Stage and Entertainment Design" opens up the messy and at times chaotic process of design in theatre, television, and feature film as it funnels its way through many hands and variations to the final experience. The experience of watching a film or enjoying the moment that is theatre is the art's final form. When participating in a collaborative group, the goal is to contribute to the whole while finding the art in your part of the process. This exhibition displays several visual stories. They present how two

very different designers move from script to physical designs while working in an art form of collaboration and presentation. Whether that presentation is a theatrical moment of time not to be recorded other than in the memories of the witnesses and participants, or as in film and television where the moment is recorded as a digital construct of 1's and 0's and only visible through the window of technology. The event itself is the briefest part of the art, the tip of the iceberg. The hours, weeks, and months before the event holds the body of the iceberg that makes the event possible. The collaborators of these events can number from a few to hundreds. The art of the Scenic Designer and Set Designer is presented in this exhibit through the crafts of scenic design. The Scenic Designer completes all parts of the scene design process, alternately the film Set Designer is a draftsman/model maker who works within a large art department. The tools used to develop a design vary between projects and designers. Both the Scenic and Set Designer synthesizes information collected from the script, research, and the production team. The designer then creates the environment of the production, adding their artistic vision and skills to the gestalt of the production. The stories make visible some of the tools used in the design process and include; analyzing scripts, research (of history, architecture, social economics, and character), hand sketches, computer sketches, 3D computer modeling, traditional physical scale models, paint elevations, renderings, and drafting. Communication is key. The goal of the Scenic and Set Designer is to communicate the design or artistic expression so that other artisans may fulfill it.

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RESEARCH, RENDER, AND REIMAGINE, REPEAT; ENTERTAINMENT DESIGN ITERATIVE PROCESS AS EXHIBITION.

I was invited along with theatrical designer Darin Himmerich to create an exhibit of our film, television, and theatre design work with the emphasis on exposing the multitude of design tools and use of drawing as an iterative process. The exhibit presents the various levels of process a professional designer transitions through to a final design.



Panorama of Exhibition



Selected research and sketches. *Fly'n West*



Sketch models and renderings.



Paint Elevations



White model and photo.



Panorama of Exhibition



Selected research and sketches.

Calendar Girls



Sketch models and paint elevations



Paint elevations and photos



Boom! Model, paint elevations, design book.



You Never Can Tell Paint elevations



Paint elevations



white model



Panorama of Exhibition



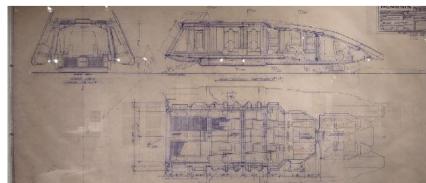
Urinetown research, mood board, sketches, model, paint elevations, draftings and photos.



Star Trek - Enterprise, drafting



Star Trek Nemesis, drafting



Artists Statement

Artists Statement:

"Draw, Discard, Draw. The Art of Process in Stage and Entertainment Design" opens up the messy and at times chaotic process of design in theatre, television, and feature film as it funnels its way through many hands and variations to the final experience. The experience of watching a film or enjoying the moment that is theatre is the art's final form. When participating in a collaborative group, the goal is to contribute to the whole while finding the art in your part of the process. This exhibition displays several visual stories. They present how two very different designers move from script to physical designs while working in an art form of collaboration and presentation. Whether that presentation is a theatrical moment of time not to be recorded other than in the memories of the witnesses and participants, or as in film and television where the moment is recorded as a digital construct of 1's and 0's and only visible through the window of technology. The event itself is the briefest part of the art, the tip of the iceberg. The hours, weeks, and months before the event holds the body of the iceberg that makes the event possible. The collaborators of these events can number from a few to hundreds.

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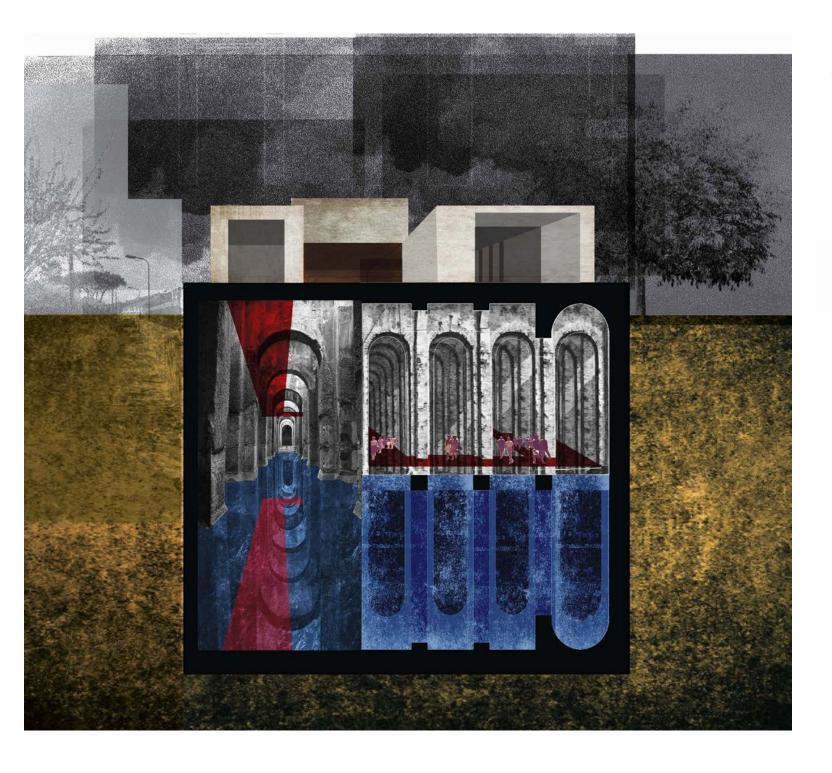
Wall, Drama, Montage: Research and Projects for the Interior in the Era of COVID-19

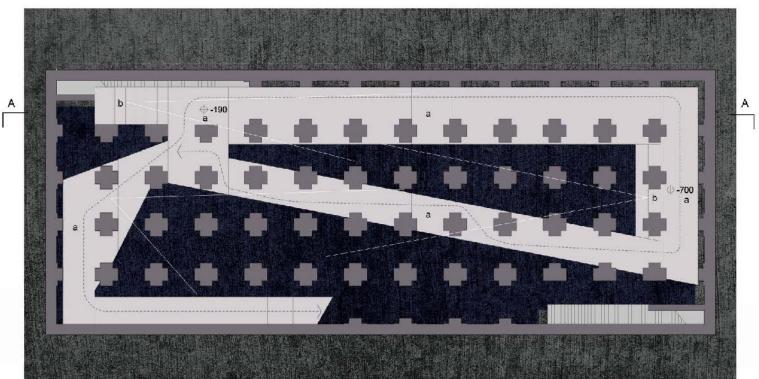
Dr. Patrizio Martinelli, Miami University

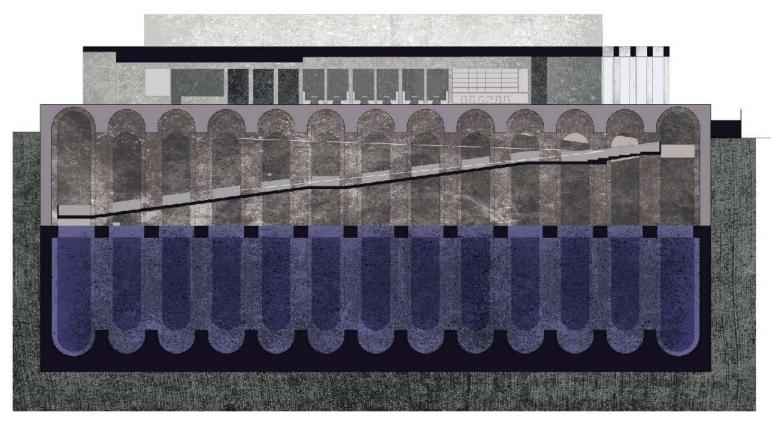
ABSTRACT

The spring 2020 lockdown affected the research of many scholars, unable to travel and visit institutions, libraries, places related to their investigation. That is what happened to me: I had to revise my plans and one of my choices has been to develop my own investigations through design. This emphasized an aspect that is the core of my idea on research and teaching: the strong connection between theory and practice. Therefore I developed three projects for design competitions, two of them with COVID-19 as the main theme. And this has been the opportunity to investigate some of my interests: the theatricality of interior space, the equipped wall as a fundamental element in space arrangement and as a backdrop of the staging of the interior life and the montage technique, both as a design device and a representation tool. THE MUSEUM AS MEMORY AND THEATRICALITY. The project aims to emphasize the former character of the Piscina Mirabilis, a roman water cistern in the Naples region: water is its reason for being, its origin. Above the ground, the new building is built as a series of parallel thick equipped walls that introduce us to the main underground exhibition spaces inside the existing cistern. A ramp takes the visitors down and flows among the monumental pillars. To emphasize the role of water and its memory, a new cistern is created below the actual structure, with the same dimensions and the same structural grid, but upside down: an abstract reflection of the Piscina, completely filled with water. A metaphorical archaeological excavation, a reflection and multiplication of space, a theatrical place of wonders, a challenging "mise en scene" of memory. Thanks to underwater lights, this doppelgänger appears and is seen through the water, from the suspended catwalks. When the underwater lights are turned off, the underwater replica of the Piscina disappears, and the actual structure reflects itself on the mirror of the water surface, in a mesmerizing overlapping of engaging experiences. THE COVID-19 SUPERMARKET. The

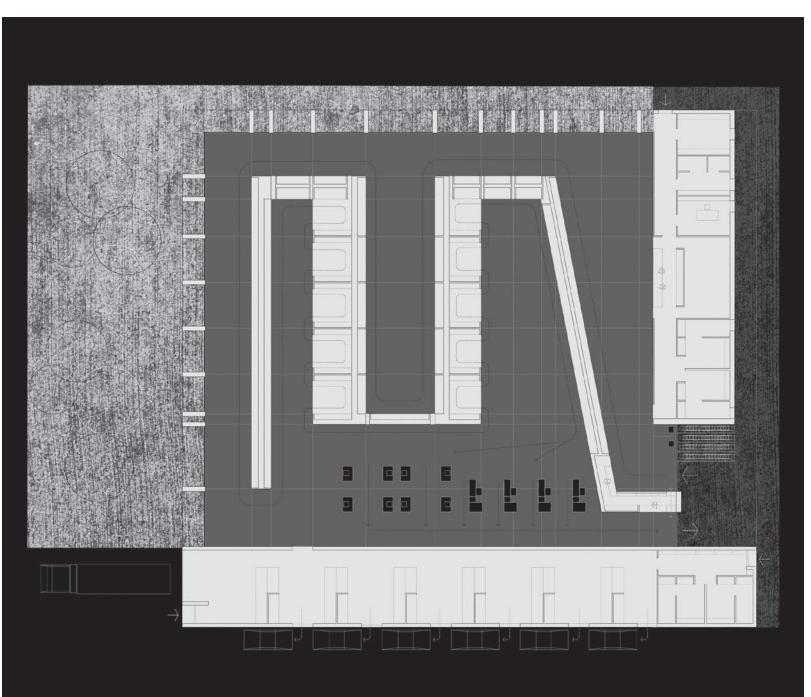
project for the COVID-19 supermarket has been developed in 48 hours (this was one of the constraints of the competition), and the required deliverable was only one plan: the "plan as the generator", quoting Le Corbusier, had to be the only way to convey the character of the project. My idea was to develop the supermarket (covered by a big roof and open to gardens that produce vegetables and fruit) a continuous equipped wall, according to the so-called "loop layout", that allows a one-way path for the people without any intersection of flows. The wall is designed and arranged with different configurations, so that the different items could be showcased in the best way. THE COVID-19 HOUSE. The lockdown and the quarantine forced us to live in our houses, detached from the urban realm, the place of the collective "par excellance". The project aims to emphasize how the house can be interpreted as a collective urban microcosm, bringing into the private realms the city's spatial complexity and theatricality. Therefore, the archetype to look at is Cesariano's interpretation of the primitive hut: a series of wooden houses facing a common space. The house I designed is a composition of private rooms, open to the main central public core (a conversation pit), emphasizing the inhabitant's privacy and separation. Equipped movables walls allow the transformation of the space in an open interior, with views and flows from and towards the exterior (a natural landscape, a garden, a park). Movable furniture can be arranged for different purposes and functions. The house is a kaleidoscopic device that switches from open to close, from private to public, from centripetal to centrifugal. It's a theatrical stage, with movable and interchangeable equipped backgrounds and scenes where the "play of life" and the private and public "expression of self" could take place in multiple ways.

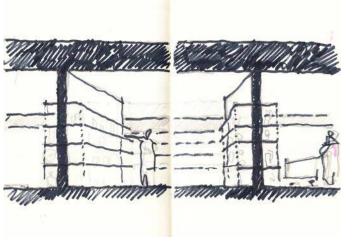


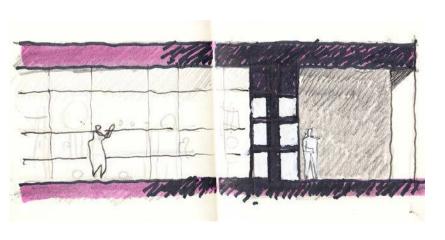




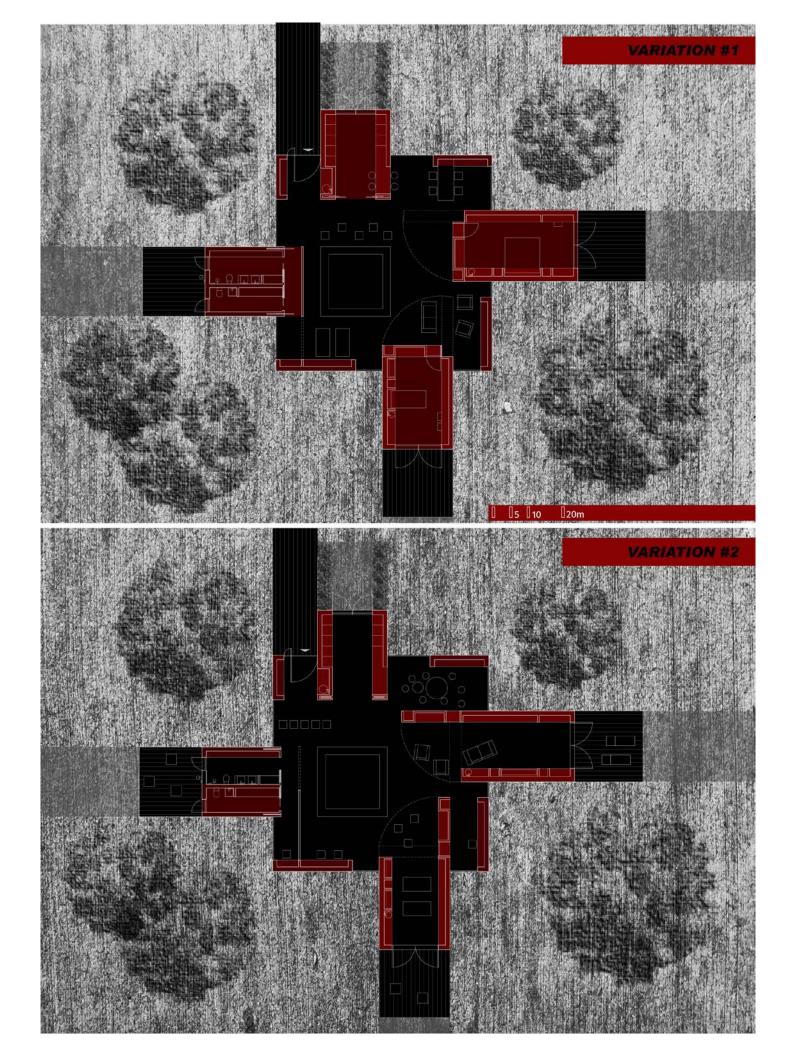




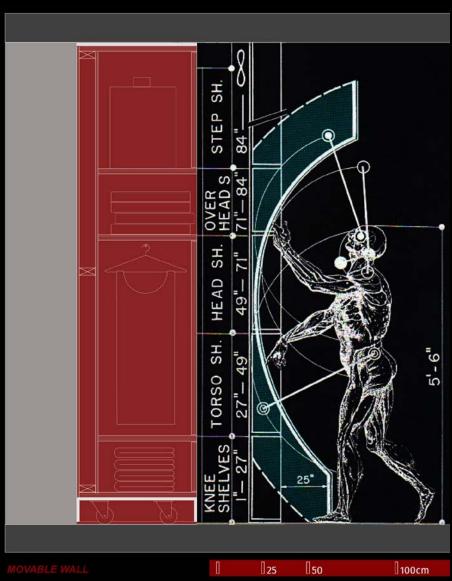


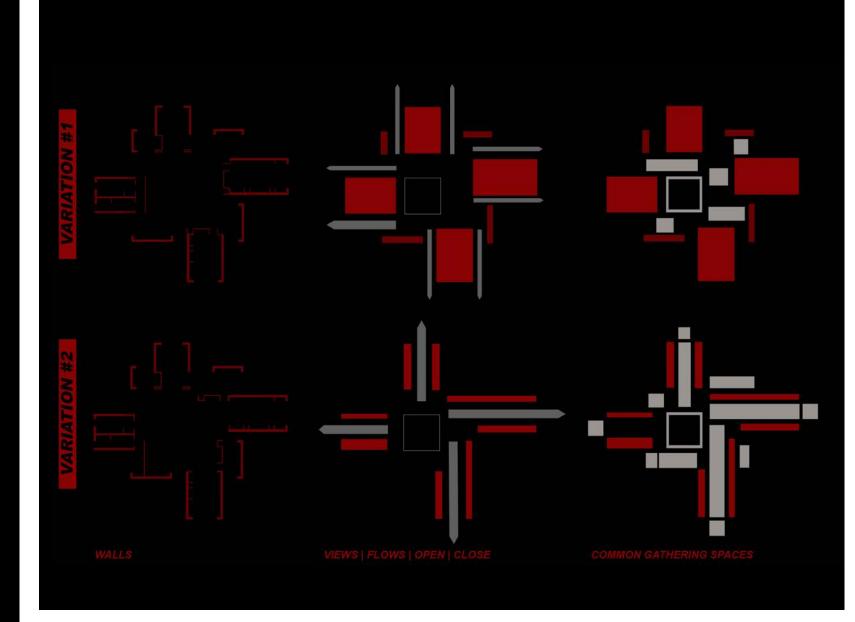












Utilizing a Biomimetic Window System to Reduce Building Energy and to Increase Occupants' Perception

Dr. Juntae Jake Son, Ball State University Suk-Kyung Kim, Yonsei University Matt Syal, Michigan State University Eunsil Lee, Michigan State University Linda Nubani, Michigan State University

ABSTRACT

The time staying indoors for occupants is increasing day by day, but their satisfaction in the indoor environment is not improving; moreover, building energy consumption continues to increase. About 40 percent of all U.S. energy was consumed by residential and commercial sectors and educational buildings consumed 11 percent and 13 percent of total electricity and natural gas consumption, respectively (Conti et al., 2016, U.S. EIA, 2012). Many studies are being conducted using mechanical methods to reduce building energy consumption, but more researches are needed to improve the satisfaction level of occupants and to save building energy simultaneously. The purpose of this study was to use biomimicry to improve the satisfaction of occupants and to reduce building energy consumption. The term "biomimicry" is defined as imitating or taking inspiration from nature's strategies to solve human problems (Benyus, 1997). Therefore, this study proposed a new method to bring daylight indoors using biomimetic solutions inspired by polar bears' fur. In fact, many buildings have offices, patient rooms, conference rooms where windows do not exist due to structural reasons. This study researched the changes in building energy consumption and how the satisfaction level of the occupants changed when a new biomimetic window system proposed in this study was used in educational spaces. This study was divided into two phases. First, energy consumption data were simulated to compare a building with the biomimetic window system and ones without windows. Second, a VR experiment conducted to see how the satisfaction of the students changed. As a result of the building energy simulation, when the biomimetic window system was installed, a 13 percent reduction in energy use in the educational building compared to the actual energy consumption. In addition, the satisfaction level of 56 student participants was collected when the biomimetic window system was installed using virtual reality since this type of window system does not yet exist. As a result, the students were more satisfied when the system was installed than when the windows do not exist. Also, they were more satisfied when the window system was installed in enclosed spaces rather than open spaces. Using the biomimetic solution, this study has found new practical ways to improve the satisfaction of occupants while simultaneously reducing building energy consumption. In the future, many solutions using biomimicry ideas will help solve problems that people currently have in various fields, such as architecture, interior design, and urban planning.

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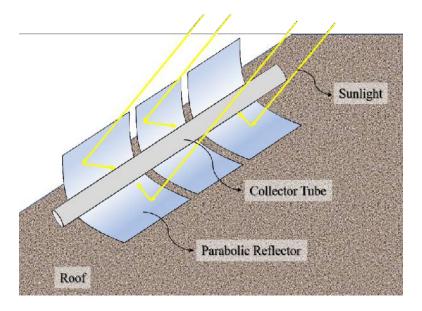
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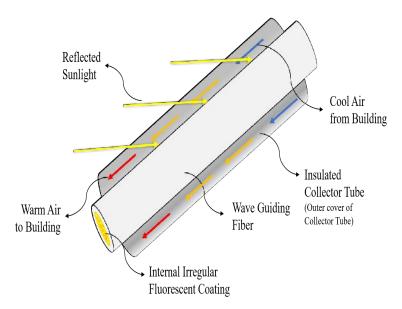
2021 IDEC Annual Conference Abstract Submission (Creative Scholarship)

Utilizing a Biomimetic Window System to Reduce Building Energy and to Increase Occupants' Perception

Appendix



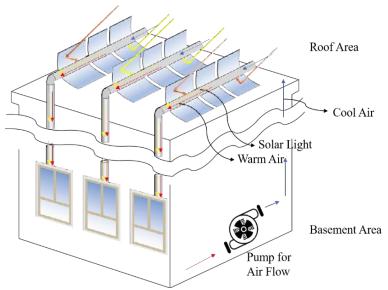
Proposed Solar Collector



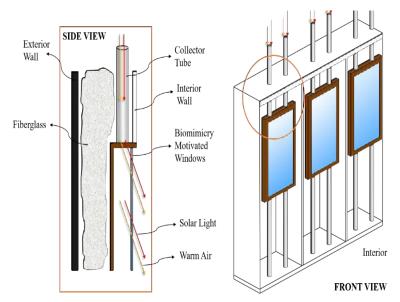
Proposed Solar Collector Tube

2021 IDEC Annual Conference Abstract Submission (Creative Scholarship)

Utilizing a Biomimetic Window System to Reduce Building Energy and to Increase Occupants' Perception



Proposed Overall System Design



Proposed Section and Front View of the System

International Retail Design Mercedes-Benz

Christoph Korner, Woodbury University

ABSTRACT

The world's first retail outlets with Mercedes-Benz's new brand identity can already be seen in car dealerships in Hong Kong, Beijing, Budapest and Istanbul. For three years, we have been working on concept development and engineering, creating design guidelines and planning tools that will be implemented at sales and service locations around the world. The planning catalogue ranges from specifications for the facade and roof design to the interior design of customer contact areas, including media integration and furniture design. Together with a creative agency, we won a two-stage competition against renowned international competitors. The concept of a new, seamless customer experience with modular "touchpoints", developed in close cooperation with Mercedes-Benz and the creative agency, responds to changing offline and online customer expectations. With the goal of developing a customer-oriented retail experience, our striking architecture and high-quality interior design creates flowing transitions from inside to outside. Within the customer service area of a car dealership, the vehicle presentation is interwoven with focused yet flexible consulting areas. Modular media elements are similarly incorporated into the interior fittings that shape the showroom, strengthening the combination of the real and virtual brand presence. This makes it possible to address and respond to the changing requirements of different target groups and to successively and adaptively incorporate these into diverse spatial environments. The resulting scenography creates numerous opportunities to interact with the Mercedes-Benz brand at different levels. In addition to developing the concept and elaborating design guidelines, since 2017, we are also the lead planner and has been responsible for supporting the roll-out of the new brand identity in the German market. This can already be experienced around Germany in Mercedes-Benz dealerships including Böblingen, Berlin, Kaufbeuren and Darmstadt.

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Creative Scholarship | Design as Interior | Poster

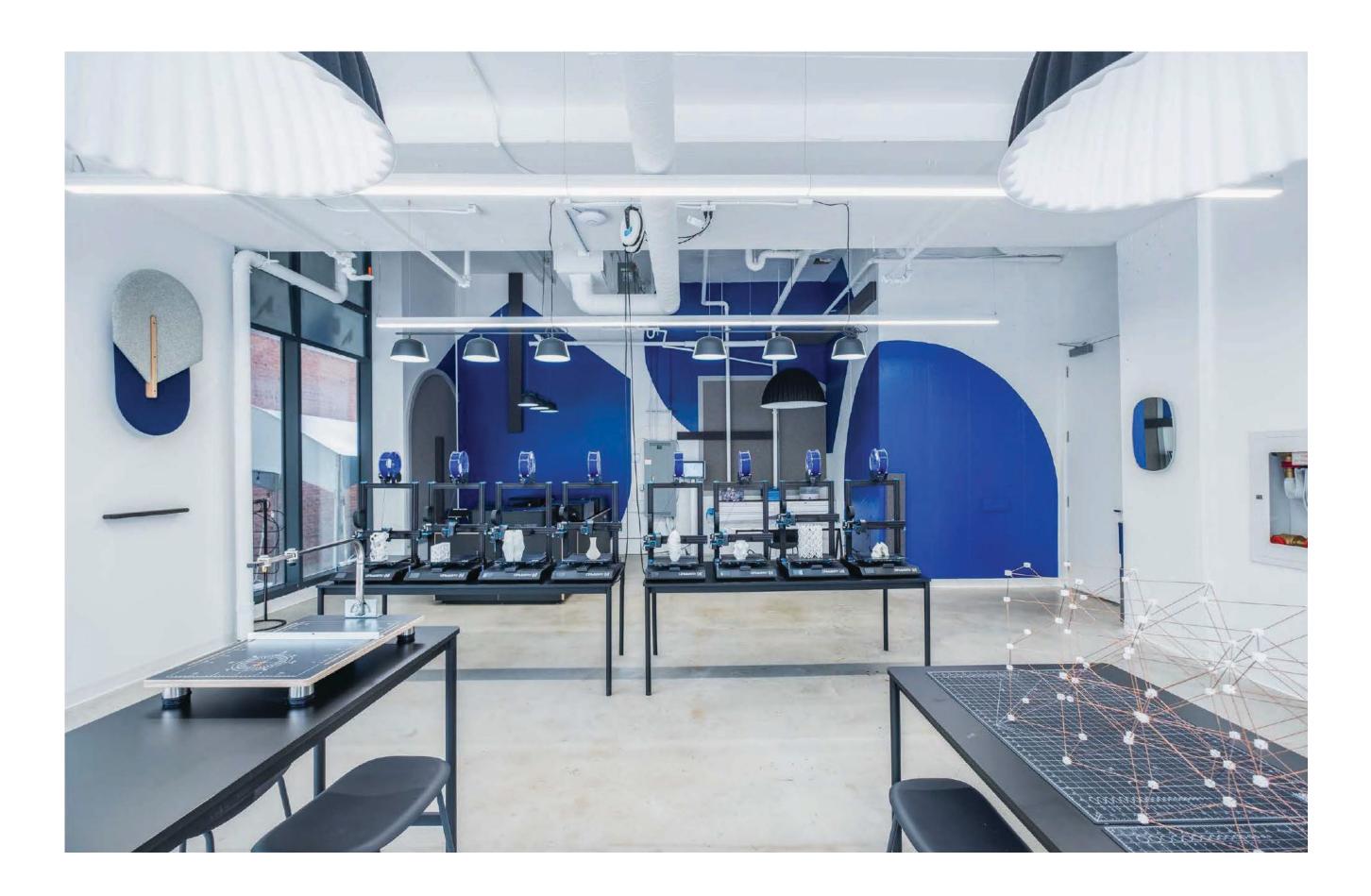
Make at Hoem

Jonathon Anderson, Ryerson University Laura Lovell-Anderson, OCAD University

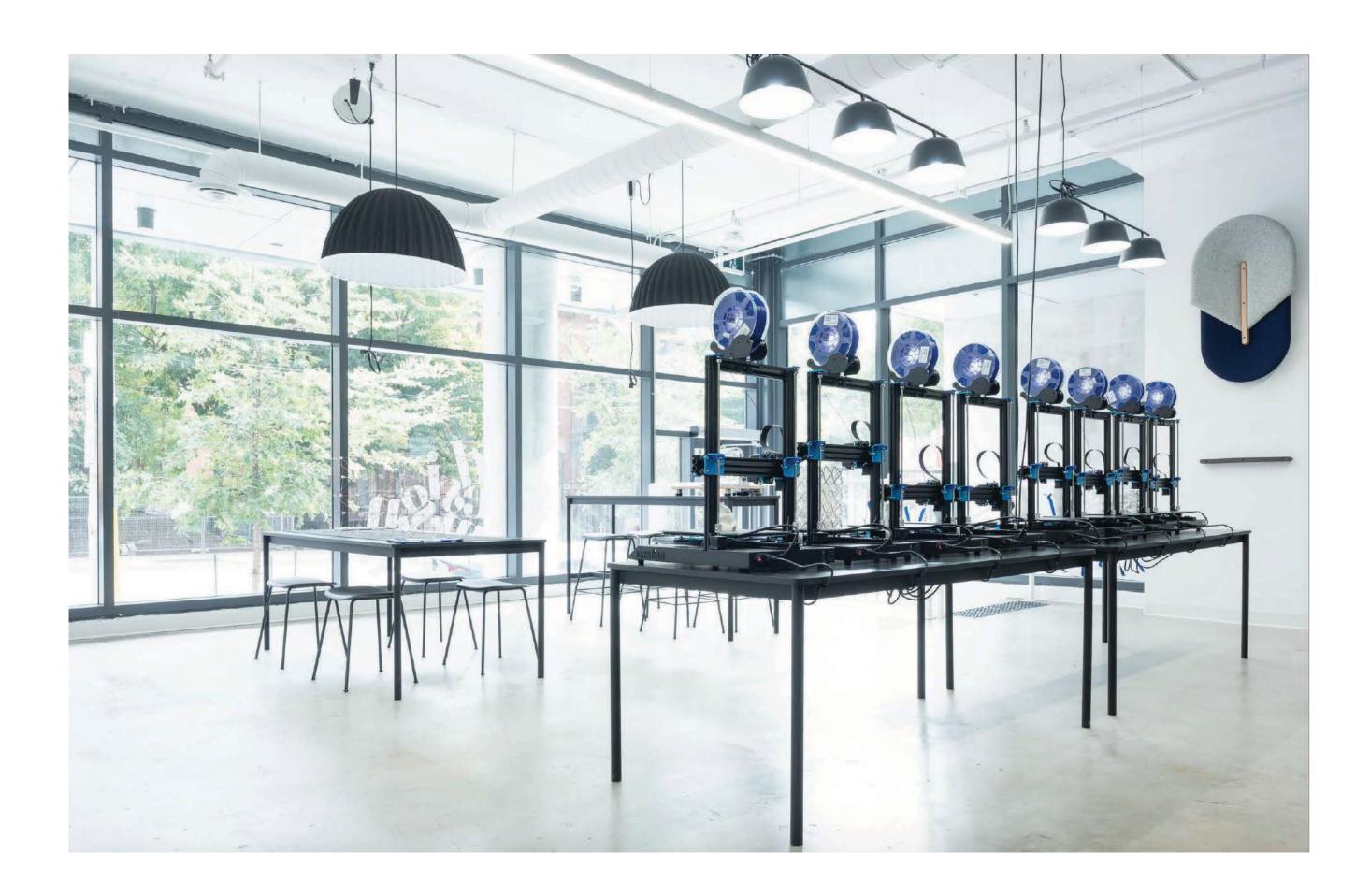
ABSTRACT

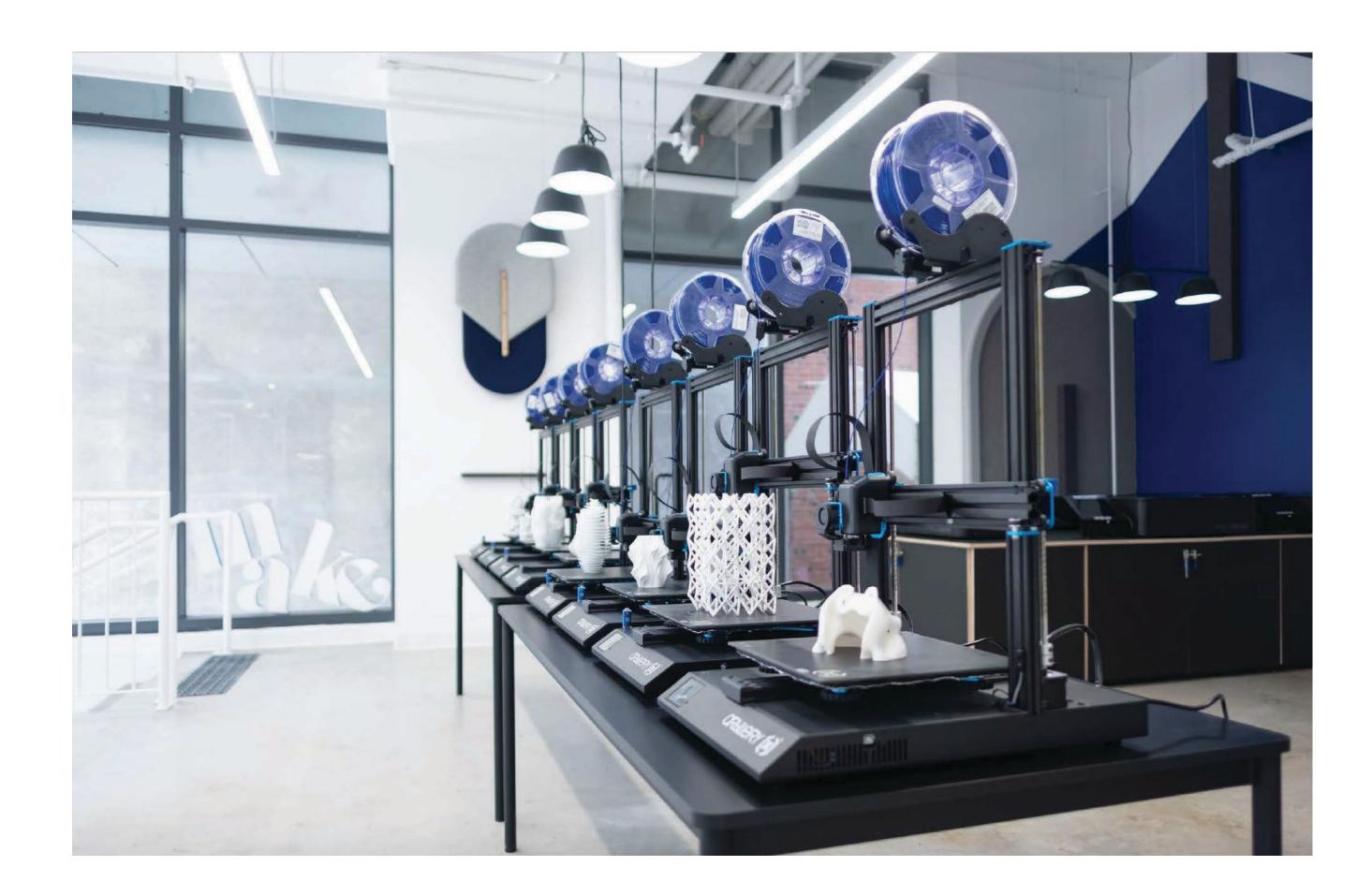
make at HOEM is a boutique digital fabrication maker studio located in downtown Toronto at the HOEM on Jarvis student residence. The studio is designed to provide access to digital fabrication equipment and basic analogue and electric hand tools; offer the utility of a dry assembly space for small designed objects; and facilitate knowledge transfer through equipment safety training and instructional workshops. Members enjoy premium access to advanced digital fabrication technology, including laser cutters and 3D scanners, full-service 3D-printing provided by studio technicians, analogue and electric hand tools, a portable photography studio, and a dry assembly workspace. Membership to the studio is exclusive to a creative community of Ontario postsecondary students spanning novice design students, maker hobbyists, and student crafters for digital making in dry studio workspace. Situated at ground level and facing a bustling streetscape, make at HOEM receives significant natural light on three sides balanced the strategic use of overhead, spot, and pendant lighting systems. The studio features interior furnishings from Friends & Founders, Knoll, Muuto, and Sancal blended with custom design/build works crafted by the designers. The custom fabricated laser cutting table integrates five laser cutters, each with a laser system tablet and programable logic control that allows users to login from the system podium with a unique code to activate laser operation and track individual usage for billing. The laser table is expertly crafted and positioned within the site to integrate seamless direct ventilation from each laser to the building's exterior while providing material storage. Other design/build pieces include five felted wool acoustic panels integrated within a Dark Cerulean colour block mural and a 3D-printed typography installation. As a digital fabrication studio situated in a reclaimed construction office, the interior is characterized by polished concrete floors, exposed pipes and duct work, and cinder block walls. Such a raw interior combined with

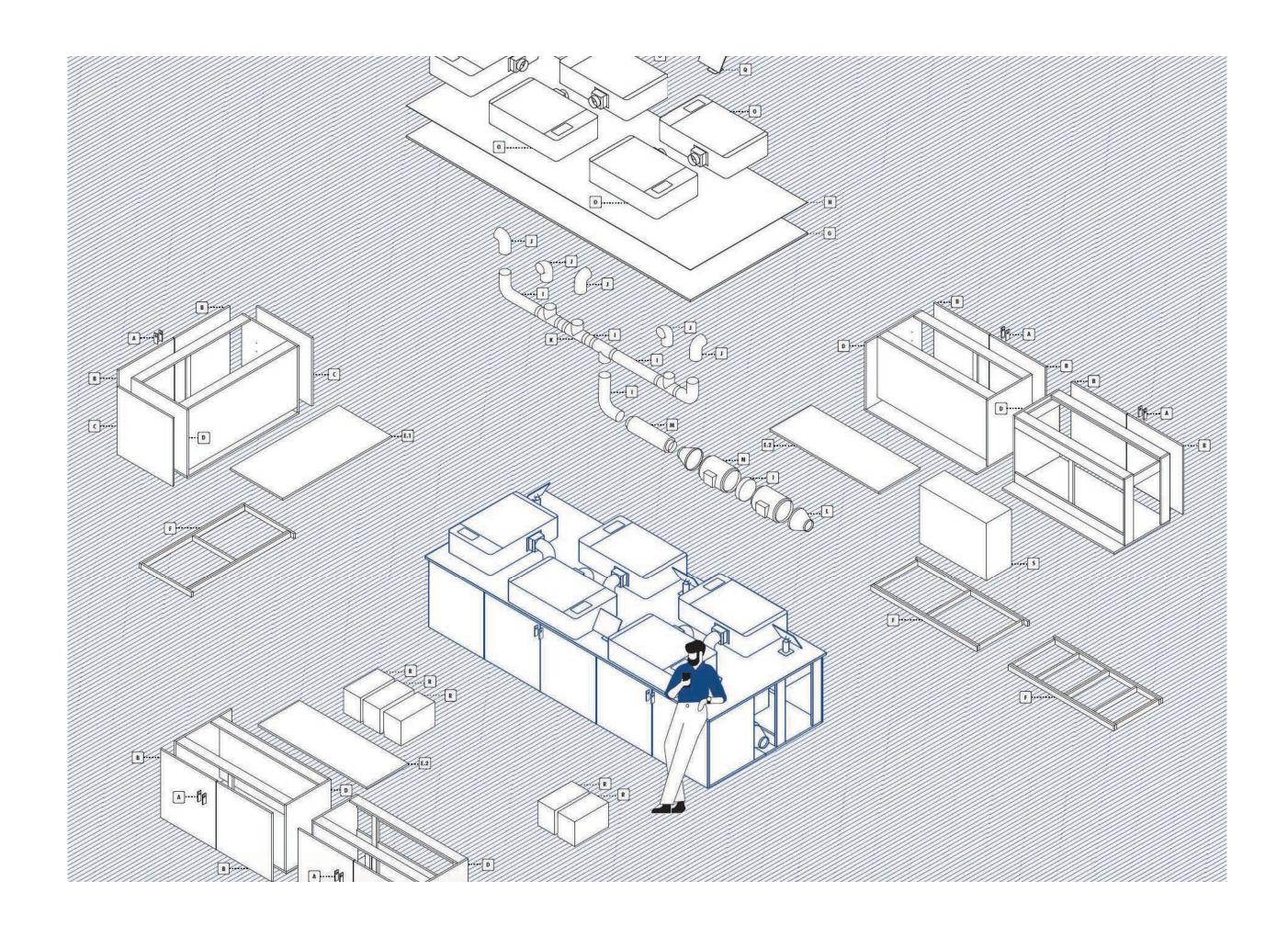
make at HOEM's capacity to simultaneously operate five laser cutters and thirteen 3D printers with an array of electric and analogue hand tools make the auditory sensory experience an essential design consideration. The acoustic absorption properties of the interior finishes and functional materiality are evidenced by using acoustically conscious felted wool panels and composite polymer felt pendants throughout the space. The aesthetic concept and spatial design emphasize functionality, simplicity, refined details, and natural and minimal material finishes. The colour palette features a striking Dark Cerulean, complemented by a harmony of Almond, Charcoal, and Iron accents. These colour expressions are situated among studio appropriate and environmentally conscious material finishes ranging from recycled content (RC) composite polymer felt and felted wool, RC powder-coated steel, RC wood fibre and plastic bio-composite, baltic birch plywood, and marble. The interior fixtures support a spatial harmony and circulation that is designed to ensure equitable access and mobility for all members. The permanent fixtures that house the 3D printer and laser cutters, as well as the interior furnishings, permit a flow of movement and passage between the studio's active and passive workspaces. Dual height minimalist tables—counter height (standing) and dining (accessible sitting)—encourage comfort during individual or collaborative scenarios.

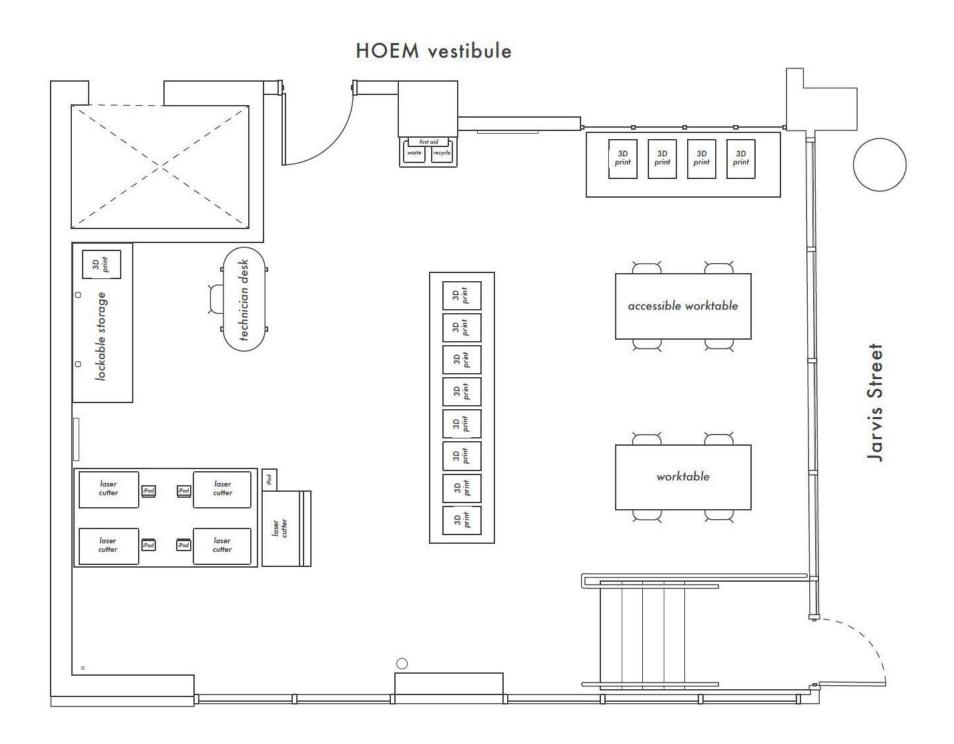












Creative Scholarship | Design as Interior | Poster

Reimagine a Workplace Supporting Covid-19 Safety Guidelines and Returning Employees

Miyoung Hong, Indiana University Bloomington Gabrielle Pierson, Indiana University Bloomington Marijke Van Dyke, Indiana University Bloomington

ABSTRACT

The client for this project is a (fictitious) digital marketing business based in South Broad Ripple, Indianapolis, Indiana. The company is an entrepreneurial business run by a small group of middle-aged adults. With a 3,000 square foot space to make their own, the company requested a design that reflects their values and character, focusing on flexibility, comfort, and community. Additionally, the design prioritizes health and safety, implementing CDC guidelines and regulations for Covid-19. Drawing inspiration from autumn, a time that demonstrates the beauty in change, the design intended to encourage growth and foster innovation. The design's primary focuses are health and safety, mindfulness, and sustainability. Health & Safety To combat the stress and risks associated with Covid-19, touch-free technologies, PPE dispensers, and circulation signage are implemented throughout the space. The use of antimicrobial materials and finishes also aids in reducing the impact of the virus in the office. Additionally, by providing room occupancy limits and information on social-distancing guidelines, the design allows people to collaborate and socialize without compromising users' health and safety. Indoor air quality contributes to both employees' health and comfort, and providing effective air ventilation is extremely important, especially now (Mahbob, N., 2011). Natural ventilation minimizes the recirculation of contaminated air particles (Salas, 2020), so operable windows and an outdoor space are provided to better ensure a healthy environment. Mindfulness Ensuring that users are comfortable when in the workplace is extremely important, as it influences user satisfaction and productivity. The visual environment has a significant impact on worker satisfaction and productivity, as it can contribute to attention restoration, reduced stress (Largo-Wight, E., 2011)

and improved mindfulness (K2space, 2019). The outdoor patio, interior plants, and large windows provide users with visual and physical access to the outdoors, enhancing the indoor environment. Additionally, employees are offered a variety of seating options and work locations, which support different focus levels and activities. With an environment that fosters innovation and connectivity for its users, people are encouraged to embrace these unprecedented times. Sustainability Because Covid-19 safety guidelines have led to an increase in single-use PPE, the gloves and masks provided throughout the space are biodegradable. Recycling and composting bins are located in the space, and informational posters are provided nearby to educate people and encourage them to recycle and/or compost their waste. Additionally, the furniture and material selections for the project were chosen based on their recycled/recyclable material content. Passive solar design and low-e glazing are used to reduce energy consumption, while low-flow fixtures and plumbing walls optimize water usage. The bike rack on the patio encourages employees to consider an alternative, more sustainable form of commuting. The Covid-19 pandemic has challenged society to reimagine daily tasks and behaviors to ensure the health and safety of employees while maintaining a sense of normalcy. Utilizing touch-free technologies, antimicrobial materials, and quality air ventilation systems blends CDC guidelines into the workplace, allowing people to still interact and be productive. Developing a comfortable environment by providing links to nature and implementing ergonomic design is also important, as it can remedy feelings of stress and discomfort. The global pandemic has presented numerous challenges for everyone, but through innovative design, society can adapt to the current situation and overcome future obstacles.

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Contents

- 1 Abstract & Design Statement
- 2 Furniture, Fixtures & Equipment Plan
- **3** Covid-19 Modifications
- **4-7** Perspective Views

Lobby

Cafe

Outdoor Patio

Work Area

8 Resources

Concept

The client for this project is a (fictitious) digital marketing business based in South Broad Ripple, Indianapolis, Indiana. The company is an entrepreneurial business run by a small group of middle-aged adults. With a 3,000 square foot space to make their own, the company requested a design that reflects their values and character, focusing on flexibility, comfort, and community. Additionally, the design prioritizes health and safety, implementing CDC guidelines and regulations for Covid-19. Drawing inspiration from autumn, a time that demonstrates the beauty in change, the design intended to encourage growth and foster innovation. The design's primary focuses are health and safety, mindfulness, and sustainability.

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FF&E Plan

A

North

Not to Scale

01 Lobby 305 SF

06 Copy Room 62 SF

Meeting Room 1 380 SF

07 Work Area 675 SF

Restroom 380 SF

08 Restroom 71 SF

04 Cafe 512 SF

Meeting Room 2 155 SF

O5 Outdoor Patio 758 SF

10 Meeting Room 3 155 SF



Design Solutions for Covid-19

FF&E Diagram Legend

- Available Seating
- Unavailable Seating
- O 6'-0" Safety Distance
- Sanitary Station
- ♠ Circulation Direction Signage
- Yield Signage

Room Occupancy Limits

Room Name	Pre-Covid	Post-Covid
Lobby	6	2
Large Meeting Room	8	3
Cafe	10	4
Outdoor Patio	15	7
Work Area	16	8
Small Meeting Room 1	5	3
Small Meeting Room 2	6	2

^{*} Unmarked seating can be available if users' 6'-0" social distance radii do not overlap.











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Scholarship of Design Research | Open Track | Poster

Can Climate-Adaptive Building Facades Inspire Healthier Interiors? Post Covid-19 Computational Design Considerations

James Hopfenblatt, University of Missouri Columbia Mohammad Reza Dastmalchi, University of Missouri Columbia Jayedi Aman, University of Missouri Columbia Jong Bum Kim, University of Missouri Columbia Bimal Balakrishnan, University of Missouri Columbia

ABSTRACT

Sensor-based automated Climate-Adaptive building facades (CABF) optimize interior visual and energy performance by reacting to weather conditions. According to the Environmental Protection Agency (EPA), people spend more than 93% of their time indoors (Klepeis et al., 2001). This increasing trend of time spent indoors causes people to have minimal exposure to natural light, which at present is considered far lower than what the ideal exposure should be. While this topic hasn't been studied thoroughly, in this paper we investigate the use of various immersive technologies through interdisciplinary efforts to address mental health and well-being within spaces affected by CABF systems. Numerous studies have investigated the effectiveness of CABF in relation to visual comfort, energy performance, and air quality. It is estimated that dynamically adjusting a building's facades in response to climatic changes can reduce its energy footprint by more than 30 percent (Chien et al., 2016). On the other hand, visual comfort covers aspects of human health, such as the disruption in circadian rhythms and melatonin regulation. Lack of daylight exposure can exacerbate conditions such as Seasonal Affective Disorder (SAD) and advance vitamin D deficiencies. While many of the problems associated with lack of sunlight exposure are known, presently the parties involved in creating CABFs are solely construction management teams and designers. Several strategies that employ energy simulation extensively only optimize energy performance and other performance variables. Therefore, other integrated immersive technologies are proposed to be used for exploring the psychological effects of these technologies with the intent of achieving healthier interior spaces. Conducting interdisciplinary studies that use immersive technologies to analyze lighting strategies and adaptability towards wellbeing is proposed. We present two examples of interdisciplinary processes that have potential to address issues of adaptable design with respect to facades, one that exemplifies Biomimicry and the other uses Parametric techniques. Biomimicry is the first approach to design that borrows inspiration from nature and is often used to design and construct climate-adaptive facades in architecture. Even though this approach has potential to create an impact on mental health through innovative CABF systems there are few examples on their effects on human health (Matin et al., 2019). Utilizing technologies that track biometric data (heart, eye, brainwave, etc.) through collaboration with experts from multiple fields, these technologies can be considered in this design process. Parametric Design Thinking is another approach to design that accounts for manipulating various numerical parameters and constraints while integrating immersive tools and energy analysis tools simultaneously (Al-Masrani, 2019). MoodSwing is a project developed by Nathan et al. (2018) whose aim was to address the issue of adaptable design and to use physiological input as a control mechanism. The system adapts to the occupant's measured biometric data and extrapolates mood measurements while simultaneously adjusting lighting and other design components. The approaches mentioned in conjunction with immersive visualization technologies for testing show potential for creating healthier environments. Moving forward, the combination of design, nature-inspired elements, immersive technologies, and simulation all together can power Climate-Adaptive Building Facade development through interdisciplinary research. This strategy permits design concepts to be addressed morphologically, while technology can support the multifunctional components.

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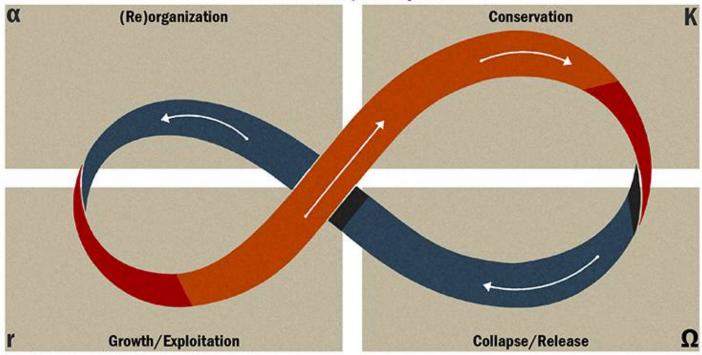
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The Adaptive Cycle



source: Holling, Gunderson and Ludwig, In Quest of a Theory of Adaptive Change, 2002

Scholarship of Design Research | Open Track | Poster

Faculty and Students' Differing Perceptions of Indoor Environmental Quality Satisfaction: A Post-Occupancy Evaluation

Dr. Suyeon Bae, University of Missouri - Columbia Caren Martin, Martin & Guerin Design Research, LLC. Abimbola Asojo, University of Minnesota

ABSTRACT

Overview Post-occupancy evaluations (POE) are widely used to study occupants' responses to indoor environmental quality (IEQ) factors such as thermal and acoustical conditions, indoor air quality, and lighting. A sustainable post-occupancy evaluation survey (SPOES) developed by a university's interdisciplinary team provides an evidence-based, quantitative analysis of occupants' satisfaction to help identify successful areas in buildings versus those that need improvement. Resulting knowledge creates a feedback loop to support occupants' health and well-being. The SPOES has evaluated workplace, classroom, and residence hall buildings; this study examined workplace and classroom space within the same building. The SPOES questionnaire for the workplace includes 12 IEQ categories, whereas the classroom questionnaire includes 11 IEQ categories. SPOES categories also include numerous IEQ factors. The workplace factors include acoustic conditions, appearance, cleaning and maintenance, daylighting conditions, electric lighting conditions, furnishings, indoor air quality, privacy, technology, thermal conditions, vibration and movement, and view conditions. The SPOES classroom questionnaire includes them all, except privacy. Methodology This study examined one higher education building from the perspectives of both faculty (n=96) and students (n=1,007) who worked/learned in the building. The building is seven stories with 198,079 square feet (SF). Workspace for faculty (and staff) (36,512 SF) includes office, collaboration, and support areas. Education spaces for students include classrooms (16,114 SF) and laboratories (60,070 SF). The SPOES consists of an Internet-based questionnaire completed by building

occupants. Participants (see Table 1) rate their level of satisfaction with the building generally and IEQ factors on a 7-point Likert-type scale (very dissatisfied to very satisfied). They also rate the influence of the faculty's workspace on their performance and students' classroom/laboratory on their learning, as well as faculty's and students' health on a scale from 1 (hinders) to 7 (enhances). Findings & Discussion T-tests showed that students were statistically more satisfied with all the IEQ factors compared to the faculty (Figure 1). The largest gap in the satisfaction between faculty and students was thermal conditions, especially for adjustability of thermal conditions (ΔM =2.98), overall thermal conditions (ΔM =2.31), and temperature (ΔM =2.31). Other significant differences were overall acoustic conditions ($\Delta M=2.68$) and overall electric lighting conditions ($\Delta M=1.89$). Because faculty spent significantly more time in the building than students (see Table 1), faculty may be more sensitive to the IEQ factors, as previous literature indicates that longer exposure time is associated with lower IEQ satisfaction scores. Further correlations were conducted to examine the possible association of exposure time to IEQ satisfaction (see Table 2). Findings indicate that IEQ satisfaction among faculty and students were correlated with exposure time for some factors, but the degrees of correlation among faculty (r=-0.21 to -0.30) were negative and stronger than students' scores (r=0.07 to 0.12). Therefore, the more faculty were exposed to the environment, the less they were satisfied with the IEQ factors; however, students who spent more time in the environment tended to be more satisfied though the correlations were weaker. Conclusion The results indicated that different occupant types' (i.e., faculty, students) satisfaction with the environment may vary. In addition to the influence of the environment on performance and learning, demographics such as hours spent in the building, may affect IEQ satisfaction. Also, faculty may be less satisfied with the environment than students and more readily identify areas needing improvement due to their increased time spent in the building. Further study is needed to confirm other possible influences.

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Appendix

Table 1. Demographic information about participants

		Facu	Faculty		Students	
		N	%	N	%	
Gender	Male	56	62.2	468	48.0	
	Female	33	36.7	495	50.7	
	Prefer not to disclose	1	1.6	13	1.3	
Hours in	1-2 hours	-	-	136	13.9	
the building	3-4 hours	-	-	358	36.5	
	More than 5 hours	-	-	487	49.6	
	Less than 29 hours	13	13.5	-	-	
	30-40 hours	30	31.3	-	-	
	More than 40 hours	53	55.2	-	-	
	Total	96	100	1,007	100	
		M	SD	M	SD	
Age		48.79	15.89	20.05	4.08	

Table 2. Correlation between IEQ satisfaction and hours in the building

Categories (with Factors)	Faculty	Students
Acoustic quality - Overall	-0.21*	0.07*
Ability to hear desired sound	-0.13	0.10**
Ability to limit undesired sound	-0.30**	-
Appearance (aesthetics) - Overall	-0.16	0.00
Cleaning and maintenance - Overall	-0.13	0.03
Daylighting conditions - Overall	0.06	-0.02
Amount of daylighting	0.09	-0.05
Adjustability of the daylighting	0.05	-0.06
Electric lighting conditions - Overall	-0.13	0.12**
Amount of electric lighting	-0.11	0.09**
Adjustability of the electric lighting	-0.01	0.07*
Adjustability of the task lighting	-0.04	-
Furnishings - Overall	-0.17	0.03
Adjustability of the furnishings	-0.14	0.02
Function of the furnishings	-0.17	0.06*
IAQ - Overall	-0.07	0.08*
Privacy- Overall	-0.24*	-
Technology - Overall	-0.06	0.04
Access to electric outlets	-0.23*	-0.04
Thermal conditions - Overall	-0.01	-0.00
Temperature (hot or cold)	0.03	-0.04
Air velocity (drafty or stagnant)	-0.08	0.05
Humidity (dry or moist)	-0.06	0.07*
Adjustability of the thermal conditions	-0.06	-0.04
Vibration and movement - Overall	-0.21*	0.04
View conditions - Overall	-0.02	0.07*

^{*} p<0.05, ** p<0.01

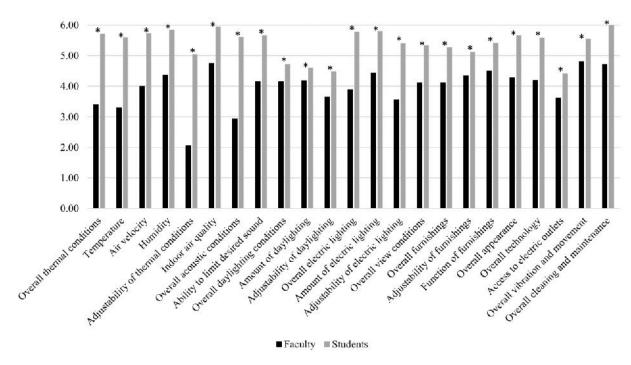


Figure 1. Comparison of the IEQ satisfaction among faculty and students *Note*. * indicates statistical differences (p<0.05).

Scholarship of Design Research | Open Track | Poster

How Can a Nonmedical Interior Environment Provide Support, Education and Community for New Mothers?

Sarah Kincaid, Virginia Commonwealth University

ABSTRACT

MOTIVATION In China, it is called zuo yue zi; in Latin America, it is referred to as la cuarentena; in India, jaapa. This protocol of intergenerational care for a new mother that lasts anywhere between 30 to 100 days postpartum "shows up in wildly diverse places" (Ou et al., 2016.) In the United States, this period of time is referred to as The Fourth Trimester. Unfortunately, as the only developed country without government-mandated paid parental leave (Livingston & Thomas, 2020), new mothers rush back into their regular routines after childbirth and expect their energy, bodies and mood to quickly bounce back. The care for and education of a new mother that was once a family affair in order to ease that transition is now frequently sourced out to hired help or forgone completely as many families now live far apart. ISSUE Since "postpartum depression [PPD] has been termed the most underdiagnosed obstetrical complication in the United States, with a prevalence rate of 13%–19%" (Olin et al., 2002), it is clear that many new mothers feel isolated and overwhelmed. Without support, they must learn how to care for their infant and breastfeed on their own in addition to caring for themselves while healing from childbirth. Because a mother's initial social interactions may be limited to medical environments that focus on the infant, such as a pediatrician's office, the warning signs for PPD often go unnoticed. As correlations have been found between the lack of social support and PPD (Negron et al., 2012,), there is a massive opportunity for spaces outside of a medical environment that foster this type of support. METHODS Direct observation of spaces such as breastfeeding centers and WIC offices may provide further information on spatial considerations and the types of services that new mothers truly need. An interview with Jackie Priest (doula, birth coach and prenatal yoga instructor), will give further insight into the varied experiences of

new mothers and could potentially inform programming opportunities. Studying precedents such as Loom in Los Angeles, a wellness center focusing on support for new parents, and The Motherhood Center in New York City, a facility offering everything from lactation consulting to counseling services, will provide inspiration in terms of programming and design. PRELIMINARY RESULTS The basic needs of new mothers have been identified as need of information, need of psychological support, need to share experience, and need of practical and material support (Slomian et al., 2017). As many new mothers do not presently have the traditional support of family, there is an opportunity for public initiatives that fulfill these needs through providing a place for community, education, and counseling. Because Various "studies have suggested that psychological distress is common during the year after childbirth" (Slomian et al., 2017), these basic needs must not be ignored in order to prevent mental health issues such as anxiety and depression in new mothers. REFLECTIONS + CONCLUSIONS Given the United State's rate for PPD, there is clearly an opportunity for improvement in the care of and support for new mothers. Because a woman's body goes through such drastic physical and hormonal changes during pregnancy, this support is crucial in order for her to heal properly and confidently care for her baby. A nonmedical environment that focuses specifically on the care and education of new mothers could potentially foster that support and community in order to prevent PPD. This thesis will explore what such a facility might entail. Programming for the space might include a yoga studio, classrooms, counseling offices, and a cafe that would provide healthy sustenance along with opportunities for socializing.

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POSTPARTUM DEPRESSION

THE NUMBER ONE COMPLICATION OF PREGNANCY



1 IN 7 WOMEN

EXPERIENCE POSTPARTUM DEPRESSION (PPD) EACH YEAR











See more at MyWishForMoms.org



Sources: CDC, PRAMS, 2012-2015 data (most recent available as of July 2018). American Psychological Association, Postpartum Depression Brochure, 2007; National Institute of Mental Health, Rosspartum Depression Facts, as of July 2018; MediNeda, June 2018; Hulfington Post, "Why so many women don't seek help for postpartum depression," November 2014. CDC "Brit and Nation", air of July 2018; Missional Cancer Institute. Cancer Statistics: April 2018.

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Scholarship of Design Research | Open Track | Poster

Measuring Spatial Ability in Virtual and Augmented Reality: Its Potential in Interior Design Education and Beyond

Dr. Ji Young Cho, Kyung Hee University Joori Suh, University of Cincinnati

ABSTRACT

Spatial ability, "the skill in representing, transforming, generating, and recalling symbolic, nonlinguistic information" (Linn & Peterson, 1985, p. 1482), is a significant cognitive capacity required in everyday problem solving, including way finding, design, technical drawings, and graphic visualization (Hegarty & Waller, 2005). No comprehensive tool, based on environmental scale information, is currently available in the field of spatial design to measure domain-specific spatial ability, including interior design and architecture. In addition, no relation between interior design performance and spatial ability measured by existing spatial ability tools reported in prior studies (Allen, 2010; Author, 2017) indicates the existence of two layers in spatial ability general and domain specific—and highlights the necessity of developing a domain-specific spatial ability measuring tool. Motivated by this deficit, we have developed the Architecture and Interior design domain-specific Spatial Ability Test (AISAT) over the last decade, reporting its predictive potential for design performance and creativity (Authors, 2019; Authors, 2020). The current version of AISAT developed by the authors operates in the static mode—on paper or a computer screen. For the next step of the development, we implemented virtual reality (VR) and augmented reality (AR) technologies using large-scale simulated environments. The benefit of using VR and AR is a better sense of scale and spatial relationships among the components presented on an environmental scale. The goals of developing VR and AR versions of AISAT were (a) to enhance the user's sense of immersion in the environment, (b) to improve user environment interactivity while solving spatial problems, (c) to improve the accessibility of the AISAT for those who are interested in using the appropriate domain-specific spatial ability tool,

and (d) to use the AISAT for training in spatial ability because of the potential impact of VR and AR on brain plasticity. Spatial ability, which is known to be malleable, can be improved via training (Uttal et al., 2013); in fact, individuals with weak spatial ability may obtain benefits from technological aids. VR and AR are known to reduce differences in spatial performance caused by individual characteristics (Chen, 2006). The VR version allows users to move, rotate, walk around in, and manipulate the environment with high immersiveness and fidelity on a realistic scale. The AR version allows users to rotate and change the scale of objects using their own mobile device. The AISAT consists of two constructs of spatial ability: (a) mental rotation in which users are asked to rotate an object to match the provided object in question and (b) spatial visualization in which users are asked to switch between 2D and 3D modes of spatial information. We expect that the VR and AR version of AISAT can be used as follows in design education: (a) to check and review one's aptitude for spatial design, (b) to measure one's spatial ability and find strengths and weaknesses in it, and (c) to enhance one's understanding of spatial organizational skills. We believe that the proposed system can also be used for training firefighters who need rapid judgment and understanding of spatial configuration for emergency conditions, and for facility managers who need comprehensive spatial understanding of largescale buildings. In addition, training programs for adults and seniors can also be developed using this system to enhance their real-life performance in spatial tasks, such as wayfinding and working memory in brain activity. In IDEC presentation, the constructs and the developmental process of VR and AR version of AISAT will be introduced. Audiences will be able to experience its sample questions via their own mobile devices and head mounted display.

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Scholarship of Design Research | Open Track | Poster

Personality and Personalization: Informing Desk Accessory Design in the Open Office

Olivia Perron, Florida State University Steven Webber, Florida State University

ABSTRACT

"The desk is highly charged with subjective-emotional connotations: it marks the territory of its owners and informs us about their status, their private preferences, and desires" (Dickel, 2011, p. 14). Employees use personalization to create identity in the workplace—it improves perceptions of control (Lee & Brand, 2005), is a positive display of territoriality (Ashkanasy, 2014), and helps establish individual identity. Despite the prevalence of workplace research in the design community, there is a lack of existing literature that address how personality, office type, and personalization choices could be influencing how the desk is used. Since employees have limited choice over their environment, there is tremendous influence in what objects an employee chooses to keep around themselves (Tian & Belk, 2005). One research question and one design programming question guide this study. RQ: How is personality influencing workspace personalization in open offices? PQ: What types of desk solutions provide users with the most flexibility in personalization? The purpose of this exploratory study is to understand what elements at an individual's workstation could be dependent on employee personality. The second purpose is to discover personality-based personalization preferences among employees in different private companies. Historically, furniture manufacturers and design firms have strongly influenced the functionality and aesthetics of the workplace. The cubicle, starting with Herman Miller's Action Office, and the open office layout have dominated the workplace-scape which evolved into highly standardized and homogenous desk benching configurations that could be somewhat adapted to employee's preferences. Personality tests have been used in the workplace since the 1920's. Wells and Thelen (2002) suggest that personality should be considered when determining an individual's desk address within the office because extraverts generally have

more personalization objects requiring more space than introverted individuals. Employees, regardless of status, type of physical environment, or workplace sector, will personalize their space. This desire to personalize could be a reaction to the homogeneity of today's offices and desks that do not provide any insight about the individuality or personality of the person who works there (Dickel, 2011). To identify if there is a link between personality and desk personalization, this study's methodology will survey employees across multiple companies in two metropolitan cities. The survey will include the following sections: basic demographics, an inventory of personalization objects kept on the desk, and the Big Five Inventory (BFI) personality test. The 44-item BFI, developed by Srivastava & John in 1999, uses personality theory to rank individuals on levels of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The purpose of this survey is to gather insights into the personalization preferences of individuals in the workplace; these preferences may or may not be supported by trends discovered through individual characteristics of personality. An informed design of desk accessories could improve open office benching to better meet individual personalization preferences. The goal of this thesis is to use personalization and personality data to better understand desk personalization trends and to use those trends to inform the design approach to open office desks. Gathering individual personality data across several companies could provide valuable insights on personalization trends at the work desk and help employers and designers better understand the individualized needs in the workspace. These topics will be explored through a poster presentation.

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Research Questions

One research question and one design programming question guide this study.

RQ: How is personality influence workspace personalization in open offices?

PQ: What type of desk solutions provide users with the most flexibility in personalization?

Purpose

- I. To identify if a relationship exists between personality and personalization styles of employees
- **2.** To potentially catalyze a shift in office desk design to better meet personalization needs



Justification

Four generations currently span the workplace

Approximately
70 - 90% of
Americans claim to
personalize their
workspace
(Wells, 2000; Brunia
et al., 2009)

Personalization in the workplace increases job satisfaction and emotional wellbeing (Gosling, 2008).

Calls for research in this area:

- more research is needed which focuses on understanding perceived control, flexibility, and individual differences at the workplace desk scale (Lee & Brand, 2005; Dickel, 2011)
- "organizations would benefit from accommodating to individual differences on what constitutes a sufficient level of personalization" (Laurence et al., 2013)

Personality

- I. is the characteristic way of thinking, feeling, and behaving
- 2. it distinguishes individuals from each other
- 3. it is observable in people's relations to the environment

Big Five Inventory (BFI) Personality Indicator

A 44-item personality inventory that uses short phrases written in natural language and a strongly agree or disagree Likert scale to determine where along a scale someone falls on the Five Factor Model

Openness

- OriginalityOpen-Mindedness

Conscientiousness

- · Control
- Constraint

Extraversion

- Energy
- Enthusiasm

Agreeableness

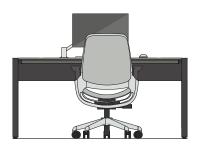
- Altruism
- Affection

Neuroticism

- Negative Affectivity
- Nervousness

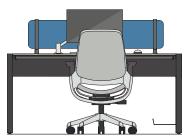
Environmental Psychology

Work Desk



Environmental psychology helps to establish and understanding of the motivations and dispositions of people in regard to their physical surroundings (Moses, 2012).

Territoriality



Territoriality studies, "the nature, degree, and effect of the spatial separations individuals naturally maintain (as in various social and interpersonal situations) and of how this separation relates to environmental and cultural factors" (Merriam-Webster, n.d.)

Personalization



Personalization is the use of objects for purposeful decoration, rearrangement or adaptation of an environment to reflect and create a personal identity (Bernheimer, 2017).

Role of Objects



Through personal objects, employees can share their culture, values, visions, and beliefs in a physical, material way (Danko, 2000).

Instrumentation | Survey Blocks

Demographic Information

1

Length: 8 questions

Purpose: to gather demographic data about participants Question Types: multiple choice, check lists

Example

Do you have any dependent care responsibilities? Check all that apply and indicate the quantity for each:

a. No dependents

b. Children [Fill in the blank]

c. Adult, parents or relatives [Fill in the

blank]



Big Five Inventory (BFI)



Length: 44 statements

Purpose: to determine personality through level of openness, conscientiousness, extraversion, agreeableness, and neuroticism

Question Types: Likert scale

Example:

___ Is depressed, blue

____ Is original, comes up with new ideas

___ Is reserved



Personalization Objects at the Desk

3

Length: 7 questions

Purpose: to determine types and amount of personalization objects kept on the work desk Question Types: multiple choice, check lists Example:

At your current work desk please share an estimate of how many of each of the following items you typically have on your desk.

a. Photos or mementos of family, friends, romantic partners and/or pets

b. Paintings, music, theatre or sports items like posters, ticket stubs, etc.



The goal of this exploratory research is to use **personality** data to better understand **personalization trends** at work

These possible trends will translate to an informed studio project which aims to provide employees with **greater perceived control** over their desk area.

Wellbeing

On average, in 2018, 80% of company expenses went towards human resources (HOK, 2018); human potential should be maximized

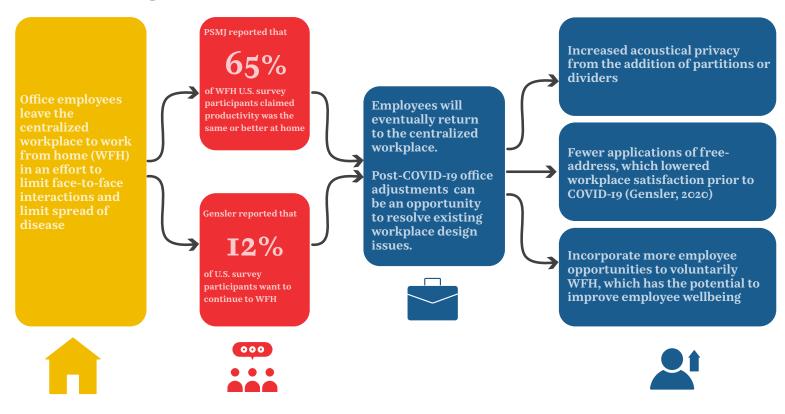
When the ability to personalize is taken away, there is an increase in feelings of discomfort and lack of control at work (Knight & Haslam, 2010)

Desks should be designed to anticipate the desire of employees to personalize and arrange their workspace in a way which best suits individual need (Dickel, 2011).



As workplaces become more technological, companies must consider how to make their space feel more human (Litchfield et al., 2016; Bene, 2018).

Wellbeing | covid-19 & WFH



Scholarship of Design Research | Open Track | Poster

Who's Leading? A North American Survey of Interior Design Program Leadership in the Academy

Amy Roehl, Texas Christian University Kimball Laura, Radford University Tina Patel, Kent State University Beth Miller, Mississippi State University

ABSTRACT

Many factors impact the ability for a unit within an organization to thrive. Success relies on resources both material and human, concrete and intangible. Company or institutional culture is often produced and distributed from the top, permeating all areas of an organization (Kezar, 2012). Power structures within institutions are held by title and also by an individual's ability to influence decisions within the organization. The power of leaders to advocate for their cause and for their people is significant in order for their unit to thrive (Fields, Kenny & Mueller, 2019). Within the framework of the academy, the authors seek insight about the current state of interior design leadership at CIDA-accredited programs in North America today. This master study aims to present a comprehensive picture of opportunities and challenges interior design higher education faces in the near future from the vantage point of the individuals in coordinator, chair, director, and dean positions. To what extent are leaders able to successfully advocate for their programs? Areas for examination include a leader's ability to create new faculty positions, fill open faculty positions, retain faculty, provide faculty development opportunities, introduce and pass new curriculum, navigate and succeed with CIDA accreditation, fund projects within their program and promote the interior design discipline through creation of events such as symposia, guest lecture series, and travel opportunities. This abstract introduces the first phase of the master study which seeks to answer: who is leading, what are their qualifications and experience both academic and professional, and are there locational attributes to the data. The data looks at public and private institutions to draw some inferences on commonalities of qualification criteria for the leadership positions and nomenclature of the titles. As a starting point for the first phase of this study the authors culled publicly-available information from the interior design program pages on university websites about interior design program leader positions (where do they exist within the school), titles (director, chair, coordinator), promotional status of the leader (full, associate, etc.) and credentials (degrees held). A snapshot of data reveals that leadership titles reflect 28% coordinator, 25% chair, 19% director, 6% dean, 9% other, and 13% positions inconclusive of leadership title. Distribution by gender reveals that there are 50% more women than men in interior design leadership roles. Rank varies widely between faculty with full, associate, assistant, and instructor positions. Many leaders hold at least 1 degree in architecture. Some leadership holds neither a degree in interior design nor architecture. Variances in nomenclature, rank, and academic background prompt further questions regarding value of academic background, weight carried by titles, and naming conventions within individual institutions. A distinct challenge with pulling information from university program websites is the variance of information available made possible by each institution's protocol for posting of faculty credentials. Therefore, using initial findings as a foundation, phase 2 of this study will follow up with a formal survey to verify individual faculty credentials. Phase 3 of the study will survey interior design leadership about their perceived influence within their institution as well as the opportunities and challenges they face in managing their program. The end goal of this study is to serve the Interior Design education community in order to support the long-term viability and sustainability of interior design programs, faculty and leadership.

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Scholarship of Design Research | Pedagogy | Poster

Interior Design Teaching at Public Universities in Brazil During the COVID-19 Pandemic

Dr. Gabriela Pereira, Illinois State University

ABSTRACT

As with other areas, the COVID-19 pandemic is affecting Interior Design Education around the world. In Brazil, the third country with most number of cases as of September of 2020 (Johns Hopkins University, 2020), the pandemic has shut down many Public Universities for months (O Globo, 2020). Public Universities in Brazil offer free education on all levels to all students and receive funds from the State or Federal Government (Sampaio, 2020; UNESCO, 2010). Besides offering free education to all students, Public Universities have the strongest work in research and outreach projects. However, in Public Universities many students have low income, no access to Internet at home, and no computer at home, making it very difficult for the required online teaching during the COVID-19 pandemic (Tokarnia, 2020). The purpose of this study was to examine how public universities in Brazil are facing the challenges of teaching Interior Design during the COVID-19 pandemic, understanding their challenges and solutions. Ten faculty from five public universities were interviewed. Semi-structured interviews were conducted in two phases (April and August of 2020), and a third phase is scheduled for February of 2021. Partial results present many similarities among all Universities. The first action that was common among all of them was a complete shut down in March of 2020 followed by months of discussions trying to find the best solutions for teaching practices. Another common action was the development of an alternative academic calendar. Since not all students have access to computer and high-quality Internet, the alternative calendar was optional. As of September of 2020, in all the Public Universities that participated in this study the academic calendar of Spring of 2020 was not concluded yet. Instead, some of them have just concluded their alternative calendar, and one of them will just start their alternative calendar in October of 2020. A practice that was common among all the Interior Design Programs during the time of shut down and

before starting the alternative academic calendar was the use of social media to keep students engaged and connected. Examples of this was the creation of Instagram accounts where live interviews with interior design practitioners and professors from different institutions were held to bring new, interesting, and applicable content to students. Another example was the use of Facebook Events to schedule YouTube Lives where more than one person could be interviewed at the same time or teach classes. This model brought Design teaching closer to students in times of uncertainties, through media that students are used to consume for their own entertainment. Classes held during the alternative calendar focuses mostly in History and Research. Overall, software-based classes were the ones that suffered the most with the online teaching. In Brazil, Interior Design students learn Autodesk AutoCAD, SketchUp, and Promob, a software for Interior Designers that work with the Brazilian Furniture Industry. Among the Interior Design programs in this study, just a free version of SketchUp is being taught at the alternative calendar. Students will have to wait until the end of the pandemic to give continuity to learning other software and for more advanced Studio classes. In the case of Public Universities, even with low resources, Interior Design Faculty are doing all possible to keep contact with students. The use of social media shows problem-solving skills and creativity on delivering content and interacting with students, but just time will tell the consequences of the COVID-19 pandemic on the quality of Interior Design teaching in Brazil.

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Scholarship of Design Research | Pedagogy | Poster

The FACS of Life: The Study of Interior Design in Secondary Education

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ABSTRACT

Improving design education in Family and Consumer Science (FCS) courses will benefit the interior design profession. Many interior design majors took FCS courses in high school because they were interested in learning about interior design. While FCS educators have the opportunity to teach interior design content, they often do not include this subject in their curriculum. This could be because the state does not require it or they do not have the background or training to feel comfortable teaching the content (Etheredge et al., 2014). Some states have interior design specific courses, and for many, it's their first foray into design. However, the experience is not always indicative of the interior design major or profession as it focuses primarily on residential design, leaving behind commercial design, which makes up 89% (BLS, 2018) of the design profession. Secondary education students learn about interior design from three primary sources: K-12 architecture programs, design reality shows, and Family and Consumer Science courses taught in high school (Clemons, 2010). Within these sources are inaccuracies depicting the interior design profession as different from reality. This leaves students unable to identify interior design as a desirable major. Many college freshmen enter the interior design major unaware of the rigorous curriculum and the profession which can lead to high attrition rates. Problem A study was conducted to identify the content being taught in FCS courses in high schools. Several hypotheses were formed in advance of the study; FCS teachers have limited knowledge of or education in interior design Established misconceptions are reinforced in courses Content is mostly residential and teachers are either unaware or uncomfortable with teaching commercial design FCS teachers have a willingness to learn more and are accepting of help FCS teachers lack access to reputable information or resources Method Upon university

IRB review, a Qualtrics online survey was administered to Family and Consumer Sciences (FCS) teachers within the states of Idaho, Utah, and Washington. Participants were recruited through a list-serve attained through the FCS program manager at the Career and Technical Education department within each state. The recruitment letter with the survey link was e-mailed to each state's FCS program manager with directions to forward the letter to the FCS educators within their state. The survey instrument contains two sections; Section 1: Demographic Information and Section 2: Interior Design Background. Section 1: Demographic Information was taken from the Teaching and Learning International Survey (He & Van De Vijuer, 2015) to collect demographic and professional experience from the participants. Section 2: Interior Design Background, uses 5-point Likert scales and open-ended questions to document participants' background, training, and knowledge of the interior design field. A pilot study was administered to 10 graduate students to validate the scales prior to administering the finalized Qualtrics survey to the participants. Results will be input into the software Statistical Package for the Social Sciences (SPSS). After cleaning the data to remove any errors and ensure the normality of the data, initial data analysis will start with descriptive statistics of participant demographics and rankings of Likert scales (Neuman, 2011). Content analysis was used to find themes and categories among the open-ended questions. Results The expected outcomes of this study will uncover FCS educators' knowledge, background, and teaching of interior design content. This information will lead to the development of interior design resources specifically created for FCS educators to teach interior design. The results of the survey will be disseminated at national and regional conferences. It will aid design educators interested in K-12 research and pedagogy and identify strengths and weaknesses of FCS secondary education.

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Scholarship of Design Research | Pedagogy | Poster

Why Design Studio Reviewers Believe They are Experts

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ABSTRACT

In every discipline, the performance of some individuals is viewed as more superior than others. These individuals are deemed experts. Many educators rely on these experts to add a wealth of experience and a diversity of perspectives to class instruction. This case study looks at the selection of experts within the context of design studio education. Research about design education is generally restricted to the design process, student perceptions, culture and technology (Murphy, Ivarsson & Lymer, 2012), while other aspects such as faculty viewpoints and the design studio review are distant foci. In design education, the studio instructor's role as an expert may be questioned (Urquhart, 2015). Therefore, additional expertise is sought after by requesting various design practitioners to participate in studio reviews. This provides alternative points of view and another perspective on both formative and summative assessment. An expert makes intuitive decisions based on past experience and holistic discrimination of the specific scenario, and often has an involved commitment to the learning activity. These expert reviewers are invited by the instructing faculty, who identify them as disciplinary experts. But who are these experts? Educators and researchers have been asking the same questions for decades: How do you find a good reviewer? What makes him or her an expert? (Brennan, 1971; Camerer & Johnson, 1991). An online survey was conducted at a multi-disciplinary design school within the United States. Criterion sampling was used to gather participants from a listing of former external studio reviewers. A total of 108 professionals responded to open-ended questions about why they think they were identified as an expert studio reviewer. Data were analyzed using inductive reasoning and typological analysis. The average respondent was male (88%), between 40 and 49 years of age (40%), and holds a master degree as their highest degree (68%). Participants provided between one and five reasons for their selection as an expert. Some

findings were consistent with existing research, which supports decisions made by the instructing faculty based on the juror's discipline-specific knowledge (31), formal education (12), experience in industry (52), and reputation (22). Contrary findings that also played a role in the decision-making process included a prior personal relationship between the instructor and the reviewer (31), the reviewer's availability (12), and the reviewer's attitude (13) The findings suggest there may be more than one level of expert. Research by Dreyfus (2004) resulted in the designation of five levels of skills acquisition: Novice, Advanced Beginner, Competent, Proficient, and Intuitive Expert. Each level is defined by varying degrees of the characteristics found in these study results. While the focus of this study is the expertise of design reviewers, the findings are equally applicable to the selection of any expert class participant. Results of the case study both strengthen existing research but also raise questions about the optimal expert reviewer selection process. Suggestions will be provided for how faculty can better select experts to aid in class instruction and student assessment.

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Scholarship of Design Research | Practice | Poster

Designing Supportive Spaces for Mothers with Children in the Neonatal Intensive Care Unit

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ABSTRACT

Each year in the United States, 1 in every 12.5 children require admittance into the Neonatal Intensive Care Unit (NICU) (Harrison & Goodman, 2015), a place specifically designed to encourage the neonate's physical growth and development. The admittance of the child into the NICU immediately after birth not only determines where the child will be cared for, but also serves as the first environment for attachment and bonding opportunities between mother and infant. The critical, high risk condition of the neonate along with the unfamiliar NICU environment can lead to the development of heightened maternal stress for mothers leading to perinatal generalized anxiety disorder (GAD), postpartum depression (PPD), and even posttraumatic stress disorder (PTSD) (American Psychiatric Association, 2020). These disorders are detrimental to not only the mother's physical and emotional health, but also the child's, as parent-infant attachment and postnatal bonding are postponed. This manifestation may put a child at risk for cognitive delays, missing developmental milestones, and emotional issues in the future (Bernard-Bonnin, 2004). There is relevant, existing research documenting the Journal of Perinatology's recommended standards for NICU design (White, Smith, & Shepley, 2013), and maternal mental health vulnerability (American Psychiatric Association, 2020). However, published research recommending standards for designing a NICU promoting maternal mental health wellness and infant development simultaneously is not comprehensive. Roger Ulrich's Supportive Design Theory proposes that stress may be mitigated within healthcare environments by providing users with social support opportunities, positive distraction, and a perceived sense of control (Ulrich, 1997). This research study explored this theory through the analysis of online personal narratives of mothers living daily lives in NICU environments. The methodology

employed was a narrative content analysis of 44 single entry online journals from 2005 – 2020 from mothers who have had a child admitted to the NICU. The PI organized each post by forum, publish date, availability of personal images, author, access to personal contact information, and overall quality of behavior and spatial descriptions (Appendix 1). Further, the PI coded all entries for Supportive Design Theory variables, related behaviors described, overall emerging themes, and spatial impacts (Appendix 2). Preliminary findings identified the following dominant emerging themes for the three Supportive Design Theory variables. Social support opportunity themes emerged as feelings of isolation, desire for comfort from others, and bonding with other NICU mothers and clinical staff. Positive distraction connected with the desire for mental or physical escapes from the NICU environment, and perceived sense of control was linked with the ability to participate in care times, lack of or sense of routine, visual control over the infant, furniture accessibility and comfort, security, and wayfinding cues. The intent of this research was to understand how environmental stressors in the NICU impact a mother's maternal mental health and wellness during the perinatal period. This presentation will discuss how Supportive Design Theory can inform the design of NICU spaces for mothers through enhancing social support opportunities, positive distraction, and a perceived sense of control during their stay.

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APPENDIX 1

Example of pilot study for utilized entries organized by post forum, publish date, availability of personal images, author, access to personal contact information, and overall quality of behavior and spatial descriptions.

BLOG POST TITLE	WEBSITE FORUM	WEB ADDRESS	PUBLISH DATE	IMAGES	TYPE OF POST	AUTHOR NAME	CONTACT INFORMATION	CONTENT STRENGTH	THEMES REPRESENTED
CDH - Charlie	NICU Awareness	https://www.nicuawareness.org/blog/cdh-charlie	15-Jul-14	Yes	Narrative	not available	not available		1, 2, 3, 4, 5
Ellie's Story: A Message of Hope and Faith for NICU Families	Lattes, Lilacs and Lullibies	http://latteslilacsandhullabies.com/ellies-story-hope-for-nicu-families/	10-Sep-17	Yes	Narrative	Mellissa	not available		1, 2, 3, 4, 5
I wanted to hold my babies - but I couldn't. So I made milk	Today's Parent	https://www.todaysparent.com/family/parenting/two-little-too-scon-one-moms-story-of-her-preemie-twins/	12-Nov-18	Yes	Narrative	Lisa Gregorie	not available		1, 2, 3, 4, 5
Life in the NICU: A Case Study in Hope	Today's Parent	https://www.todaysparent.com/baby/baby-health/life-in-the-nicu-a-case-study-in-hope/	29-Oct-17	Yes	Narrative	Sara Martell	https://www.todaysparent.com/author/sara-martel/		1, 2, 3, 4, 5
Our NICU Journey - A.K.A The Rollercoaster	Our Life After NICU	https://www.ourlifeafternicu.com/our-nicu-journey	not available	Yes	Narrative	not available	ourlifeafternicu@gmail.com		1, 2, 3, 4, 5
Our NICU Journey (When Fears Stregthened our Faith	New Orleans Mom	https://neworleansmom.com/parenting/rachaels-post/	17-Nov-17	Yes	Narrative	Rachel Marchilo	not available		1, 2, 3, 4
Paige's NICU Birth Story	Rad & Happy	http://blog.radandhappy.com/blog/paigesnicubirthstory	11-Jun-??	Yes	Narrative	Tara ??	https://www.instagram.com/radandhappy/		1, 2, 3, 4, 5
Preemie Mom Story: Amanda Gruenberg	Preemie Mom Camp	http://preemiemomcamp.com/preemie-mom-story-amanda-gruenberg/	6-Nov-17	Yes	Interview	Amanda Gruenberg	not available		1, 2, 3, 4, 5
Preemie Mom Story: Heather Horton	Preemie Mom Camp	http://preemiemorncamp.com/preemie-mom-story-heather-horton/	8-Feb-18	Yes	Interview	Heather Horton	not available		1, 2, 3, 4, 5
Preemie Mom Story: Natalie Mikles	Preemie Mom Camp	http://preemiemomcamp.com/preemie-mom-story-natalie-mikles/	4-Sep-17	Yes	Interview	Natalie Mikles	not available		1, 2, 3, 4, 5
Premature Baby: Journey through the NICU	Mother's Niche	https://mothersniche.com/nicubaby/	20-Mar-13	Yes	Narrative/Interview	Jenna	not available		1, 2, 3, 4, 5
The Allen Family's NICU Journey	Early Bird Foundation	https://earlybirdfoundation.com/2019/07/25/the-allen-family-july-2019-nicu-family-story-of-the-month/	25-Sep-18	Yes	Narrative	Evva Allen	not available		1, 3, 4, 5
The Campbell Family's NICU Journey	Early Bird Foundation	https://earlybirdfoundation.com/2018/06/29/the-campbell-family-june-2018-nicu-family-of-the-month/	29-Jun-18	Yes	Narrative	Adrian Campbell	not available		1, 2, 3, 4, 5
The Covington Family's NICU Journey	Early Bird Foundation	https://earlybirdfoundation.com/2018/12/24/the-covington-family-december-2018-nicu-family-of-the-month/	25-Dec-18	Yes	Narrative	Tabitha Covington	not available		1, 2, 3, 4
The Lewis Family's NICU Journey	Early Bird Foundation	https://earlybirdfoundation.com/2018/08/31/326/	31-Aug-18	Yes	Narrative	Lyndsey Lewis	https://earlybirdfoundation.com/contact/		1, 2, 3, 4
The Story of Francis Junebug	Hand to Hold	https://handtohold.org/francis-junebug-nicu/	1-Nov-18	Yes	Narrative	Kelsey Londos	not available		1, 2, 3, 4, 5
Those fears and realities continued to haunt me	Today's Parent	https://www.todaysparent.com/pregnancy/giving-birth/the-nicu-never-leaves-you/	27-Oct-17	Yes	Narrative	Krystal A. Sital	https://www.todaysparent.com/author/krystal-sital/		1, 3, 4, 5
To Those Who Saved Our Baby	My Heart Beeps	https://my.heurtbeeps.wordpress.com/2018/12/	8-Dec-18	Yes	Narrative	Maggie (London) Klappericl	https://myheartbeeps.wordpress.com/contact/		1, 2, 3, 4, 5
25 Week Preemie Mom Story: Lauren Edwards	Preemie Mom Camp	http://preemiemomeamp.com/?s=lauren+edwards	10-Sep-18	Yes	Interview	Lauren Edwards	not available		1, 2, 3, 4, 5
25 Weeker Twins - Houston Texas	Today Parenting Team	https://community.today.com/parentingteam/post/25-weeker-twins-houston-tx?utm_campaign=mlt	10-Nov-17	Yes	Narrative	Ashley Williams	not available		3, 4, 5
27 Week Preemie Mom Story: Ashley Hinton	Preemie Mom Camp	http://preemiemomcamp.com/27-week-preemie-mom-story-ashley-hinton/	8-Aug-19	Yes	Interview	Ashley Hinton	not available		1, 4, 3
27 Week Preemie Mom Story: Lindsay Maglione	Preemie Mom Camp	http://preemiemomcamp.com/27-week-preemie-mom-story-lindsay-maglione/	26-Nov-18	Yes	Interview	Lindsay Maglione	not available		1, 2, 3, 4, 5
30 Week Preemie Mom Story: Ashley Riehl	Preemie Mom Camp	http://preemiemomcump.com/30-week-preemie-mom-story-ashley-rjehl/	25-Jun-18	Yes	Interview	Ashley Riehl	not available		1, 2, 3, 4, 5
A NICU Journey that led to a NICU Charity	Today Parenting Team	https://community.today.com/parentingteam/post/s-nicu-journey-that-led-to-a-nicu-charity?utm_campaign=mlt	20-Nov-17	Yes	Narrative	Sara AV	https://www.facebook.com/SharingHandsForTinyHes		3,4,5
A Preemie Birth Story	Petitlem	https://petitlem.com/blogs/journal/u-preemie-birth-story	8-Nov-19	Yes	Narrative	Rana Turk	rts/ not available		1, 2, 3, 4
Family Stories: Charlotte & Baker	The Tiny Miracles Foundation	https://ttmf/ong/story/charkotte-bakee/	not available	Yes	Narrative	not available	not available		1, 2, 3, 4
From the Mother's Perspective of the Mother	NICU Awareness	https://www.nicuawareness.org/blog/from-the-mothers-perspective-of-the-mother	26-Sep-16	Yes	Narrative	Veronica Pacheo	not available		1, 3, 4, 5
I Could Survive This- The Sullivan Family	Hand to Hold	https://handrohold.oru/nicu-sumoort-sullivan-familty/	4-Nov-18	Yes	Narrative	Leigh Ann Torres	not available		1, 2, 3, 4
Story I wasn't ready' Mom of Preemie born at 24	Today	https://www.today.com/kindness/mom-preemic-born-4-months-early-shares-emotional-journey-t105045	16-Nov-15	Yes	Narrative	Sarah Clagett	not available		1, 2, 3, 4
Weeks Shares Emotional Story I wasn't prepared	Today Parenting Team	https://community.today.com/parentingleam/post/untitled_1511104039/utm_campaign=mlt	19-Nov-17	Yes	Narrative	Karen Brizzle	https://community.today.com/user/karen-brizzie		1, 3, 4, 5
Pm a survivor. Pm a NICU mama.	Motherly	https://www.mother.ly/child/im-a-survivor-im-a-nicu-mama	not available	Yes	Narrative	Azizah Rowen	https://www.mother.ly/u/azizah-rowen		1, 2, 3, 4
It was 7 days that changed me forever' My	Today Parenting Team	https://community.today.com/parentingteam/post/my-preemie-five-years-later/utm_campaign=mlf	5-Nov-18	Yes	Narrative	Nadine Bubeck	https://www.motner.iy/urazzzan-rowen		1, 2, 3, 4
preemie, five years after our time in the NICU Life Affirmation in the NICU	Today Parenting Team	https://community.soaty.com/parentingteam/post/my-preeme-nve-year-sate/sum_campaign-mit https://community.soaty.com/parentingteam/post/life-affirmation-in-the-nicu/tutm_campaign-mit	3-Nov-18	Yes	Narrative	Gail Beth Hoffer-Loibl	https://community.today.com/parentingteam/post/life		2,3,4,5
NICU Stories: The Emotions of a NICU	Parentology	nmps://community.toxay.com/parentingscam/posit/ite-artirmation-in-inc-incut/itim/_campaign=mit https://parentology.com/nico-stories-the-emotions-of-a-nica-mom/	14-Nov-17	Yes	Narrative	Kristina Cappetta	affirmation-in-the-nicu?utm_campaign=mlt https://parentology.com/author/kristina-cappetta/		1, 2, 3, 4
Mom Nothing Short of a Miracle: Connor's NICU			•				https://parentology.com/author/kristina-cappetta/		
Story	Hand to Hold	https://handtohold.org/nothing-short-of-a-miracle-connors-nicu-story/	24-Jul-13	Yes	Narrative	Aimee Sprik Melissa Brookes			1,3,4
Our Family's NICU Story	Triad Moms on Main	https://triadmomsonmain.com/my-blog/familys-nicu-story/	not available	Yes	Narrative		not available		1, 3, 4, 5
Preemie Mom Story: Carrie H.	Preemie Mom Camp	http://preemiemomeamp.com/preemie-mom-story-carrie-h/	9-Oct-17	Yes	Narrative/Interview	Carrie H.	not available		1, 2, 3, 4
Preemie Mom Story: Kristina Mulligan	Preemie Mom Camp	http://preemiemomcamp.com/preemie-mom-story-kristina-malligan/	18-Feb-18	Yes	Interview	Kristina Mulligan	not available		1, 2, 3, 4, 5
Preemie Mom Story: Stephanie Tillman	Preemie Mom Camp	http://preemiemomcump.com/preemie-mom-story-stephanie-tillman/	15-Jan-18	Yes	Interview	Stephanie Tillman	not avuilable		1, 3, 4, 5
Ryder: The Next Few Days	Peanut Butter Fingers	https://www.pbfingers.com/ryder-the-next-few-days/	27-Jun-18	Yes	Narrative	Julie Fagan	not available		1, 3, 4, 5
Seeking out the Beautiful Moments During your NICU Stay and Beyond	Hand to Hold	https://handtohold.org/beautiful-moments/	7-Apr-14	Yes	Narrative	Michelle Hensel	not available		1, 2, 3, 4, 5
The Loy Family's NICU Journey	Early Bird Foundation	https://earlybirdfoundation.com/2018/01/29/the-loy-family-january-2017-nicu-family-of-the-month/	28-Jun-18	Yes	Narrative	Andrea Loy	not available		1, 2, 3, 4, 5

APPENDIX 1, Table 1 EMERGENT THEME CODE

THEME CODE	CATEGORY	DESCRIPTION		
1	SOCIAL SUPPORT	Author discusses feeling isolated and lonely. Author details situations where others made her feel comforted. Author mentions visits, meeting other mothers, and bonding with clinical staff. Author mentions not feeling understood and alone.		
2	POSITIVE DISTRACTION	Author discusses situations where she was not solely focused on the ill infant. She details mental and/or physical escapes from the situation. Author mentions either the presence of or need for "environmental features that elicit positive feelings and hold attention without stressing the individual or creating worrisome thoughts."		
3	PERCEIVED SENSE OF CONTROL	Author discusses situations where she felt out of control. Author mentions lack or sense of day-to-day routine and the inability to determine feeding and/or holding times. The authors discusses her expectations for the perinatal experience before and/or after the child was admitted into the NICU. The mother details her own mental health state and discusses possible diagnoses.		
4	INTERACTION WITH THE INFANT/ INFANT HEALTH CONCERN	Author discusses the stressors of having a critically ill infant. Author mentions how visual control, whether in person or virtually, over the infant is comforting. Author speaks about "taking the pain away." Author discusses access to feeding/holding the infant and the sight of the child with medical equipment.		
5	SPATIAL ANALYSIS	Author discusses the acoustical environment of the NICU Author describes furniture and medical equipment layouts Author describes the circulation between the LDRP unit and the NICU. Author describes the spatial layout of SPRs/open-bays. Author discusses the comfort of furniture and the intensity or lack of lighting. The author mentions the process of entering the NICU through security and ensuring proper cleanliness.		

APPENDIX 1, Table 2	
CONTENT STRENGTH KEY	7

CONTENT STRENGTH	DESCRIPTION
	Strong. Content is descriptive, though-provoking, engaging, and well-written. Content shows a multitude of emerging themes which are eloquently expressed, illustrating a robust, comprehensive reflection on past experiences in the NICU.
	Satisfactory. Content is descriptive and well-written. Content show emerging themes illustrating reflection on past experiences in the NICU. Content articulates details on a surface-level.
	Adequate. Content mentions emerging themes, however fails to illustrate comprehensive reflection on past experiences in the NICU. Content emphasizes some details but leaves the reader needing more information an clarification.
	Weak. Content lacks details and is poorly written. Content fails to focus on themes that have interior environmental responses within the NICU.

APPENDIX 2

Example of content analysis detailing Supportive Design Theory Variables , behavior, emerging themes, and spatial impacts for Entry #1.

ENTRY #	LINE(S) #	VARIABLE IDENTIFIED	BEHAVIOR DESCRIBED	EMERGING THEME	SPATIAL IMPACT / ZONING OBSERVATIONS / PROGRAMMING NEEDS	
1	58-59	control	Tour of the NICU	Stress over an unfamiliar environment / unexpected circumstances	 Familiarize parents with environment prior to birth if possible Entourage to show successful patient experiences Entourage to give a home-like, welcoming sense 	
1	60	control	Hand washing procedure	Requirement to follow hospital policy	Handwashing stations required at security entry Ensure wheelchair access and ease at handwashing station	
1	60	control	Sign in/out procedure	Requirement to follow hospital policy	Security desk in prominent, secure location Ease of access for primary visitors	
1	61	social support	Visitation policies	Requirement to follow hospital policy	Creation of social spaces adjacent to yet not within the NICU for visitors during restricted times	
1	77-78	control	First journey to the NICU from LDRP Unit	Stress over an unfamiliar environment / unexpected circumstances	 Wheelchair access Wayfinding when subdued Partner / significant other present 	
1	78-81	control	Seeing child for the first time in space	Stress over an unfamiliar environment / unexpected circumstances	 Visual appearance of equipment Considerable amount of space surrounding patient area Acoustic qualities of equipment 	
1	90-93	social support	Positive interaction with nurses	Desire for information from and acceptance by clinical staff	Considerable amount of space surrounding patient area	
1	96-98	control	Routine of pumping breastmilk	Ability to provide breastmilk for child Ability to provide comfort / care to child	Provision of space for the mother to pump May prefer public lactation room May prefer private lactation room	

					Ample, secure refrigeration for storage of breastmilk
1	99-100	control	Watching a healthy infant in an adjacent space from within the NICU	Stress/jealousy over infant's health circumstances compared to healthy infants	Adjacent yet separate spaces necessary for healthy families vs. NICU families Acoustic barriers Visual barriers
1	102-103	social support	Disturbing others due to emotional breakdown	Desire for privacy Feeling unwelcome or intrusive	Provision of private space away from the patient "calm" or "reflective" rooms
1	104-106	control	Leaving the NICU prior to patient discharge	Desire for infant to remain close Desire for constant awareness of infant state	Live infant webcams for parent remote monitoring Furniture to allow for primary visitors to stay for long periods of time – possibly overnight
1	110-111	control	Patient surgery within the NICU isolette	Feeling unwelcome or intrusive Desire for information from and acceptance by clinical staff	Considerable amount of space surrounding patient area Live infant webcams for parent remote monitoring
1	116-117	social support	Observing other NICU parents' routines	Desire for connection with / support from other NICU parents	Provision of public spaces to allow for social interaction Break rooms
1	117-118	positive distraction	Framed pictures of NICU survivors and families	Ability to see a successful NICU patient discharge in the future	Entourage to show successful patient experiences Entourage to give a home-like, welcoming sense
1	130-135	positive distraction / social support	Positive interaction with nurses – telling jokes and laughing	Desire for positive social interactions	Acoustic privacy as to not distract or disturb other patients / families
1	142-145	control	Holding the infant for the first time	Ability to provide comfort /care to child	Furniture that allows for comfortable holding for extended periods of time
1	154	positive distraction	Bathing the child for the first time	Ability to provide comfort /care to child	Considerable amount of space surrounding patient area Storage for personal goods
1	158-161	social support	Being consoled by another mother during an infant health event	Desire for connection with / support from other NICU parents	Acoustic privacy as to not distract or disturb other patients / families Provision of public spaces to allow for social interaction Break rooms

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Interior Design in State Mental Health Facilities: How Interior Design Elements Can Impact Patient Wellbeing

Corrie Ostrander, Florida State University Steven Webber, Florida State University

ABSTRACT

This exploratory study will identify elements of the interior environment of state mental health facilities that impact patient sense of control from the perspective of their caregivers and how that impacts patients' well-being. This study will also explore what measures can be taken to modify the built environment and make it more flexible to increase patients' sense of control. The goals driving this study focus on contributing to the body of knowledge and research in the field of behavioral and mental healthcare design, raising awareness of the potential benefits that improved design could bring to state mental health facilities, and introducing a potential solution to improve quality of life for individuals being treated within state funded mental health facilities. The study aims to answer the following research questions: • Do traditional aspects of interior environments of state mental health facilities impact patients' sense of control? • How does sense of control impact wellbeing of patients within state mental health facilities? • If patients' sense of control leads to enhanced wellbeing, what aspects of the interior environment could be modified to make the environment flexible to enhance patients' sense of control and wellbeing? Knowledge and treatment practices for mental illness have progressed and evolved throughout history, however, the field of research concerning mental health facility design is relatively new which has created a gap in knowledge about the impacts of behavioral and mental health design. Informed design has immense potential to improve wellbeing, quality of life, and treatment success for patients being treated for severe mental illnesses (Ulrich, 2001). State funded mental health institutions are not only short of funding but are often housed in buildings that fall short from what is needed for patients' wellbeing and successful recovery. Forcing

potentially fragile individuals into spaces that do not support their needs could bring more harm than good. This means taxpayer's funds are being funneled into an inefficient and mostly ineffective system of mental health care. Therapy and medical care have been evolving rapidly while the architecture and interior design of these facilities stay the same where, in some cases, patients are being "handicapped" by the design of mental health facilities (Chrysikou, 2013). When looking at mental health treatment through the lenses of embodied cognition, the salutogenic model, and evidence-based design, the built environment can clearly impact the patient (Golembiewski, 2017; Shepley & Pasha, 2017). In particular, the patient's sense of control is integral to their well-being within the care-giving environment (Middelboe et al, 2001; Ulrich, 2001). The salutogenic model suggests that spaces should be supportive of its users by providing a sense of control, areas for relaxation, aesthetic interest, and access to nature (Shepley & Pasha, 2017). Depending upon the type of mental illness, each patient may perceive the built environment differently, which impacts how they react to treatment and other people around them. Design guidelines in this field are limited and there is no definitive guidelines to ensure patient wellbeing. This mixed-methods study will include both surveys and interviews that gather information from nurses and doctors employed at state mental health facilities. Both qualitative and quantitative data will then be coded and analyzed along with existing guidelines to inform potential answers to the research questions and determine design applications. This research will be presented on a poster that will effectively illustrate the need for more research within this area and will highlight the study's findings from collected data.

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research questions

- 1. Do traditional aspects of interior environments of a state psychiatric facility impact patients' sense of control?
- 2. How does sense of control impact wellbeing of patients within state psychiatric facilities?
- 3. If patients' sense of control leads to enhanced wellbeing, what aspects of the interior environment could be modified to make the environment flexible in order to enhance patients' sense of control and wellbeing?

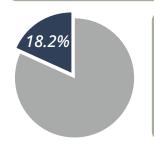
problem

"Architecture should bear the responsibility to increase the beneficial potential of a facility than simply fulfill a building program" (Chrysikou, 2019)

As those suffering with mental illnesses are a vulnerable population, it is the responsibility of the design community to contribute to improving quality of life through the practice of evidence-based design within mental health facilities.

- Informed design has immense potential to improve wellbeing and quality of life for users of the built environment
- Research within this area of study is critically needed as it has the potential to improve wellbeing and treatment success for patients being treated for severe mental illnesses

rate of adult americans suffering from any mental illness (AMI)



18.2% ≈ 32 million individuals

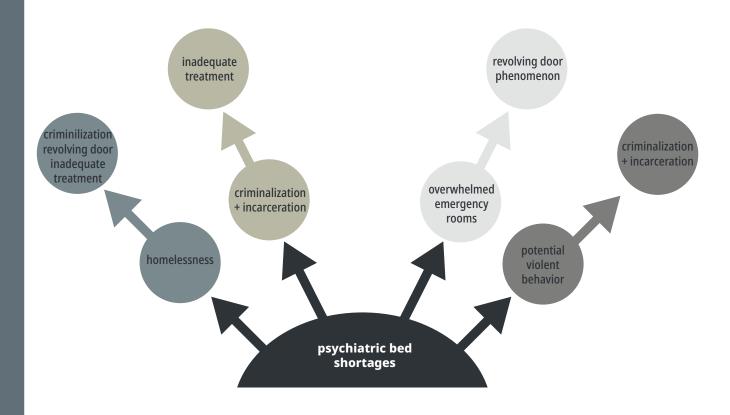
from 2012 to 2017, approximately 57.2% adults with AMI reported every year that they did not receive any mental health care and in 2017, 22.3% of adults in the United States reported an unmet

in 2019, 4.2% of the adult population in the United States, which is over 10.3 million individuals, had serious thoughts of suicide (Reinert et al., 2019).

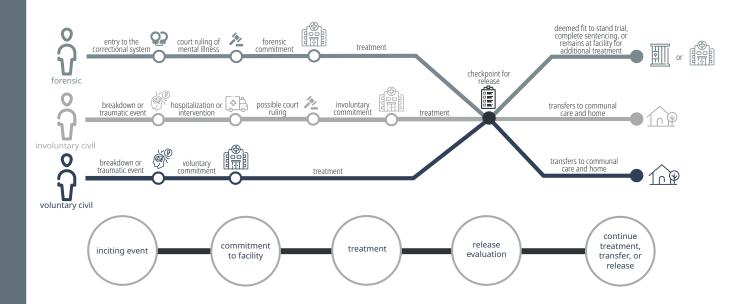
Main Issues:

- population of state mental health facilities is vulnerable (legally, mentally, and physically)
- · patients have no choice as to where they are treated
- short of funding
- · housed in buildings unequipped to support treatment effectively
- · therapy and medical care has been evolving rapidly while the architecture and interior design of these facilities stay the same
- inability for a built environment to accommodate and assist in modern mental health therapy and treatment methods represents an inefficient and insufficient healthcare setting

current status of mental healthcare



who is affected?



built environment & the patient

Well-being: "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 2020)

the built environment needs to support treatment goals without actively working against them and then "the architecture can begin to accelerate the effectiveness of treatment and create harmony between building and person" (Berwald, 2009)

"neurotransmitters react to environmental stimuli, and therefore react to design"

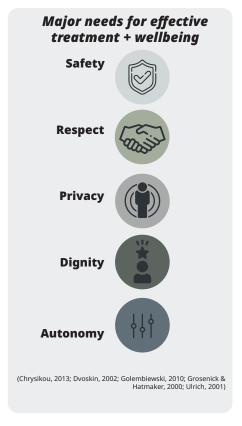
the human biological response to the built environment:

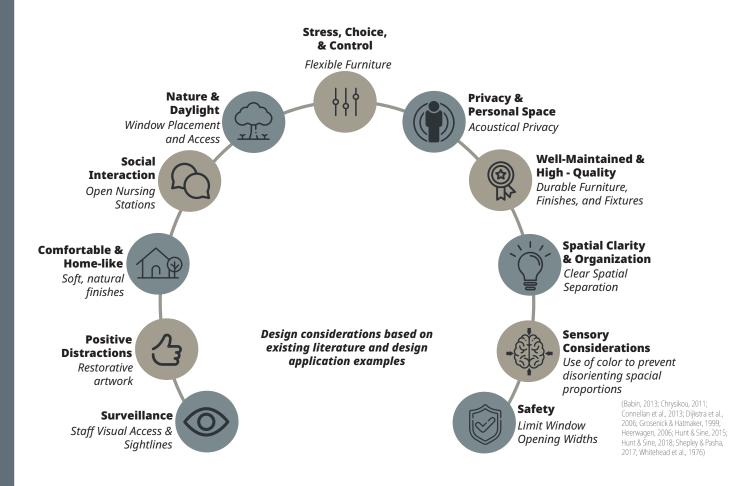
- **seratonin:** affected by light levels, influences circadian rhythm & eating + digestion & mood levels
- **dopamine:** "highly responsive to the environment," influences mood + emotions

example: a study completed by Beauchemin & Hays

• 30.8 % faster recovery + 38 % lower mortality found when patients were given sunlit rooms for psychiatric disorders

Golembiewski, 2010





methods

Participants:

- Nurses + doctors of state mental health facilities
- Target number for surveys: 20 30 responses
- Target number for interviews: 5-6

Surveys:

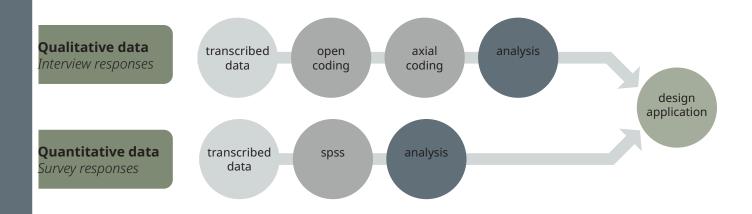
- 15 20 questions
- approximately 15 mins

Interviews:

- 8 10 pre-written questions with open ended conversation
- approximately 25 60 mins
- responses will be electronically transcribed from recording postinterview



data analysis



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The Impact of Visual Art in the Built Environment: A Study in the Classroom

Anna Chaney, Mississippi State University

ABSTRACT

Interior design is a powerful skillset as the profession can directly promote positive or negative behaviors of its inhabitants within the built environment. The built environment encompasses where we "live, recreate, and work," (Hepp and Walker, 2016, para 1) including the learning environment. The classroom "has the greatest of all influence that affect learning and academic performance of students" (Asiyai, 2004, p.717) simply because of the amount of time children spend within it. "American students average 11,700 hours of their lives in a school building from kindergarten to 12th grade" (Cheryan, Ziegler, Plaut, and Meltzoff, 2000). As children spend an impressionable amount of time in the learning environment it is vital to understand the purpose and impact of every element that makes up the classroom, including visual art. - Visual art has often been utilized by teachers to decorate classroom walls; however, there are few empirical studies that discuss how it may impact the students between the ages of 4-9. Research explains that visual art positively impacts adults in healthcare environments; (Nanda, Eisen, Zadeh, and Owen, 2010; Nightingale, 2010) children in healthcare environments; (Pati, Nanda, 2011); young adults in the classroom (Cheryan, Ziegler, Plaut, & Meltzoff, 2014); and, both children and adults in many different environments. Although research suggests that there are benefits to incorporating visual art in the built environment, there is little evidence of how visual art may be impactful while incorporated specifically in the interior of a classroom. - Through the implementation of an online survey, this research attempts to discover how visual art in a classroom environment impacts children between the ages of 4-9 through the lens of the educator. The survey instrument included 24 questions; eleven focused on the educator demographics; two addressed visual art categorization; nine used a five-point Likert scale to rank the impact of visual art in the classroom; lastly, two qualitative prompts for the educator to

provide behaviors and reactions they have noticed when visual art is present in the classroom. Additional preferences and affects will be highlighted to develop future guidelines for designing educational facilities and to assist in contributing to the body of knowledge for the interior design profession. - The survey was completed by 100 teachers and teaching assistants, with experience teaching students, ages of 4 to 9, inside a classroom environment. Qualitative survey results reveal that educators agree that visual art incorporated into the physical classroom directly impacts positive behaviors exhibited by students. These behaviors included "comforting", "engaged", "calming", "happy" to support this argument that art is positively impactful when incorporated into the built environment as an interior element. It is clear that the teachers and teaching assistants see a connection between the two; positive behaviors and visual art. - Presently, it is an uncommon practice for interior designers to be involved in the setup of a classroom; however, this should not be the case. Visual art should be considered equally as important when compared with lighting, color, space planning or other design related elements as it affects the student's experience and learning outcomes. Applying visual art in the classroom should be integrated into the scope of design as it is a powerful tool when used appropriately. -The poster presentation will illustrate the connection between visual art and positive behaviors by providing a graphic representation of data and information. Examples of visual art categorization will further define the term visual art for this study, while key issues and research questions will be highlighted to justify the relevance and importance of the study. Final conclusions derived from the data will be shared.

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Survey Instrument

The Impact of Visual Art in the Built Environment: A study in the classroom



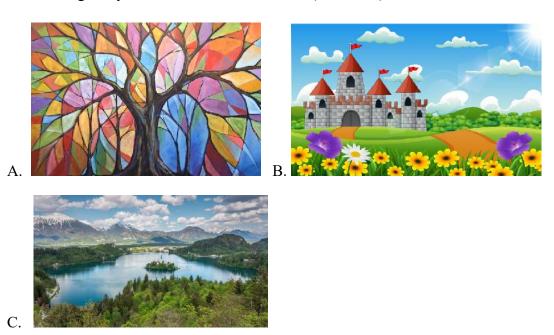
For this study **Visual Art** is defined as the artwork used as decoration or tool of stimulation that is incorporated into the built environment.

Built Environment is defined as the man-made structures, features & facilities considered in this research study (classroom or general school facilities).

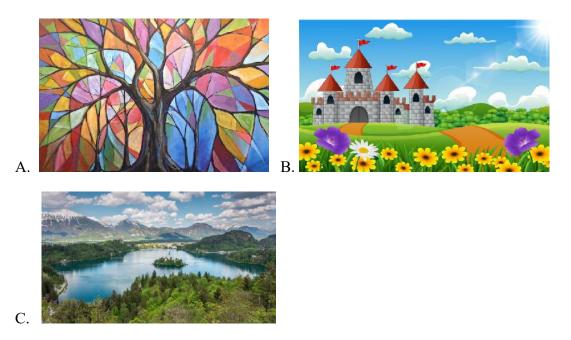
- 1. Gender (circle one): male female
- 2. What age are the children you work with (circle one): 4-5 6-7 8-9
- 3. How long have you worked with children of the ages 4-5? (circle one):
 - 0-5 years 5-10 years more than 10 years
- 4. How long have you worked with children of the ages 6-7? (circle one):
 - 0-5 years 5-10 years more than 10 years
- 5. How long have you worked with children of the ages 8-9? (circle one):
 - 0-5 years 5-10 years more than 10 years

6.	6. Level you currently teach (please circle):					
	Preschool	Pre-K	Kindergarten			
	LowerElem.	Upper Elem.	Middle Sch	ool		
7.	Is the school you a	re currently teaching a	t considered pu	ablic or private (circle one):		
	Public	Private				
8.	8. How many hours do you spend with your students each week? (circle one):					
	0-20 hours a week	21-30 hour	s a week	more than 30 hours a week		
9.	How many children	n are in your class? (cir	cle one):			
	0-10 children	11-20 child	lren	more than 20 children		
10.	0. Describe the visual art you currently have in your classroom using the descriptions belo (circle all that apply):					
	Cartoon Art	Nature Art	Comb	ination		
	Other (describe)					
11.	1. What color are your classroom walls painted?					

12. Which image do you consider to be cartoon art (circle one):



13. Which image do you consider to be nature art (circle one):



14. Please rate the importance of visual art as a positive distraction inside of the classroom:

Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
1	2	3	4	5

15. Please rate the importance of nature art as a positive distraction inside of the classroom:

Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
1	2	3	4	5

16. Please rate the importance of cartoon art as a positive distraction inside of the classroom:

Strongly	Somewhat	Neither Agree	Somewhat Agree	Strongly
Disagree	Disagree	nor Disagree		Agree
1	2	3	4	5

17. Visual art when used in the general school environment causes positive behaviors of children:

Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
1	2	3	4	5

18. Visual art when used in the classroom environment causes positive behaviors of children:

Strongly	Somewhat	Neither Agree	Somewhat Agree	Strongly
Disagree	Disagree	nor Disagree		Agree
1	2	3	4	5

19. Visual art when used in the general school environment causes negative behaviors of children:

Strongly	Somewhat	Neither Agree	Somewhat Agree	Strongly
Disagree	Disagree	nor Disagree		Agree
1	2	3	4	5

20. Visual art when used in the classroom environment causes negative behaviors of children:

Strongly	Somewhat	Neither Agree	Somewhat Agree	Strongly
Disagree	Disagree	nor Disagree		Agree
1	2	3	4	5

21. Visual art when used in the general school environment directly affects positive behaviors of children:

Strongly	Somewhat	Neither Agree	Somewhat Agree	Strongly
Disagree	Disagree	nor Disagree		Agree
1	2	3	4	5

22. Visual art when used in the classroom environment directly affects positive behaviors of children:

Strongly	Somewhat	Neither Agree	Somewhat Agree	Strongly
Disagree	Disagree	nor Disagree		Agree
1	2	3	4	5

- 23. Please respond to the following questions:
 - A. What types of behaviors do you see that your students are positively impacted by visual art inside of the classroom?

B. Do you ever utilize the visual art (on the walls) in your classroom as an educational tool? What type of reactions do you receive from students?

A Guideline for Designing Environments for Mental Restoration With Natural World Blend

Robyn Fritze, Kansas State University Kutay Guler, Kansas State University

ABSTRACT

It is reported that every year more and more college students are experiencing a mental health crisis, case numbers are escalating far beyond the typical anxiety and stress levels faced. The National Collegiate Health Assessment of 2015 found that 37% of the 116K students surveyed felt depression impeded their function, and 59% reported overwhelming anxiety (Rakow & Eells, 2019). The National Survey of College Counseling Services report of 2016 indicates that 94% of Counseling and Psychological Service directors indicated serious mental disorders among college students will continue to increase (ibid.). The situation sparked a growing demand in environmental solutions and interventions that would contribute to mental restoration. Kaplan's Attention Restoration Theory (Kaplan, 1995) as well as Ulrich's Stress Reduction Theory (Ulrich et al., 1991) provide a necessary framework for creating restorative spaces. Both theories claim that the integration of the natural elements are key for environments to lower mental fatigue and help alleviate stress and anxiety. A key point from Kaplan's Restoration Theory discusses that views of elements found in nature, like a sunset or clouds, allows for a moment of personal reflection; this experiment proved that people's attention could replenish, known through soft fascination (Kaplan, 1995). Ulrich et al. (1991) claims that viewing natural environments creates lower levels of fear and higher positive feelings for stressed-out students compared to those who simply viewed urban spaces. Together, environments integrated with natural elements therefore allow for renewed cognitive function and attention at the same time as invoking positive emotions. These are two powerful elements for creating a restorative environment. Within this context, a natural world blend can be defined as the spatial integration of natural elements as the core quality of the interior design product. However, certain qualities

of natural elements are found to be more restorative than others; this provides an optimal opportunity to investigate the various ways in which a natural world blend can aid in designing restorative interior spaces. Based on this exposition the research addresses the following question "What are the optimal ways of incorporating a natural world blend in college interior spaces that can contribute to the mental wellbeing of students in accordance with attention restoration and stress reduction theories?" Accordingly, data was collected through a custom environmental preference survey consisting of 24 questions regarding various spaces that can be found in a university campus hub, such as individual study and reflection settings, collaboration settings, socialization zones, as well as meeting and conference spaces. The sample group involved 36 college students and 8 faculty members, selected through purposive sampling. The resulting data was analyzed to develop an 8-item design guideline for designing restorative interior environments with a natural world blend integration. It is expected that the proposed guideline can be utilized to address the increasingly prevalent mental wellbeing and stress issues college students face.

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A Holistic Approach to Domestic Violence Housing Implementing Biophilic Design Principles

Lisa Marie Rutledge, University of Oklahoma Christopher C. Gibbs College of Architecture

ABSTRACT

Domestic violence is a pervasive societal concern plaguing men, women, and children globally. Approximately one in three women, and one in four men, endure domestic violence in their lifetime (Thomas et al., 2020). This issue adversely affects all aspects of survivors' lives, as well as the lives of their children. Many survivors contend with both deteriorating physical and psychological health, due to abuse. Once able to flee their situation, one immediate need is the provision of safe housing (Thomas et al., 2020). Securing appropriate housing, while experiencing a multitude of emotions, can be immensely difficult for survivors, particularly when they are simultaneously faced with social and economic obstacles. In addition to these challenges, COVID-19, a global pandemic, emerged in 2020. Research indicates emergencies and disaster situations increase the frequency and severity of domestic violence (Fernandes-Alacantara & Sacco, 2020). This has created an even greater need for domestic violence shelters. This project focuses not only on providing safe housing for domestic abuse survivors, but also addresses their physical, emotional, social, and economic needs in order to enhance health, safety, and well-being through holistic design. The theoretical framework is based on Abraham Maslow's Hierarchy of Needs. This theory asserts that fundamental physiological needs, such as food, safety, housing, medical care, and the absence of domestic abuse, take precedent over secondary needs, such as the need for love, belonging, social support, self-esteem, and personal growth (Ginn et al., 2017). Although this theory has been in existence for a number of years, it is still considered valid for addressing the relevance of basic needs for vulnerable populations (Ginn et al., 2017). Given that an individual's primary needs must be met before secondary goals can be attained, services for domestic abuse survivors, such as counseling, crisis support, and victim advocacy services, cannot be effective if the survivors are concerned with safe housing and ongoing abuse. This project simultaneously addresses both primary and secondary needs of survivors, to include an increase in survivors' overall well-being. Although there is no consensus regarding a single definition of well-being, it is generally agreed upon that it incorporates the presence of positive moods, emotions, and fulfillment, along with the absence of negative emotions such as depression and anxiety (CDC, 2019). As Biophilic Design has been shown to improve the well-being of those experiencing spaces which include biophilic design principles, this project utilizes these principles to apply natural elements to the space in order to create an inspirational and restorative environment for survivors. Instead of creating new spaces for the shelter, this project focuses on an adaptive reuse model. This non-traditional approach to domestic violence housing is particularly beneficial due to the increased numbers of vacated structures available as a result of COVID-19. The sustainable design solution addresses not only shelter, but also healing, with the goal of promoting a healthy environment which improves the well-being of domestic abuse survivors. Interior design can impact the health, safety and wellbeing of domestic abuse survivors through the design of shelters which simultaneously address a multitude of diverse needs.

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Bridging Instagrammable Moments to Interior Design: A Visual Analysis of Experiential Museums

Hannah Bartel, Iowa State University Yongyeon Cho, Iowa State University

ABSTRACT

Social media is becoming an increasingly important part of our everyday lives, and it is key that researchers understand how to utilize this public data (Blakey, 2018, Kilburn, 2018). Social media platforms have shaped a culture of sharing experiences and lifestyles, which has created a demand for "Instagrammable" spaces (Valé Architects, 2018). This emerging concept asks the questions: what types of environments are humans drawn to via social media culture, and how can this impact our approach as interior designers? Technological advances create endless possibilities in the design of the built environment, especially in the area of immersive design. Experiential museums lead this movement (Pardes, 2017). However, previous research about these immersive spaces is limited. To fill this gap, this study aims to identify "Instagrammable" interior design elements of experiential museums. The study takes a quantitative approach, a visual analysis, with the main source of data collection within the social media analysis process to further understand the design features that create these immersive environments. This strategy was chosen because Instagram images are easily accessible and often demonstrate an individual's perception of the world around them (Serafinelli, 2017). The social media visual analysis started with determining the criteria to gather images to analyze from each of the five museums in the United States. Specific selection criteria for the social media analysis portion of the study were as follows: 1) Images discovered through museum-specific hashtags, 2) Time frame of analysis = 1 month prior to analysis day, up to 100 images per museum, 3) Image must be located within the museum, 4) No videos, 5) No reposts, 6) If it is a multi-image post, analyze the first image only. These 500 photos were then selected and analyzed based on whether or not

they included specific design features, which include: 1) Lighting - excludes general lighting, 2) Color - Use of color to accent interior elements/design 3) Texture - Use of texture/pattern to accent interior elements/design, 4) Graphics - Imagery or signage used to define or attract attention to an interior design element, 5) Props - Interactive elements included in design, used as hands-on components in posted images, 6) Form - Use of shape and scale to accent interior elements/design. Finally, tracking the museum areas that are featured in each picture depicts which areas/exhibits are most shared and will be represented in a floor plan, showing a ranking of most shared to least shared exhibits of the museum. The examples of this data are shown in Figure 3 and 4. The totals of each category in Figure 1 indicate what elements were most popular and shared in each museum. For example, Museum A shows 125 instances in which the 100 most recently shared photos within Museum A featured color elements either on the furniture, the walls or floor surfaces or in fixtures and props (sub-categories that are shown in Figure 2). The result of this analysis is bar graphs showing which design elements are most shared in each museum and overall. The study found that color plays a strong role in the sharing interests of the museum visitors. At the same time, lighting and props have the most variance across museums, which suggests that the design strategies of these spaces focus on specific design elements more than others. This study is integral for furthering the interior design strategy and implementing immersive environments in our day-to-day worlds. The impact of these technological advances on human interaction with their built environment is only in the beginning stages of being understood. The researchers believe these study findings inform experiential designers, interior design practitioners, and museum curators to create and develop user-engaged environments.

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Appendix

Figure 1. Museum category total graphs

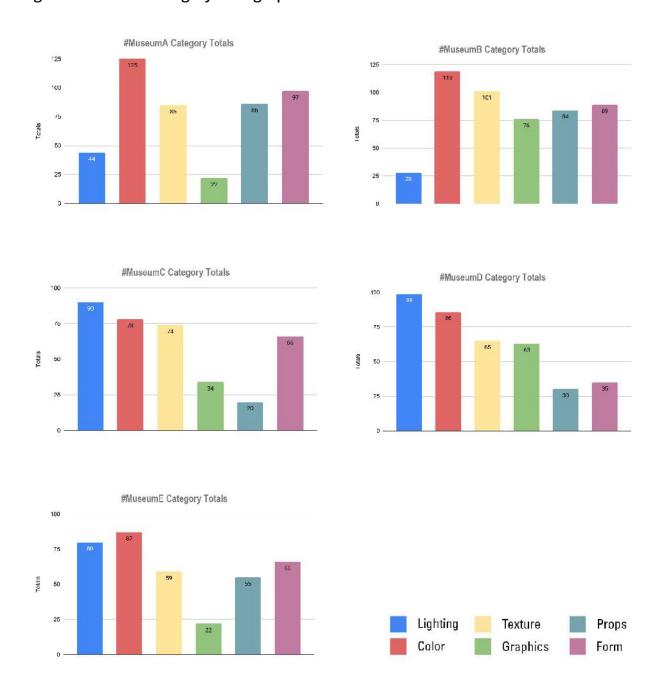


Figure 2. Museum detailed category graphs

Museum A

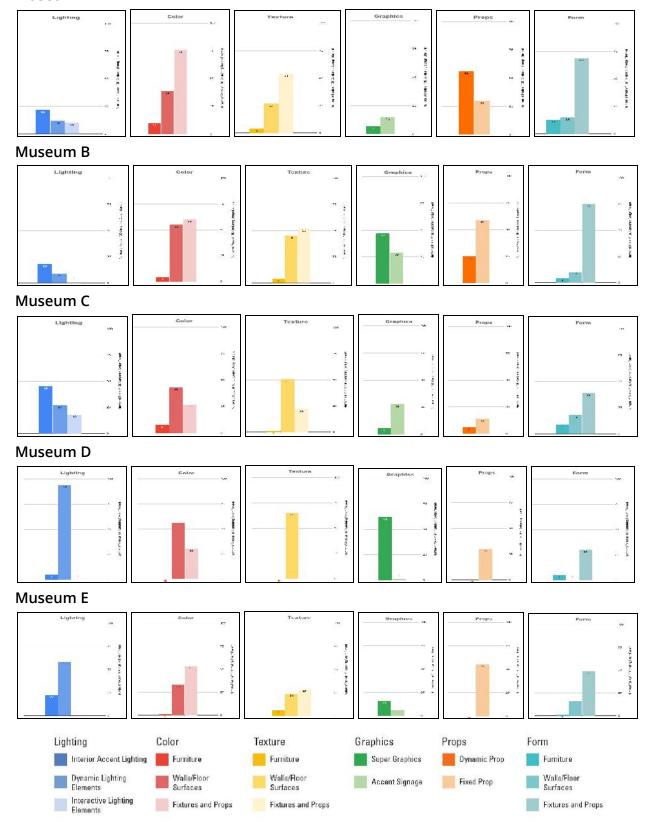


Figure 3. Zone floor map (example)

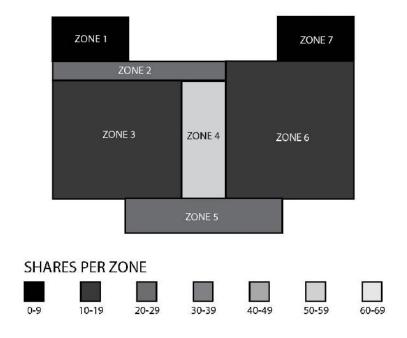
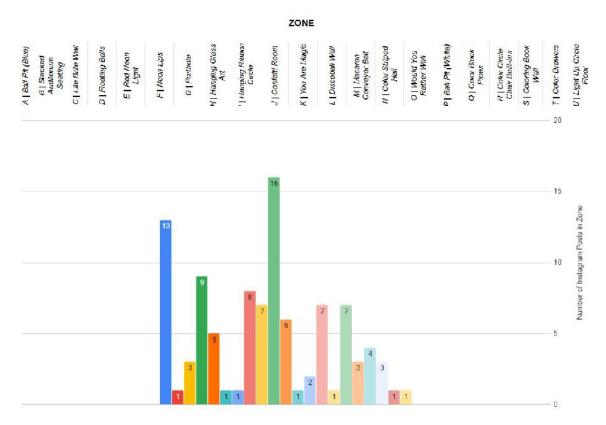


Figure 4. Image analysis zone data graphs

Museum A



Combating Food Insecurity and Promoting Wellness on a College Campus Through Dignified Design

Jocelyn Zavala, Virginia Commonwealth University

ABSTRACT

Motivation In the past, it has been assumed that students enrolled in college are fairly privileged individuals unlikely to face challenges associated with poverty (Haskett et al., 2020). That assumption has been challenged in the past few decades and a survey released last year by the Hope Center for College, Community and Justice indicated that 45% of today's higher education students face food insecurity (Goldrick-Rab et al., 2019). For a large research university in the Mid-Atlantic, it is a situation in which a student lacks access to enough nutritious food for a healthy, active life. It can negatively impact a student's academic, personal, physical, mental, and social ability to thrive (Daugherty et al., 2019). Issue Food insecurity is the limited or uncertain availability of nutritionally adequate and safe food, or the ability to acquire such food in a socially acceptable manner (Payne-Sturges, 2017). This growing health concern has received more attention recently and the number of food pantries on college campuses has increased in response to student food insecurity. However, only a small percentage of food insecure students are actually visiting food pantries and the main barriers to food pantry use are social stigma and embarrassment (El Zein et al., 2018). Food insecurity solutions should be discreet, protect student confidentiality and work to alleviate stigma (Henry, 2017). The need exists for a space on campus that fosters health by providing nourishment and other vital wellness support to cultivate student success. This facility should welcome and support all students in order to avoid isolation or stigma. Design can create a sense of dignity for students and this means developing an environment that is convenient, comfortable and caters to differences in student population. Methods Research will include case studies of wellness initiatives and centers across college campuses. Interviews with university students and faculty that provide insight on feeding student hunger and promoting healthy living will be conducted. An understanding of current university efforts combating food insecurity will be attained. A literature review about how design and choice architecture influence student perception of healthiness of dining halls will provide insight on factors that impact eating behaviors and food choices. Results Studies of teaching kitchens show that if reimagined far beyond a traditional cooking class, they can be viewed as learning laboratories for life skills—incorporating nutrition education, mindfulness training, movement and exercise, personalized health coaching, and more (Eisenberg, 2018). Preliminary observation of current university efforts to fight food insecurity reveals the presence of a food pantry but access is limited to in-need students only. Observation of dining hall studies concluded that simple signage interventions may be effective to encourage healthy eating behaviors in a college dining setting (Schindler-Ruwisch & Gordon, 2020). Examining the association between food literacy and food security showed that focusing on improving food literacy self-efficacy and skills may help people develop resilience to and manage food insecurity better (Begley et al., 2019). Reflections This research will lead to the exploration a student wellness facility that aims to alleviate the presence of food insecurity, while also promoting health and wellness for all members of the student community. A teaching kitchen could demonstrate basic nutrition concepts and cooking skills to students. A healthy dining café offering exclusively fresh, wholesome foods could make healthy choices the easy choices. A grocery shop could replace the idea of a traditional campus food pantry and give all students access to fresh and nutritious foods, avoiding isolation and stigma. Design can make meaningful differences in the lives of students and has the ability to influence dignity and comfort in higher education environments.

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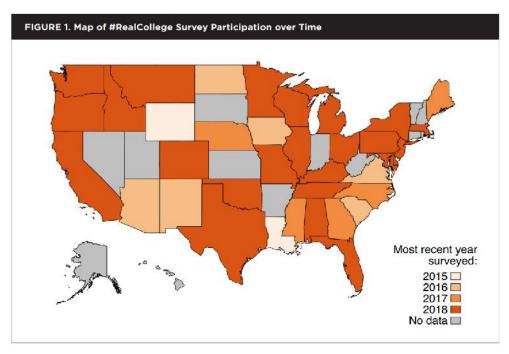
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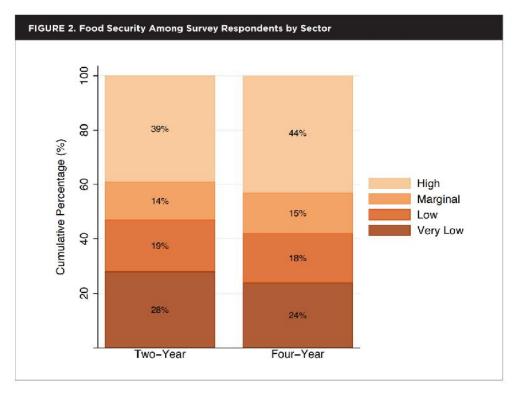
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Appendix A



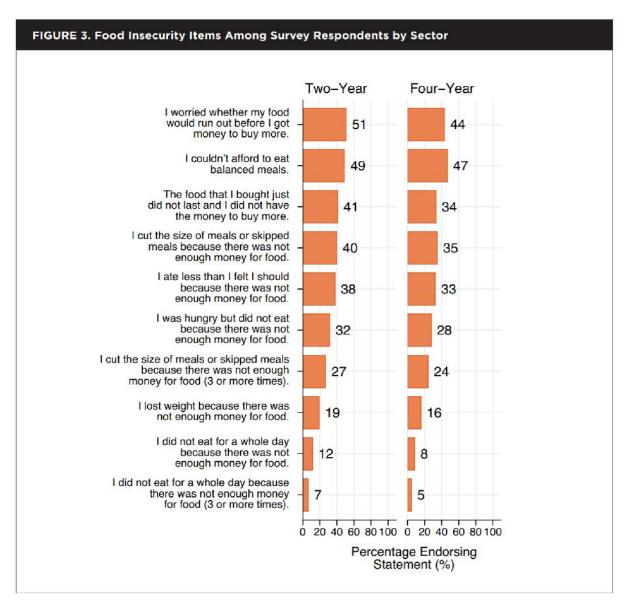
Source: 2015, 2016, 2017, and 2018 #RealCoilege surveys

Notes: One public university asked not to be named in 2017 and is not represented in the figure above.



Source: 2018 #RealCollege Survey

Notes: According to the USDA, students at either low or very low food security are termed "food insecure." For more details on the food security module used in this report, see Appendix C. Cumulative percentage may not add up to 100 due to rounding error.



Source: 2018 #RealCollege Survey

Notes: For more details on the food security module used in this report, see Appendix C.

All Figures From:

Goldrick-Rab, S., Baker-Smith, C., Coca, V., Looker, E., & Williams, T. (2019). College and University Basic Needs Insecurity: A National #RealCollege Survey Report. Hope Center for College, Community, and Justice.

Discovering the Potential and Promise of the Evolving Third Place

Nurah Alfowzan, University of Florida Shabboo Valipoor, University of Florida Margaret Portillo, University of Florida

ABSTRACT

Third places are defined as informal public gathering places apart from home (the first place) and work (the second place). Oldenburg (1999) described these places as stress buffers between the demanding home and work aspects of a person's life. The need for these gathering places has been traced back to early Greek and Roman societies that included what would be, by Oldenburg's standard, considered third places: bathhouses, theaters, colosseums, and marketplaces. Modern-day examples offer social interaction opportunities for everyone and are exemplified by community centers, cafes, parks, and libraries. As builders and stabilizers of communities, third places have been studied as a vehicle for improving quality of life (Jeffres, Bracken, Jian, & Casey, 2009). The objective of this poster will be to present the concept and evolution of third places over time. Relevant peer-reviewed journal articles and grey literature were retrieved using online databases. The review revealed the development of Oldenburg's definition of third places from free-standing getaways to more integrated niches within a variety of settings. Crossing urban to suburban environments, residents and visitors alike seek out third places in cafes, repurposed malls, or within social spaces within parks. Such places have shown to be effective in improving a sense of community, place attachment, and quality of life (Cabras & Mount, 2017). In senior living settings, third places such as integrated cafes and public dining rooms have shown to increase resident social interactions, hence positively affecting dimensions of health and well-being. A related workplace trend is integrating such places in the form of collaboration nooks and integrated work cafes. Such places are shown to be effective in increasing trusting relationships among employees as well as creating a positive sense of overall

community among workers (Grant, O'Connor, & Studholme, 2019). In healthcare settings, the concept is relatively nascent; however, some studies suggest that third places also support the process of healing, within social spaces, communal lobbies, and healing gardens. That is, an enhanced sense of wellbeing in these spaces can support patients beyond diagnostic and treatment areas. There is some evidence that patients, staff and even patient families can benefit from being in these spaces. For example, third place can help reduce stress, distract patients from unpleasant clinical treatments, enable staff members to better cope with stressful situations, and help patient family members and visitors minimize the intimidating feelings often elicited by hospitals and healthcare facilities (Adams, Theodore, Goldenberg, McLaren, & McKeever, 2010). Today, we see the adoption of "in-between places" when designing different types of environments and while these types of restorative spaces will need to evolve further given the realities of the pandemic, the immense value of creating safe and supportive social spaces should not be overlooked by designers now or in the future. Finally, this poster will present the finding of this exploratory study visually along with a narrative summary and tabular descriptive reports.

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BENEFITS OF THIRD PLACES

Urban/Suburban communities

- Household members
- Families
- Residents
- Malls
- Parks
- Shops
- Public areas in Religious Venues
- Enhances perceived Quality of Life
- Boosts social wellbeing
- Strengthens sense of belonging and community

(Alidoust et al., 2015; Hickman, 2013.; Jeffres et al, 2010;).

Senior care

- Communities of senior residents
- Community Centers
- Senior Living communities
- Senior Care Programs
- •Boosts social interactions
- Raises Social support
- Enhances Emotional support
- •Strengthens feelings of place meaning, identity and place attachment

(Alidoust et al., 2015; Campbell, 2014; Northridge et al., 2016)

Workplace

- Office workers / employees
- Integrated Work Cafes
- Open Spaces
- Collaboration Spaces
- Dining spaces /

Cafeterias

- Fosters employee engagement
- Creates positive work environments
- Creates emotional attachment to place
- Increases trust relationships

(Grant et al., 2019; Johnson,

Healthcare

- Patients
- Staff members
- Visitors
- Atriums
- · Healing gardens
- Communal lobbies
- · Dining spaces
- •Enhances social support
- Fosters connectivity
- Creates Distraction from stress
- Allows for meditation
- Allows coping with stress
- Leads to positive change in mood

(Adams et al., 2010; Alvaro et al., 2016; Glover & Parry, 2009).

EXAMPLES OF THIRD PLACES

Urban/Suburban Communities



A Starbucks Café environment Retrieved form : www.straitstimes.com



Mall - Grorud Kjøpesenter Retrieved from: www.radiusdesign.no

Senior Care



Brandywine senior living – Patio Retrieved form :www.brandycare.com



Brandywine senior living – café Retrieved form : www.brandycare.com

Workplace



Google office – Collaboration space Retrieved form : www.financialpost.com



Google Office – café Retrieved form : www.googlezurich.com

Healthcare



Outpatient center – waiting area Retrieved from: www.healthcarefacilitiestoday.com



Hospital for Sick Children – Atrium Retrieved form : www.sickkids.ca/

TYPICAL ENVIRONMENTAL CHARACTERISTICS OF THIRD PLACES





How Hotel Public Areas Have Effects on Psychology of Chinese Solo Travelers

Ni Zhang, Savannah College of Art and Design Ricardo Navarro, SCAD S. Dorothea Scott-Fundling, SCAD

ABSTRACT

The travel market directly relates to the hospitality industry worldwide. Travel demands have increased but one segment has increased more than others. Since 2008 the solo travelers have increased over 134 percent (Sendecki, 2014). In fact, between November 2018 and March 2019, the searching frequency of "solo travel" has increased 34 percent (Hitwise, 2019). Focusing on a specific demographic, there has 77.7 percent of solo travelers in the whole Chinese travel market, and the solo tourism has become an individual category in the tourism market (Tuniu, 2017). Along with this market increase is a new user type and marker segment that seeks a different experience when lodging because of their travel status. What would this new experience in lodging require and what are the concerns of the solo traveler? This study seeks to research and uncover these questions. The study utilized qualitative methods focusing on the age groups of 25-35 throughout China. Interviews and surveys were completed by over 200 participants. A thorough content analysis was completed, and some major themes were uncovered. The interviews, surveys and case studies led to certain interesting findings dealing with psychological barriers. In total six psychological barriers were uncovered from the findings: unfamiliarity, insecurity local context, stigmas and loneliness. A more in-depth content analysis led to the five main categories that are complimentary to the built environment in the perception of Chinese solo travelers, those were vision, auditory, geographic features, privacy levels, and buffer zones. The evidence-based information was analyzed and developed into a workable design intervention that attempts to assist in the psychological factors. The study applied the new design implications for Chinese solo travelers to the hotel public areas where general travelers will also

access. The new hotel user journey emphasizes the users' cognitive perception of interiors, which potentially devote to alleviate the psychological issues and barriers of Chinese solo travelers and satisfied the behavior preferences of solo travelers and general travelers. The design and intervention are mainly presented by the three zones in the interior, including buffer zone, transmission zone, and landing zone. Moreover, the design application of exhibition in the new user journey aims to provide the diversity of space and coherent space experience under the new consumption model of Chinese tourism. The significance of the study accommodated the needs between solo travelers and general travelers in the public areas of hotels and allow them to have multiple stopping points through the interaction of local contexts. Finally, this study gave a new insight to potentially reduce the psychological effects of Chinese solo travelers by applying the new design strategies and the new space planning criteria in hotel public areas. Key words: Chinese Solo Travelers, Hotel Public Areas, Hotel User Journey

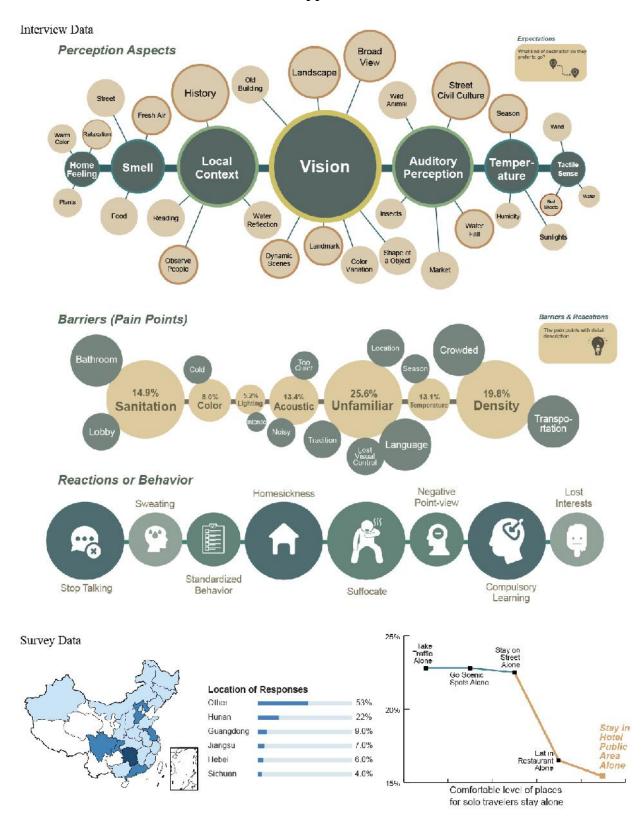
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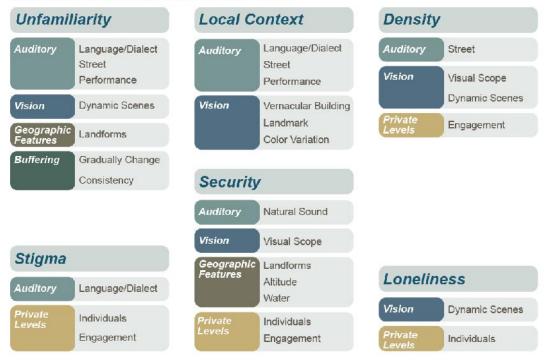
Appendix



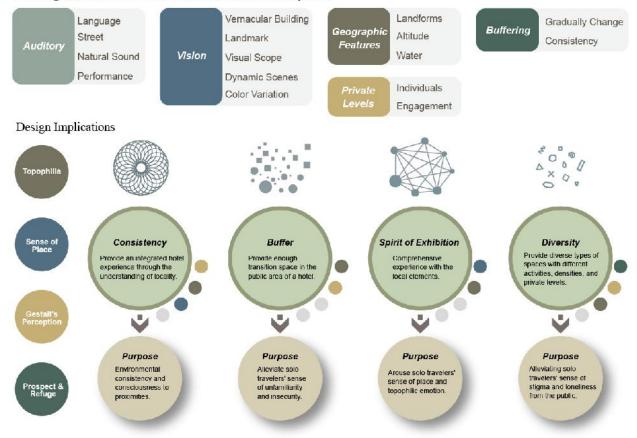
Four Types of Environmental Stimulations of Chinese Solo Travelers



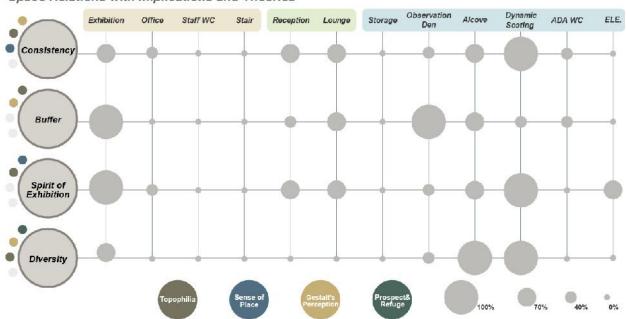
Findings of Chinese Solo Travlers' Pain Points

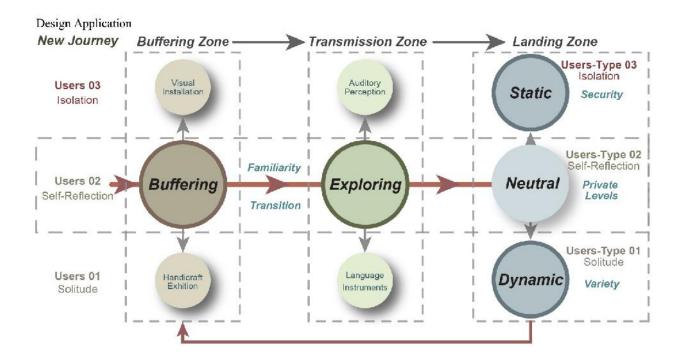


Findings of Chinese Solo Travlers' Local Perception



Space Relations with Implications and Theories







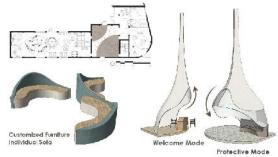


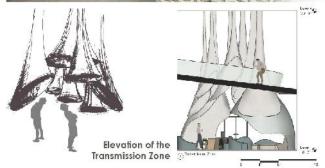




Transmission Zone









Landing Zone







Scholarship of Design Research | Social and Environmental | Poster

Sustainable Design of a Clinical Simulation Center

Eman Nasrallah, Texas Tech University

ABSTRACT

Climate change has emerged as a major problem worldwide. Buildings constitute one of the largest consumer of energy, thereby contributing substantially to carbon emission. Procuring, operating, maintaining, renovating, and recycling buildings using sustainable strategies is gaining importance across all building sectors. One way to combat climate change is to consider the design and construction of buildings. Specifically, considering materials and design solutions that can use renewable energy sources, reduce energy use consumption, and factor in ecological needs of the site location, can result in a build that has a significantly less impact on the local environment. This project centers on a university located in Texas that is proposing a new building for use by its students in medicine and nursing. This building will be a simulation center where medical students can learn in an environment that replicates a clinical setting. The building design must include facilities that meets the needs of this type of educational program. The proposed building is located in a semi-arid area that is prone to drought. Additionally, the area experiences extreme heat, minimal precipitation, and occasionally snowfall. During the summer, temperature regularly exceed 100°F, and, during the winter, temperatures drop to below freezing. There is little tree coverage and the area experiences tornados, high wind speeds, hailstorms, and has experienced poor land management due to historical farming practices. Specifically, this design project seeks to create a facility that meets the need of the university medical training program, but also include strategies in the building design that uses renewable energy, reduces heat load and energy consumption, and implements other LEED strategies and innovative biomimicry solutions. Methodology for this design project includes a review of sustainable design strategies and LEED strategies. Deliverables for this design concept include site and climate analyses (including monthly climate statistics and wind study and summer and

winter solar study), site plan, conceptual renderings of site-level spatial solutions, floor plan layout of each floor, elevations/sections of proposed sustainable solutions incorporated at the building scale, and descriptions of innovative solutions. The design concept is sensitive to local conditions, carbon footprint, and climate change. Specific strategies for renewable energy include passive and active solar energy generation. Strategies to reduce energy use include inclusion of courtyards, the use of natural light sources and inclusion of skylights. Strategies to reduce the heat load include cross-ventilation, shading, double-skinned façade, and wind towers. Finally, sustainable design strategies include harvesting rainwater, creating a green roof, and using natural and local materials. These design solutions were created to not only benefit the environment, but also to serve the users of the facility; the presented design includes the various types of rooms the facility users will need. In other words, the design captures synergies between the needs for sustainable development and operations, while taking into consideration the local ecosystem. Based on the university program needs, the square footage requirements, and the site environment, this design used solutions that best fit the criteria. In addition to visually presenting the design concepts that highlight the proposed solutions, this project also details why specific solutions were used over other potential options.

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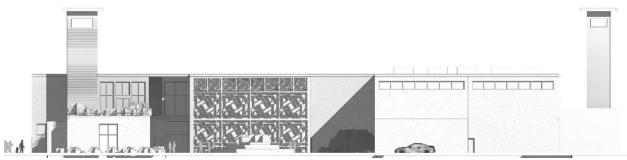
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Sustainable Design of a Clinical Simulation Center

Appendix



Section of the south façade



Shading of the south façade; the wooden entry in the façade with big and small patterns is inspired by "the *mashrabiya*," which is an old Arabic technique to cool interior spaces and to minimize the amount of light entering the building. The small pattern in the top of the walls is used to ventilate the space, and it has sensors to close the glass windows behind the wooden patterns automatically.



View of building from the south; note solar panels on roof and two courtyards in the building's center



West side section; note the wind towers



Shading of the west façade and view of green roof



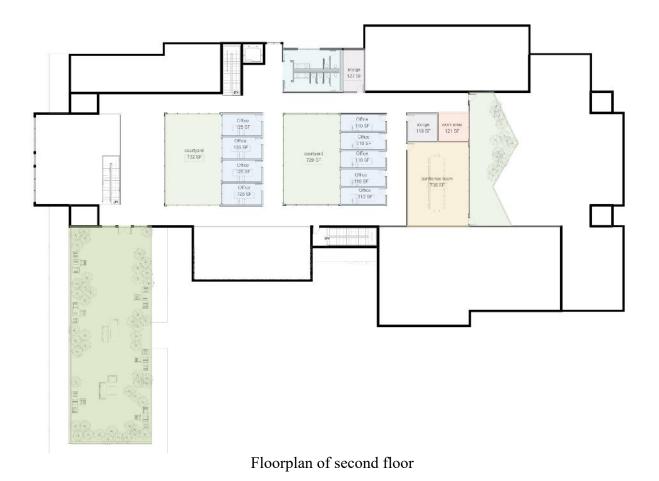
Overall view of western side of building; note solar panels on the roof



Interview showing view of courtyard, shade from façade, and light



Floorplan of first floor



The Big Five Inventory (BFI) Personality Characteristics and Their Impact on Working From Home (WFH) During the Pandemic

Dr. Lori Brunner, Arizona State University

ABSTRACT

The Big Five Inventory (BFI) is a widely used tool to identify the five personality traits of conscientiousness, extroversion, neuroticism, openness, and agreeableness (John, et al, 1991; John, et al, 2008). Researchers have used the BFI in studying workplaces, including job satisfaction and performance in different office types (Seddigh et al, 2016). In addition, the literature on working from home or teleworking has grown over the past three decades with many worker and employer benefits revealed (Gajenjdran et al, 2007). With the emergence of the Covid-19 Pandemic, most workers were ordered to quickly change their working environment to their homes. The workplace environment may, undoubtably be permanently changed from this upheaval, but time will reveal its entire impact. This presentation provides insight into the working from home (WFH) situation and the impact of the worker's BFI traits on their performance and wellbeing. More specifically, the research questions are: 1) What is the effect of the BFI traits on the workers' performance and wellbeing while working from home? and 2) How do the BFI traits compare with other variables (demographic, dwelling size and type, built and ambient environment, and workspace behaviors) in explaining the worker's performance and wellbeing? A software development company with approximately 1,600 employees (of which, 636 completed the survey), participated in the study, producing a response rate of 49%. The company is headquartered in the Midwest with other offices throughout the United States, Canada, Europe, Asia, and Australia. The data was collected via an online survey, with a demographic section and seven measures used to describe the respective areas: 1) the 44-item Big Five Inventory (BFI) personality scale (John, et al, 1991; John, et al, 2008), 2) built environment (seven questions, Cronbach's alpha of .86), 3) ambient environment (six questions,

[.80]), 4) self-report performance (four questions, [.74]), 5) wellbeing (six questions on positive physical and affective states, [.85]), 6) area control (seven questions, [.80]), and 7) teamwork (two questions, [.74]). The data collection occurred in June 2020 to July 2020 and this was approximately three months after the beginning of the work from orders started in the United States—and similar to the other offices of this company throughout the world. Linear regression analyses found that 1) BFI agreeableness (negative association) and 2) conscientiousness, 3) WFH office type (closed/not), 4) built environment, 5) teamwork, and 6) area control best explained the worker's self-report performance level. Interestingly, dwelling size, gender, number of children living at home, ambient environment, and BFI neuroticism were not significant in this model. Turning to wellbeing, the best linear regression model included eight variables: 1) BFI extroversion (negative relationship), 2) conscientiousness, 3) neuroticism (negative relationship), 4) built environment, 5) teamwork, 6) area control, 7) age, and 8) dwelling size. Surprisingly, ambient environment and WFH office type (closed/not) were not significant variables, while a notable inclusion to this was extroversion (negative relationship). Overall, these results are similar to Lindberg et al's (2016) work on BFI and workplace enclosures, with the exception of BFI extroversion's negative relationship to wellbeing WFH.

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The Enhanced Travel Experience: Transformative Spaces in the Hospitality Environment

Chasen Bloch, Florida State University

ABSTRACT

Meaningful experiences have the potential to transform. Sights, smells, feelings, and experiences have the power to impact one's life well into the future. Transformative experiences during travel can change one's point of view and core preferences so that they are uniquely their own (Paul, 2016). These experiences help us further define ourselves within the world in which we travel. Currently, the landscape of the tourism industry is changing at an unprecedented rate. People are becoming more selective about where and how they travel. As people modify their travel habits for vacationing, it is more important than ever to create meaningful and transformative experiences for guests. In doing so, hotels and resorts will attract and retain guests due to their positive experiences which will build on the hotels return on investment. As more consumers embrace the Experience Economy, where basic goods and services are no longer fulfilling people's desires, a company's success is measured by the consumers' demand for memorable and authentic encounters (Krillova, Lehto, & Cai, 2017). Guests desire experiences that will result in memories that they will carry with them for the rest of their lives. The case study of the Fairmont Banff Springs Hotel is presented here to identify and inform programmatic design elements that facilitate memorable experiences for guests. Built in 1886, the Fairmont Banff Springs Hotel is a four-star hotel and is known for its unique, castle-like place identity, embedded history, and captivating surroundings of the Canadian Rockies (Forbes, 2020). The setting allows the Fairmont to capitalize on authentic experiences due to its breathtaking location and one-of-a-kind place identity. The methodology employed a manifest content analysis of guest reviews on the Fairmont Banff Springs Hotel. Data was gathered through online guest review databases and was limited to reviews posted in the years of 2018 and 2019. The data was

initially organized based on the following criteria: length of review, whether the guest indicated a return visit, and spatial references (see Appendix 1). Further, the PI analyzed the data for specific references to spaces through keyword searches and recorded responses for emerging themes (see Appendix 2). Findings show that the public spaces such as the lobby, spa, and restaurant, more so than private spaces, are most referenced by guests to have the most potential for providing a backdrop for a transformative experience. Emerging themes focus on sense of place and location as well as historic architecture, materials used, and surrounding views. These components collectively contribute to the place identity. This poster will present data in order to offer insight into hotel guests' impactful experiences that attract and retain current and future travelers.

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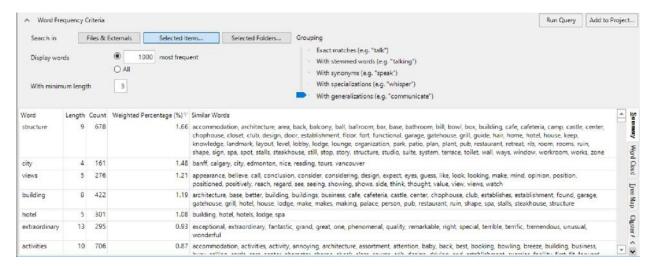
Appendix

Appendix 1 demonstrates the data organization methods. The data was initially organized based on the following criteria: length of review, whether the guest indicated a return visit, and spatial references.

A	В	С	D	E	F	G	Н	1
Number	Name	Source	Time passed	Review	Length of Review	Overall Star	Actually Stayed	Repeated visit
2	1	Google	9 months	Such a magical place	4	5	U	N
3	2	Google	9 months	This place is beautiful, but an absolute r	70	4	Y	N
4	3	Google	9 months	This is a wonderful hotel, highly recomm	16	5	Y	N
5	4	Google	9 months	Superior surroundings. The service and	39	3	Y	N
6	5	Google	9 months	The kale smoothies are amazing! I was :	36	5	U	N
7	6	Google	9 months	Most beautiful interior hotel in Calgary N	7	5	Y	N
8	7	Google	9 months	Breathtaking scenery and incredible hot	7	5	Y	N
9	8	Google	9 months	Banff for a last minute 2 day trip to the	358	5	Y	N
	9	Google	9 months	Very impressive facility. Instagram-like-p	11	3	Y	N
1 1	0	Google	9 months	Our best 2 meals in Canada. Nice cockts	29	5	U	N
2 1	1	Google	9 months	Best place	2	5	U	N
3 1	2	Google	9 months	I didn't spend the night there but this is a	25	5	N	N
4 1	3	Google	9 months	Bruh, if you want to go to Hogwarts then	13	5	N	N
5 1	4	Google	9 months	service. Eric that the check in desk was	70	5	Y	N
6 1	5	Google	9 months	A MUST see	9	5	U	N
7 1	30	Google	9 months	Its a fantasy. You got to go!	7		Ü	N
8 1	-	Google	9 months	A totally delightful hotel. Superbly locate			Y	Y
9 1		Google	9 months	Awesome place and great staff	5		Y	N
0 1		Google	9 months	(Translated by Google) Excellent place	9		Y	N
1 2	0	Google	9 months	Great place, friendly staff. Always a grea	10	5	Y	N
2 2	2	Google	9 months	Once in a life time experience , had the I	48	5	Y	N
3 2	3	Google	9 months	Absolutely Beautiful time of year to stay!	7	5	Y	N
4 2	4	Google	9 months	Grand	1	5	U	N
5 2	5	Google	9 months	Gorgeous castle, fantastic service	4	5	U	N
6 2	6	Google	9 months	Spectacularmust see to be believed	5	5	U	N
7 2	7	Google	9 months	The best views in Banff! Excellent wine I	14	5	U	N
8 2	8	Google/Hotels	9 months	The setting of the hotel is glorious and the	33	4	Y	N
9 2	9	Google	9 months	Amazing location with some beautiful vi-	6	4	Y	N
0 3	0	Google	9 months	Didn't stay there but walked the grounds	19	5	N	N
1 3	1	Google	9 months	One of the most beautiful places in Banf	13	5	U	N
	2	Google	9 months	I loved the beauty and splendor of the hi	31	5	Y	N
3 3	3	Google/Hotels	9 months	It Beautiful hotel very clean gorgeous.	7	5	Y	N
4 3	4	Google	9 months	The Fairmont in Banff is a classic Landn	18	5	Y	N
5 3	5	Google	9 months	😂 great!	2	5	U	N
6 3	6	Google	9 months	Great mountain view from the room. God	8	5	Y	N

Note: Names were only collected in order to keep the PI's place on guest travel review websites. Names were removed for confidentiality purposes.

Appendix 2 highlights the emerging themes from the collect data. While analyzing this data, the PI looked for specific references to spaces through keyword searches and recorded responses.



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Interior Topographies: Toward a New Spatial Ontology

Rana Abudayyeh, University of Tennessee, College of Architecture and Design

ABSTRACT

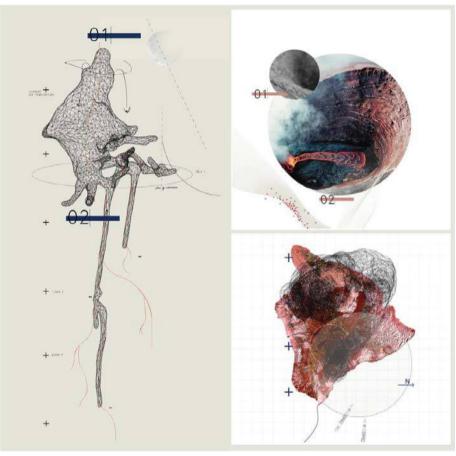
Design is approaching a crucial period where the exchange between interior and exterior systems needs to be rethought and addressed from the standpoint of resilience and innovative environmental responses. The era of the detached interior bubble that is climate controlled and therein severed from natural systems is no longer justified or feasible. Interior spaces must respond to environmental conditions and proactively engage natural systems. Furthermore, spatial needs and occupancies are evolving rapidly from the exclusive programmatic specification to hybrid occupancies and mixed-use. As such, how we think about and that by which we conceive interior spatial strategies must become more responsive and thus compatible with these ever-changing parameters. Within the incipient realities of our modern-day augmented environment, a third-year Interior Architecture studio set out to define an innovative design approach that caters to the integration between the interior and external settings. To encourage students to develop novel interior schemes, the studio started with a conceptual exercise that explored topographic variances in nature. Nature offers us a magnificent array of heterogeneous landscapes and various ecologies. The biodiversity of these environments reveals a vast platform for research into natural artifacts. Students used these studies to develop interior topographic strategies that were the foundation for rich sectional ideas. These studies became the starting point for the main project in which students were charged with the design of an Amazon Prime Air fulfillment center to be located in an existing urban storage building. The building is in an active industrial district of the city. The Prime Air facility employs drones to deliver packages and incorporates a complex automated infrastructure to transfer goods. Hence, the complexity of the design problem was positioned in creating inhabitable spaces for a hybrid species of sorts, the human and the machined, while establishing an integral interior topography that links the programmatic spaces to the city's context. This prompt allows the external site properties to shape interior strategies and vice versa. Interior space has often been understood and advanced in alignment with human occupancy, prioritizing parameters for external separation and comfort. In that sense, interiority has usually maintained a closed, discrete internal systems. This isolation is challenged through the program of the project and the process of the design. Here, interiority must respond to the changing demands of our environments. It must actively partake in a future narrative where ecologies of place, space, buildings, human, and non-human entities, become intrinsically interwoven and indispensable to our advancement. To devise interventions proliferating a robust interior agenda in urban contexts, students generated extensive site surveys from human and drone stances. The site surveys, coupled with the conceptual studies supported by robust computational platforms and prototyping, allowed for innovative interventions within the existing building and site. The projects engaged interiority as both concept and condition. They effectively presented schemes contingent on immediate and distant milieus. The resultant interior architecture concepts initiated and reinforced an exterior/interior overlap. It postulated innovative spatial applications of the systematic functions and design sensibilities afforded by models in nature, proving these methods beneficial to increasing the efficiency and aesthetics of interior spaces. We are entering an era where the multimodality of design is developing parallel to that of daily life. As designers and occupants of space, it is imperative that we challenge the prevalent autonomy of the interior volume, asserting through design the realities of our modernday augmented environments.

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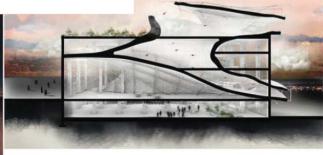
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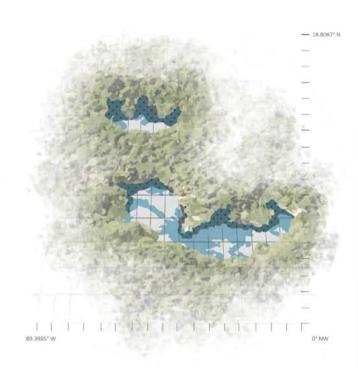
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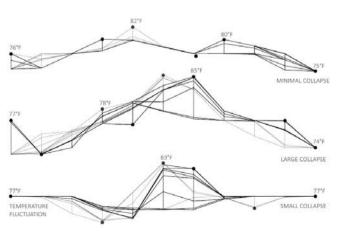


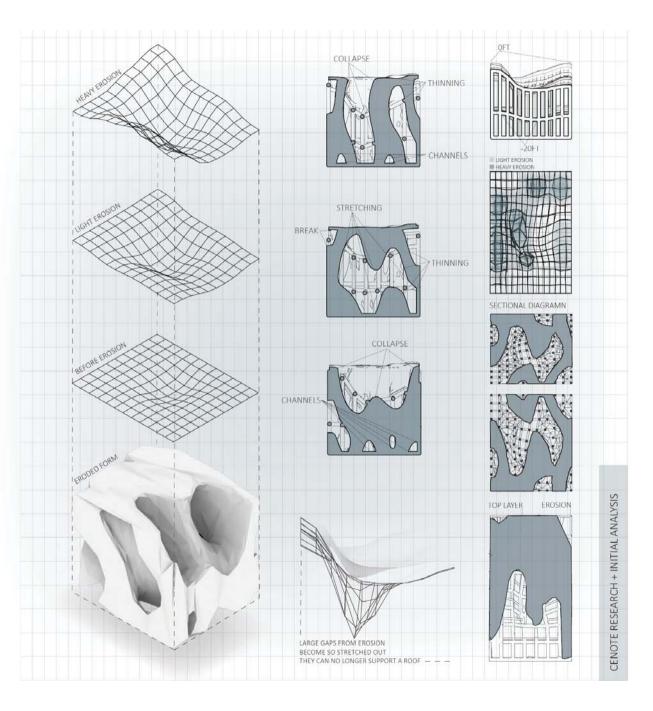


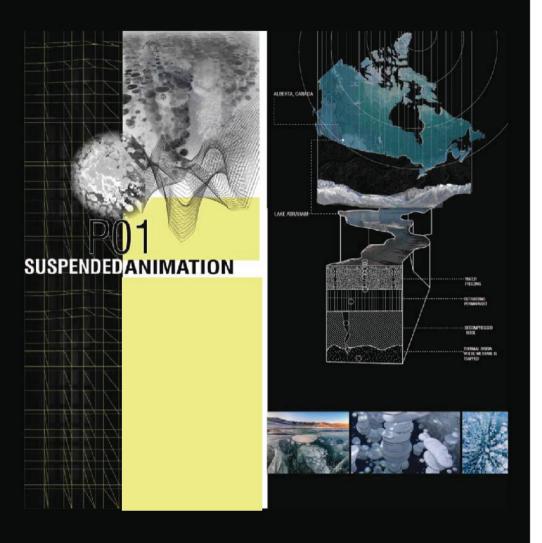


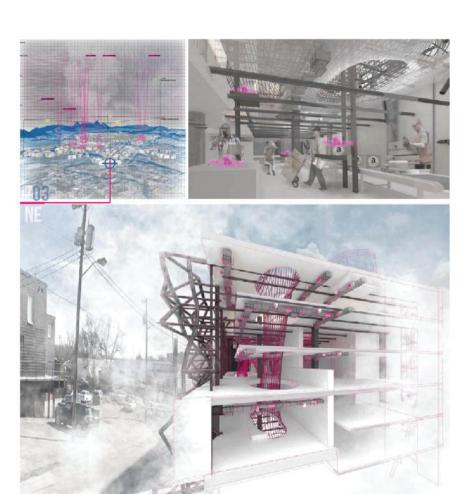


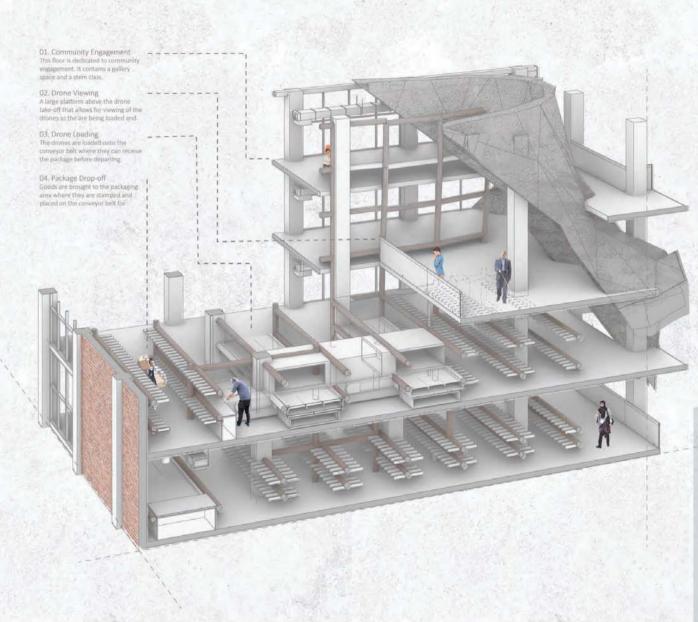


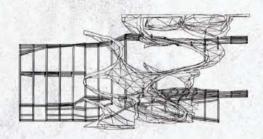


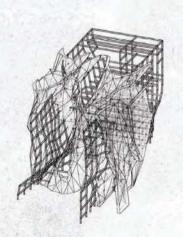






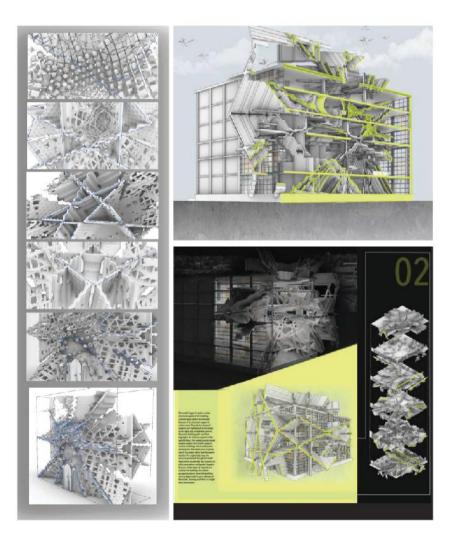






Concept:

Inspired by the filtration seen within cenotes, technological centers are able to organically blend into more human centered areas.











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Story Map in Interior Design Studio: A Technology-Oriented Approach for Millennials and Generation Z

Hoa Vo, University of Minnesota Abimbola Asojo, University of Minnesota

ABSTRACT

Millennials and Generation Z (those born from 1981 to 1996 and 1997 onward) are the two generations that currently dominate interior design studios (Shatto & Erwin, 2017). As educators, we are teaching students who are attracted to and distracted by technology at the same time. Therefore, it is vital to explore relevant approaches to technology in interior design studios to improve students' learning outcomes, especially creativity (Kalantari & Neo, 2020). Design literature shows a prominent interest in using ArcGIS (a geographic information analysis system) to capture, analyze, and display information on specific topics via Story Map (an interactive web app) in architecture, urban planning, and engineering studios with positive findings (Esri, 2019; Lee & Kim, 2016). However, few studies focus on interior design studios. Educators in the Interior Design program at a land-grant University tackled this gap via the use of ArcGIS and Story Map in the 3rd Place Work Cafe project in a sophomore studio. The 13 students enrolled in the sophomore studio are Generation Z, have moderate to high comfortability with technology but minimal familiarity with ArcGIS and Story Map. For the 3rd Place Work Cafe project, students designed a facility that serves as a showroom, work lounge, and event space for AIREA Inc., a commercial furniture dealership based in Michigan. This project is an annual collaboration between the lead educator and Haworth (city to be named), the local customer of AIRE Inc. Esri, the company that owns ArcGIS and Story Map, provides educators and students of the land-grant University free-of-charge access to their services and database (e.g., demographics and infrastructures of the United States). Within five weeks of the project, students reviewed literature, searched ArcGIS database, analyzed, and incorporated

social/geographical information into their design solutions. Especially in the second week, students attended a workshop on ArcGIS and Story Map provided by a Spatial Technology Consultant of the University. Students learned, via step-by-step instructions and hands-on exercises, how to search the ArcGIS database, analyze the project-relevant information, and demonstrate their analysis results on the Story Map. In the fourth week, students had a troubleshooting session with the consultant to address any problems they encountered while working on the project with ArcGIS and Story Map. The educators also gave students feedback on whether their collection and analysis of information were beneficial to their design solutions. Overall, students focused on exploring the project site in terms of nearby facilities (restaurants, firms), transportation routes (bus, bike), surrounding neighborhoods, and the community (diversity index, income, race). A student, for instance, found multiple community centers within a 10-minute walking radius of the project site. The result was a project that featured universal design, semi-open space planning with movable furniture to accommodate both communitybased events and private rentals. Students used Story Map to present literature review, information analysis, design concept, floor plan, sections, perspectives, and FF&E. Due to the COVID-19 pandemic, the studio pivoted to remote modality halfway through the project. However, students were able to present their designs by recording their interactive Story Maps voiced over with explanations. Thus, this technology-oriented approach made the studio resilient to uncertainties. Educators then measured students' learning via a nomination system (Hoffmann et al., 2016). Each student nominated three peer projects and rated their creativity on a 5-point scale (none to very high). Two Story Maps with the highest ratings also received awards from Haworth (city to be named) for most creative 3rd Place Work Cafe projects. Three other Story Maps got the Special Award for Innovative use of Story Maps in the classroom from the U-Spatial program.

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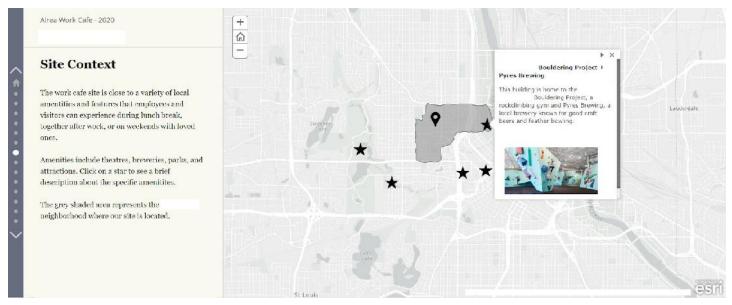
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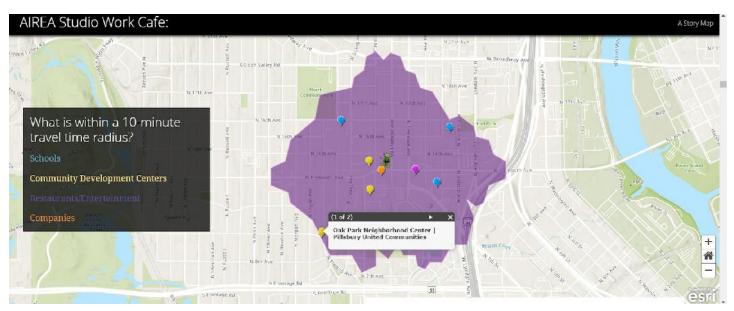
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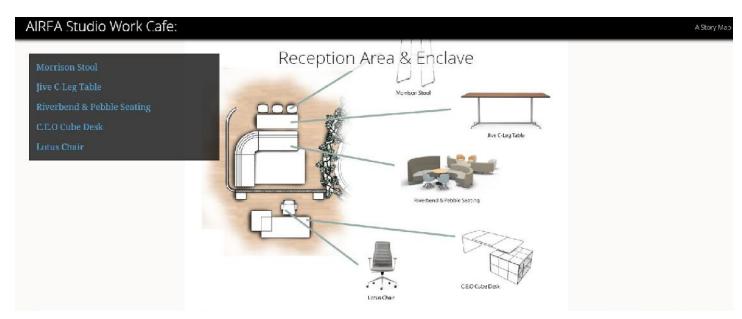
ArcGIS/Story Map - site context sample 01



ArcGIS/Story Map - site context sample 02



Story Map - Perspective sample



Story Map - Furniture Specification (with links to products) sample

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The Environment Makes the Sound: Teaching Acoustics While in a Virtual World

Erin Speck, George Washington University

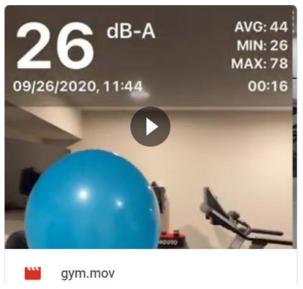
ABSTRACT

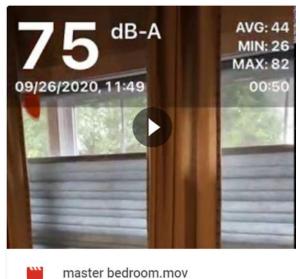
Teaching acoustics in the virtual world has created interesting situations. In the past visits to galleries, offices, classrooms, and other locations, to measure sound pressure levels and record the sound in the space for later classroom analysis was the norm. That is just not possible thanks to COVID. A new assignment, inspired by "The Sound of the Hagia Sophia More than 500 Years Ago", provided the opportunity for students taking the class from a variety of locations around the world to experience, and measure db levels in a selection of interior environments. The lessons learned gave students a new awareness of an interior sense that was not at the forefront of their minds, until now. It also provided discussion on how a visually impaired person perceives space from acoustic clues. Students were provided links to SPL apps for use on their personal devices. They were then tasked with purchasing 6-10 round balloons that could be inflated to the same 8" diameter each. Add a pin for popping the balloons and we are good to go. The same size balloons and pins were used in a variety of environments for students to experience and gain an understanding of the impact finish materials have on sound in environments. The app measured the db level as the balloons are popped and video recorded the sound before the balloon popped, as it popped, and after it was finished popping. Additionally students wrote detailed observations on the sound of the balloon pop in each setting. The assigned settings included a clothes closet, restroom, bedroom, kitchen, open stairwell, and a location of their own choosing. A listening quiz, not graded, from a selection of student's balloon popping environments proved very insightful for their awareness of environments, purely from listening. The success, fun, and knowledge gained from this assignment will carry it into future non-COVID semesters.

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The Role of Distraction in the Creative Process

Lisa Phillips, Thomas Jefferson University

ABSTRACT

Much evidence has been published concerning the connection between an incubation period and creativity. Consider Jonas Salk's development of the polio vaccine while on sabbatical in Italy or the classical example of Archimedes, who solved a particularly vexing problem while in the bath. It is often suggested that whenever one is at an impasse that they should step away from the problem, in the hopes that inspiration will strike when the unconscious mind takes over. One, lesser known method, however, that also relies on a "fresh look" strategy, is to purposefully instigate distraction, rather than rest, to tap into the mind's potential. This method may be of particular interest in the interior design discipline, where blocks to the creative process are not uncommon and lengthy breaks are not always available. Could distraction aid students when obstacles to inspiration occur? Evidence of the link between creativity and incubation periods has been shown in the last two decades, with recent studies from Kühn et al. (2013)1 and Gilhooly et al. (2013)2, to name but a few. Ap Dijksterhuis & Teun Meurs (2006)3 took this research a step further, however, when they conducted a series of experiments to determine whether participants could become more creative through distraction. The belief was that any "step away" from the task, whether it be a break or a calculated interruption, would allow the same benefits in the creative process. The results concluded that participants who were distracted through an unrelated, mentally strenuous task produced more creative results than those who were not preoccupied. In the spring semester of 2020 ten junior interior design students were part of an experimental pedagogy trial to test this theory. During the conceptual phase of development for a large-scale corporate design, students were asked to produce two parti models. The group then participated in a series of unrelated mentally demanding tasks for a short period. After this time, they were asked to create two additional models within an hour. In eight out of ten students, the models created after the distracting task were selected as being more creative by

a small group critique process. At the final critique, six of the students' projects reflected concepts based on the partis generated after the distraction period, illustrating the success of the experiment and confirming the theory. It was noted that the method was effective, not only in those having difficulties developing initial ideas, but also for those who had literal partis in their first iterations. The additional time and requirement to produce subsequent models often allowed students to formulate more abstract models, and indeed more creative final concepts and designs. The purpose of this presentation would be to discuss the principles of Dijksterhuis & Meur's experiments and how they were specifically applied in the design studio so these could be utilized by others, looking to implement similar pedagogical methodologies. The insights discovered can be applied to decrease creative blocks and also to increase general creative competencies in concept development, space planning, detailing, and potentially, many other related endeavors.

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Student Conceptual Models in Order of Creation (3 & 4 Created Post Distraction)



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When Experience Isn't Enough: Scaffolding How Students Learn Collaboration in Team-Based Interior Design Studios

Dr. Erin Hamilton, Texas Tech University Rana Bazaid, Texas Tech University

ABSTRACT

Collaboration is one of the professional standards of CIDA-accredited Interior Design programs. A collaborative approach to learning offers several unique opportunities for learning outcomes and development that are not easily captured in individual work. Individual knowledge is enriched as students compare their own understanding with that of their peers and students are exposed to alternative approaches to the design process (Pawson, 2016). In addition, the ability to work proficiently in teams is critical to success outside the classroom, as professional practice involves iterative collaboration among interior designers, architects, and engineers (Russ & Dickinson, 1999). How do students aquire these learning outcomes in group projects? Through the process of collaborating on a team design project, students often informally acquire knowledge through experience. The terminology and language that is inherent in different design disciplines may emerge naturally in conversations and the experience of developing a group design project often necessitates that students build familiarity with technologically-based methods of collaboration, like shared building information modeling. However, despite the potential for many positive learning outcomes of collaborative projects, students often express trepidation and negative expectations at the outset of a group project. Common concerns include the time-consuming nature of group work due to challenges of coordinating schedules, difficulties with intragroup dynamics, and the equitable division of labor. However, previous research has demonstrated the integral role of the instructor to mitigate these concerns and support positive attitudes among students about group work (Chapman & Van Auken, 2001). Thus, formal pedagogical scaffolding is necessary to help students understand the dynamics of

group collaboration and to work effectively within multidisciplinary groups. In short, good collaboration doesn't just happen. This presentation will discuss best practices for student group work based on a literature review of leadership and collaboration theories, higher education pedagogy, and design education. We will examine common approaches to forming student groups, including student self-selection or instructor assignment based on student characteristics (e.g., personality traits, learning styles, or skills). We propose a framework for facilitating effective group dynamics in the interior design studio based on the "Seven Norms of Collaboration" (Garmston & Wellman, 2016), which suggests that regardless of the individual characteristics of the team members, the most effective teams are ones that commit to several normative behaviors in the context of group interactions (e.g., pausing, putting ideas on the table, paying attention to self and others, and presuming positive intentions). We apply the "Seven Norms of Collaboration" within a fourth-year interior design studio course and will discuss the results from an on-going study evaluating the student perceptions of collaboration and learning outcomes. Year 1 of the study involved student groups defined by personality strengths and minimal formal scaffolding regarding group dynamics, with only a classroom introduction to the "Seven Norms of Collaboration." Results reveal that students in the first year of the study desired additional support to learn how to collaborate with peers. Consequently, intention-setting and critical reflection exercises were added in Year 2 to help students apply and internalize the norms of collaboration. Student groups identified concrete strategies to avoid and address intragroup conflict based on the norms of collaboration and they made action plans to define individual roles within the group. Examples of activities will be shared for implementation in other interior design courses using group projects.

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Norms of Collaboration

Annotaated

1. Pausing

Pausing before responding or asking a question allows time for thinking and enhances dialogue, discussion, and decision-making.

2. Paraphrasing

Using a paraphrase starter that is comfortable for you – "So..." or "As you are..." or "You're thinking..." – and following the starter with an efficient paraphrase assists members of the group in hearing and understanding one another as they converse and make decisions.

3. Posing Questions

Two intentions of posing questions are to explore and to specify thinking. Questions may be posed to explore perceptions, assumptions, and interpretations, and to invite others to inquire into their thinking. For example, "What might be some conjectures you are exploring?" Use focusing questions such as, "Which students, specifically?" or "What might be an example of that?" to increase the clarity and precision of group members' thinking. Inquire into others' ideas before advocating one's own.

4. Putting Ideas on the Table

Ideas are the heart of meaningful dialogue and discussion. Label the intention of your comments. For example: "Here is one idea..." or "One thought I have is..." or "Here is a possible approach..." or "Another consideration might be...".

5. Providing Data

Providing data, both qualitative and quantitative, in a variety of forms supports group members in constructing shared understanding from their work. Data have no meaning beyond that which we make of them; shared meaning develops from collaboratively exploring, analyzing, and interpreting data.

6. Paying Attention to Self and Others

Meaningful dialogue and discussion are facilitated when each group member is conscious of self and of others, and is aware of what (s)he is saying <u>and</u> how it is said as well as how others are responding. This includes paying attention to learning styles when planning, facilitating, and participating in group meetings and conversations.

7. Presuming Positive Intentions

Assuming that others' intentions are positive promotes and facilitates meaningful dialogue and discussion, and prevents unintentional put-downs. Using positive intentions in speech is one manifestation of this norm.

Design Team 1 Intention Setting for Successful Design Collaboration

TEAM MEMBERS:

Positive collaboration doesn't *just happen*. Today we've identified our own Leadership Skills and discussed 7 Norms of Collaboration. The questions below are designed to help you brainstorm how your team will approach the design project for the remainder of the semester. Use this workspace to document your team's intentions and commitments to the collaborative process.

1.	LEADERSHIP SKILLS. What are the dominant leadership skills for each of your team members? How do your skills as individuals complement the group? Are there any gaps in your leadership skills? What can you do to compensate for any gaps in leadership skills?
2.	DESIGN THINKING. How will your team allow for all team members to contribute ideas about conceptual development, space planning, and design development? How will your team reach consensus about the direction of your design project?
3.	EQUITABLE DISTRIBUTION OF LABOR. How will your team divide tasks in an equitable way? What strategies could you employ to track individuals' contributions in terms of time invested and deliverables produced?

4. **CONFLICT RESOLUTION.** What sources of conflict might you anticipate based on your previous experiences with group projects (avoid identifying specific individuals)? How will your team deal with conflict? What Norms of Collaboration can your group commit to using to prevent and respond to conflict? At what point will your team seek outside help from the instructors to mitigate conflict?

- 5. **LOGISTICS.** Discuss the following issues and be as specific as possible in your answers. Detailed planning now will ease your collaborative efforts in the long run.
 - a. Person to document and remind everyone of deliverables and deadlines:
 - b. Person(s) to compile deliverables according to assignment format:
 - c. Person(s) to proofread assignments:
 - d. Person to submit deliverables to Blackboard:
 - e. How will you contact each other? Group text? Group email? Other?
 - f. When will you meet outside of studio?
 - i. How will you meet? Facetime? Zoom? In-person with masks?
 - ii. How long will you meet?
 - iii. Do you expect people to be present for the entire group meeting?
 - g. When will individuals complete assigned project tasks so that a team member can compile all pieces before the deadline?
- **6. OTHER COMMITMENTS.** Document any other intentions you would like to set as a group as you embark on the design phase of this project.

Peer Evaluation Form – Phase II (5% of Course Grade)

NAME:

Each group member should complete this form individually. First, provide a brief description of the tasks and responsibilities completed by each team member.

Names of Group Members (Include yourself)	Tasks and Responsibilities:

Please rate each member in your group (including yourself) on the following attributes.

Attribute 1. Promoted positive group atmosphere, e.g., promoted a sense of trust, listened, motivated, respected each member, facilitated cooperation, did not try to dominate group.

Attribute 2. Fostered an effective and productive group, e.g., urged us to stay with a constructive process without being tied to having things his/her own way, kept us on track, shared relevant ideas, was reliably well prepared for meetings, helped us integrate ideas.

Attribute 3. **Contributed a fair share**, e.g., took initiative, adequately did work on time, was reliable in the quality and quantity of work, volunteered to do work, shared efforts and didn't withhold ideas or efforts or leave meetings early, carried his/her own weight.

List each of your group members and highlight the appropriate rating. For each rating of "4" or less, give a specific example of where the person performed below average expectations. For each rating of "9 or above" provide a specific example where the person embodied the attribute particularly well.

1=little or no accomplishment, 5 = average performance, 10 = outstanding performance.

Names of Group Members (Include yourself)	Attribute 1: Promoted Positive Group Atmosphere	Attribute 2: Fostered Productive Group	Attribute 3: Contributed a Fair Share
	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10

Any other comments/concerns related to your group or particular sections of the Team Project (Use back of page if necessary):

Scholarship of Teaching and Learning | Social and Environmental | Poster

Service-Learning as Professional Advocacy: (Re)Building Community Trust in Student-Led Projects

Barbara Young, Purdue University

ABSTRACT

Educators who facilitate service-learning and community engagement continue to promote the multiplicity of benefits for students and communities, bridging perceived gaps between academia and society (Thamrin, Wardani, Sitindjak, & Natadjaja, 2018). Following frameworks that promote applying knowledge gained in coursework, connecting with the community, and critical reflection, aid in positive results for student learning. (Zollinger, Guerin, Hadjiyanni, & Martin, 2009; Ash & Clayton, 2009). As posited by Furco (1996), service-learning involves a relationship between community partners and academia that continuously shifts between benefactor and beneficiary for each respective party involved. However, when circumstances unfold in which benefits weigh too heavily to student learning and success, pushing student engagement in community projects becomes an abusive relationship, resulting in lasting negative impacts in the community (Van Marrewijk & Dessing, 2019). Unfortunately, this is the case for a mid-western university town with service organizations operating on tight budgets with limited staff. Organizations do not have the capacity to engage student relationships that are not fruitful or continue projects that are left unfinished after the academic semester has ended and student interest moves on. An opportunity for community involvement with the Interior Design program presented itself with one such organization. A community center obtained grant money from the state to convert a space within their existing building into a place-based recovery resource operated by a third-party Recovery Café Network organization. At the time of faculty introductions, the space was already under construction, overseen by the organization CEO. Without professional design services, the CEO was overwhelmed by decision making processes

for the renovation and reluctantly agreed to consider working with students to help make final material decisions and propose furnishings. During the initial meeting it became clear that the community members held misperceptions of the field of Interior Design, the scope of services it can provide, and its role and value in society. Confused at our interest in assisting with the process, the faculty lead connected with leaders for both organizations through a shared conviction that everyone deserves beauty; design is not only for the elite in our society. The program was able to initially engage students with the community center through a student volunteer charrette lead by the student organization. This extra-curricular service activity resulted in continued engagement with one invested undergraduate student through a faculty supervised independent study that centered on research for the design of place-based recovery spaces. Design ideas from the charrette were further developed and implemented in the space during the course of the semester. The student and faculty continued to work with the organization for on-going spatial needs after the semester, including an abrupt re-thinking of the space due to the COVID-19 pandemic. The continued relationship has brought opportunities for presentation of undergraduate research through poster presentations and reflective articles through the University Office of Engagement, grant awards, and on-going research opportunities with faculty. Most importantly, the engagement effort began to build trust between the faculty, student, and the community partner, through open dialog, opening the door for more reciprocal relationships in the future. This presentation will review the processes to form engaged learning opportunities extending frameworks for service-learning that underscore initial co-development of community outcomes along with course objectives to ensure reciprocity.

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INDEPENDENT STUDY PROSPECTUS

Student Name Student I.D.#

FULL TITLE OF STUDY Interior Design Research: Post Occupancy Evaluation for Recovery Cafe

PURPOSE AND OBJECTIVES

The purpose of this course is to engage undergraduate(s) in methods and procedures for design research. The student will be actively involved in directed review of literature, data collection, and preliminary analysis of information. The project may require creative output as a basis for experimental research design.

PROCEDURES

The following is a list of required activities for completion of this course:

- 1. Complete CITI training certification for ethical human subjects research
- 2. Review literature related to post occupancy evaluation and issues in recovery
- 3. Visit Recovery Cafe sites [specified city] to conduct interviews and observations
- 4. Engage in preliminary data analysis
- 5. Engage in the design and installation of pendent lights, acrylic signs, furniture reconfiguration, or other environment changes as needed

OUTCOMES (tangible results)

- 1. CITI training certification (no other work can be done until this is complete)
- 2. Written summary of literature findings with bibliographic information
- 3. Interview transcripts, environmental mapping exercises, with written interpretation of findings
- 4. Photographic presentation of space design including any evolutions in installation or reconfigurations that describes the design process, impact, lessons learned, and promotes the role and value of Interior Design.

PROPOSED TIMELINE (schedule)

Students are expected to work 3-5 hours for every credit hour earned each week. A 3 credit hour course follows an expectation of 9-15 hours of dedicated work per week. Course outline is subject to change. Any changes will be communicated at least 1 week in advance of proposed deadlines.

- WEEK 2 Complete CITI Certification
- WEEK 4 Written Summary of literature
- WEEK 8 Final installations or reconfigurations complete and photographed
- WEEK 14 Interview Transcripts and Behavior Mapping results compiled
- WEEK 16 Final presentation (research poster or booklet detailing design process and approach)



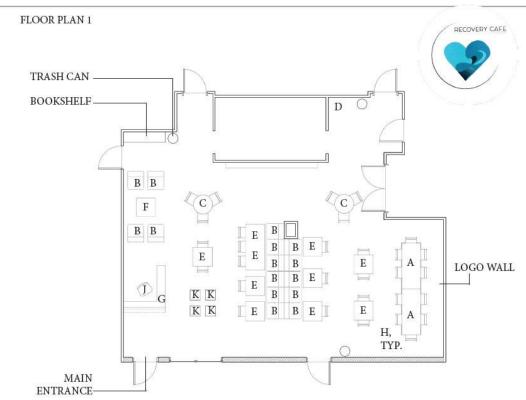


Figure 1: Entry sequence normalized through 'hostess' stand rather than institutional barrier (original plan and revision after student review of literature).

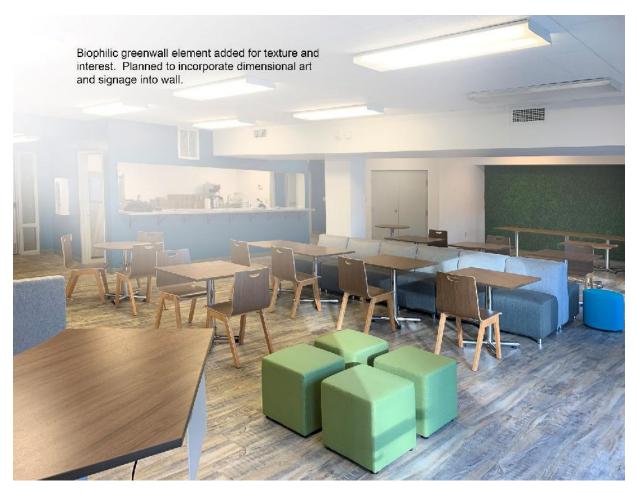


Figure 2: Installation process: problematic counter height still not resolved, incomplete shipment

Table 1: Characteristics of Quality Community-Engaged Scholarship (Adapted from University of South Florida Engagement Toolkit)

iona Engagement Toolkit)						
Characteristic	Evidence	Areas for Improvement				
Clear change goals	Used interview information from existing facility to develop design approach as well as maintaining focus on care, belonging, and dignity. Developed research proposal for post-occupancy evaluation.	Specific change goals codetermined with partners in advance of project.				
Adequate Preparation	Faculty leader experienced in leading community-engaged scholarship; used research to frame problem for independent study with student. Students from all levels of the curriculum participated in the charrette and were able to apply classroom knowledge of accessibility, spatial arrangement, and inclusion.	Invited into project after construction started which limited scope and resulted in constructed elements that were less-than-ideal; unable to work into studio mid-semester so relied on student group involvement up-front.				
Appropriate Methods and Rigor	Faculty oversight on all design decisions; brought in local furniture experts for budget and order.	Research and planned, fabricated, art and signage placed on hold due to COVID- 19 pandemic; grant funding frozen.				

	Research project developed using qualitative inquiry, with planned observations and interviews in 3 separate café locations. Introduced student to research methods including completion of CITI training for research ethics with human subjects. Faculty and student continued to work with partner after semester to rework space in response to COVID-19	
Significant Results: Impact on Field and Community	Interior Design program recognized by community partner in local newspaper articles as well as the grand opening and other events. Preliminary feedback from members is positive.	Secure increased funding for long-term projects. As a place-based organization, the café has struggled to work through issues related to the pandemic. Frozen funds and IRB protocols on hold have
	Built relationship with community partner that is on-going and will lead to other future partnerships down the road.	stalled progress on continued research and the community connection.
Presentation and Dissemination	Student produced research poster for University Engagement Summit (Figure 3) and plans to write reflective article for Service-learning Journal. Planned future dissemination of research results from on-going relationship.	Include community partner in presentation and dissemination of findings; consider open access publication for easy distribution through network.
Reflective Critique	Student reflection was part of the poster presentation.	Involve community partner in reflective critique at multiple stages / survey for feedback.
Leadership and Personal Contribution	Invited to continue partnership; lead to ongoing research project and possible future design projects	
Ethical behavior	Research activities reviewed by the University IRB	Design fees were not collected

AD490: INTERIOR DESIGN RESEARCH (SPECIAL TOPICS) RECOVERY CAFÉ IN PARTNERSHIP WITH BAUER FAMILY RESOURCES

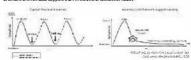
RECOVERY CAFÉ



INTRODUCTION/BACKGROUNG

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OBJECTIVES

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Figure 3: Undergraduate Research Poster for Service-Learning and Engagement Summit (Redacted)

Scholarship of Teaching and Learning | Social and Environmental | Poster

The Space of Waste

Caleb Crawford, Pratt Institute

ABSTRACT

"When you put together things that other people have thrown out, you're really bringing them to life – a spiritual life that surpasses the life for which they were originally created." -Louise Nevelson "Waste is a design flaw." -Zero Waste Design Guidelines The course investigates issues of waste in the built environment with particular focus on interiors: where it comes from, how it is managed, where it goes, and can it be employed in design. Acting as creative and critical intellects, the course looks at the science and poetics of waste. Our culture produces vast quantities of waste. Nature has no such concept; in nature all material is part of a cycle – the waste of one entity is the sustenance for another. It has only been recently that humans have adopted the concept of a linear process of inputs and outputs, creating the concept of trash. This class looks at "waste" as an environmental problem, a cultural condition as well as a creative opportunity. This is an elective lab course offered to both graduate and undergraduate students in interior design, but is also appropriate to architecture, industrial design, sculpture, and any student interested in issues of sustainability. It qualifies for credit in our sustainability minor. We start by studying reuse, or "Superuse;" how designers and artists have incorporated waste into their designs and art, and the idea of adaptive reuse – a core interiors practice. Examples include Louise Nevelson, Kurt Schwitters, and Superuse Studio. From this we take inspiration for the design and construction of objects and installations, collecting discarded materials and making things. We look at waste in general, what it is composed of, how it is managed from the interior to the larger waste stream. We examine the concept of the circular economy, cradle to cradle, and examine materials and products used in interior construction in this regard. The intended student learning outcomes are that students will be able to: evaluate the circularity of proposed materials; analyze salvaged materials with a view towards reuse in new constructions; and

identify issues of waste management in interiors. This is the third iteration of this course offered at two institutions and represents a refinement of content and coursework. Significant differences were revealed between suburban campuses and dense urban campuses. Students on suburban campuses have less abundance of materials, but a greater ability to transport them. This difference impacts the scale and ambition of work on urban campuses. The students gained an appreciation of the qualities of waste materials and issues with working and struggling with materials. They are generally not very good at putting things together. The process of taking things apart and reworking them gave them a better understanding of construction. The best results transcended construction into a poetics of space.

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Kaza, Silpa, et al. What a Waste 2.0. World Bank Publications, 2018.



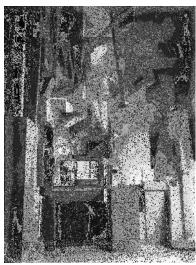
Special Topics: Superuse

Project 1:

GLUTS, MERZ, and CUBES: Useless Reuse







Kurt Schwitters



Louise Nevelson

Goals/Objectives

This project is intended to explore the poetic nature of reuse.

Rules/Constraints:

You will each make a series of square or rectangular relief panels made of found materials. These relief panels will be an open rectangular box. The depth of the panels is to be between 1 ½" and 8". Panels are to be painted a solid color – salvage paint to be used. Fasteners and glue may be virgin material. Materials can be manipulated using any of a variety of means of fabrication, from x-acto knife to table saw to laser cutter. Found materials can be anything that attracts you.

Process and Due Dates

Due week 4

Assessment Criteria

Work done on this project will be evaluated based on the following criteria:

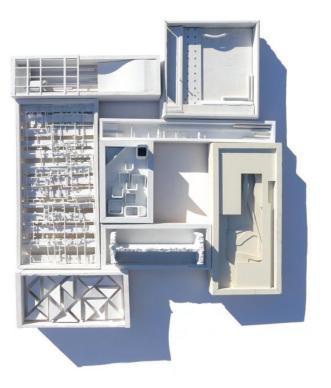
Thoroughness of the investigation.

Compliance with and invention within the rules

Artifacts produced: Precision of craft: how well are things made, what is the degree of complexity of the proposal

Order and concept: what is the clarity and intent of the organizational concept? Is there another ordering concept, such as narrative that needs to be evaluated?

Useless Reuse Student Work









Fall 2020 INTERIOR OPTIONS LAB: SPACE OF WASTE

PROJECT 01: CARDBOARD ROOMS



Assignment

Using cardboard boxes from food (cereal, cookies, pasta, etc.), electronics, clothing – whatever the source, use the color and graphic quality to make spaces. They should be complete interiors, considering the function of the space, including furniture. You can cut with x-acto knife, scissors, or whatever you have available.

Format

Construct and photograph the space you make. The size of the room is up to you. You are only limited by the materials you have at your disposal and your ambition. Photos with the iPhone are fine, somewhere around 4000x3000 pixels. Print out to pdf, horizontal format. Have a cover page with your name and the class.

Submission

All submissions to be in PDF, portrait format.

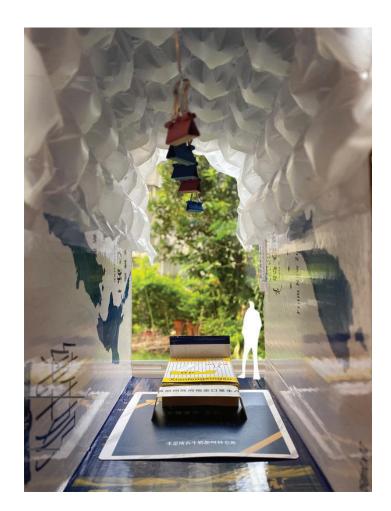
File naming standard:

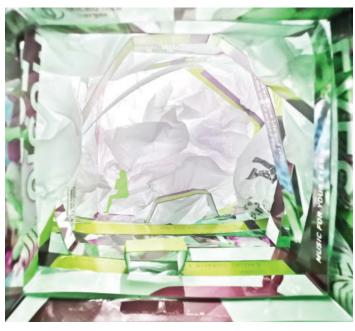
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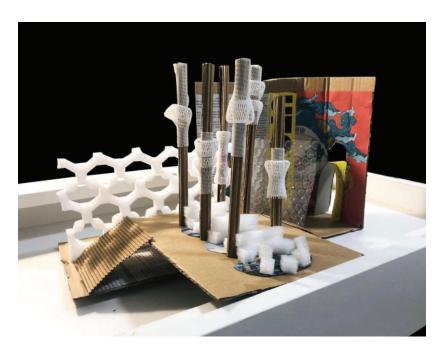
Grading

8% of the grade

Cardboard Rooms Student Work









PRESENTATIONS

Creative Scholarship | Design as Art | Presentation

Bridging Bridges to Make Bridges, a soundBRIDGE

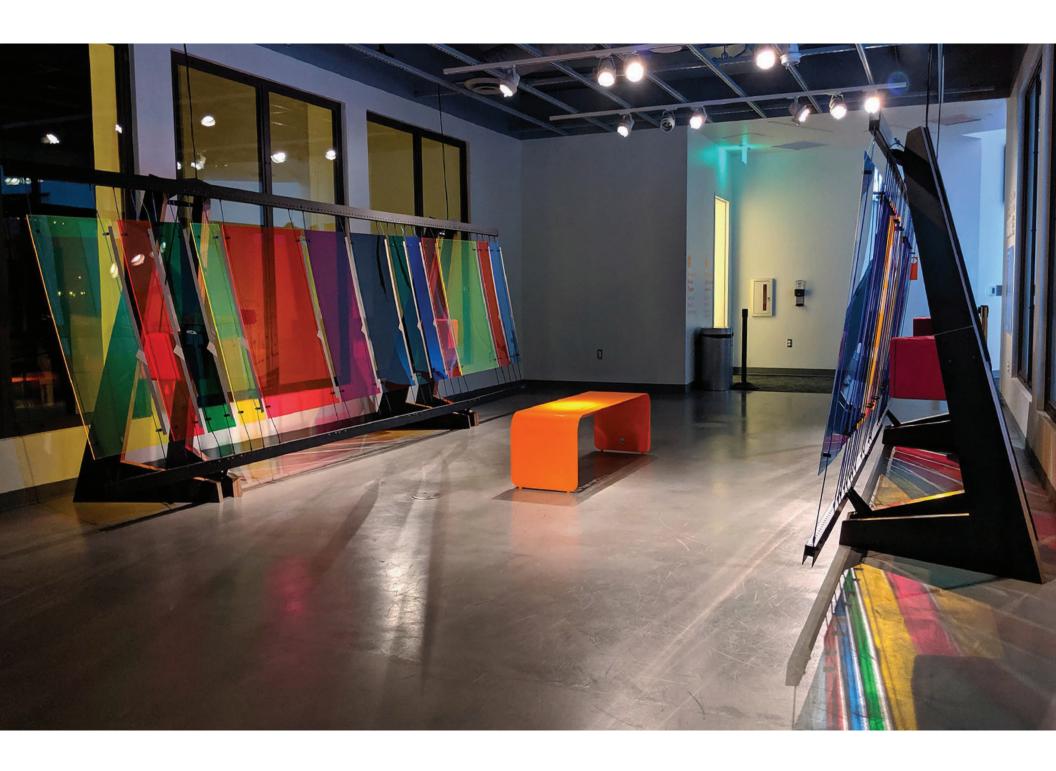
William Furman, Queens University of Charlotte Zach Zubow, Ph.D., Queens University of Charlotte

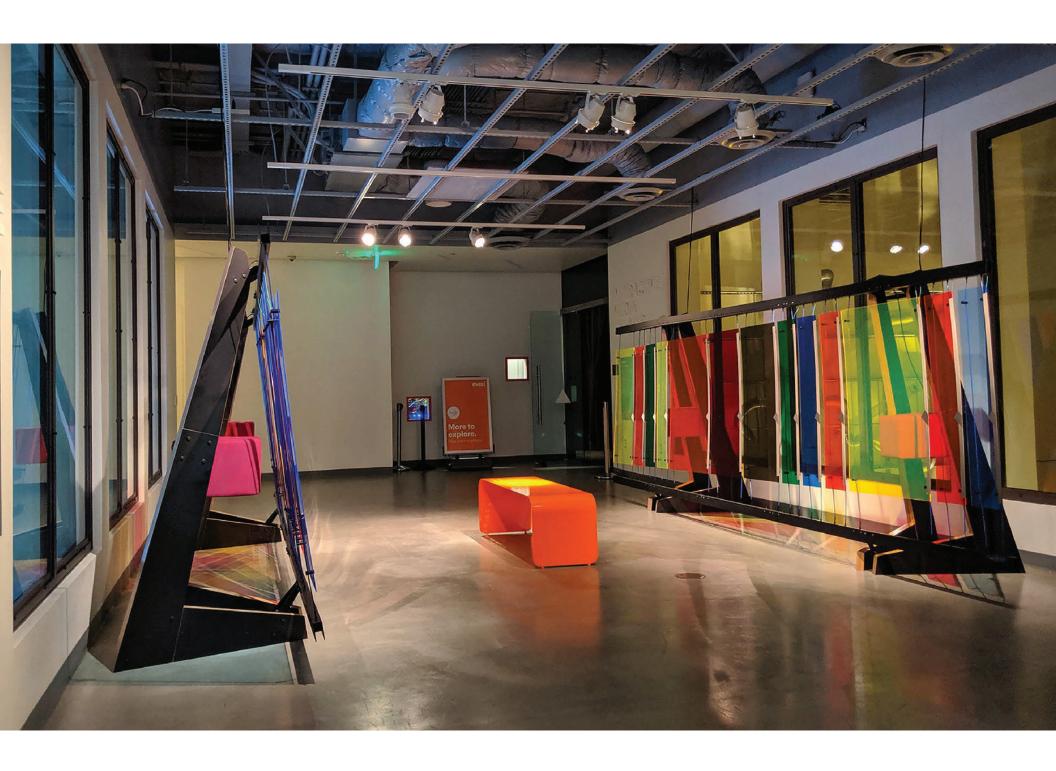
ABSTRACT

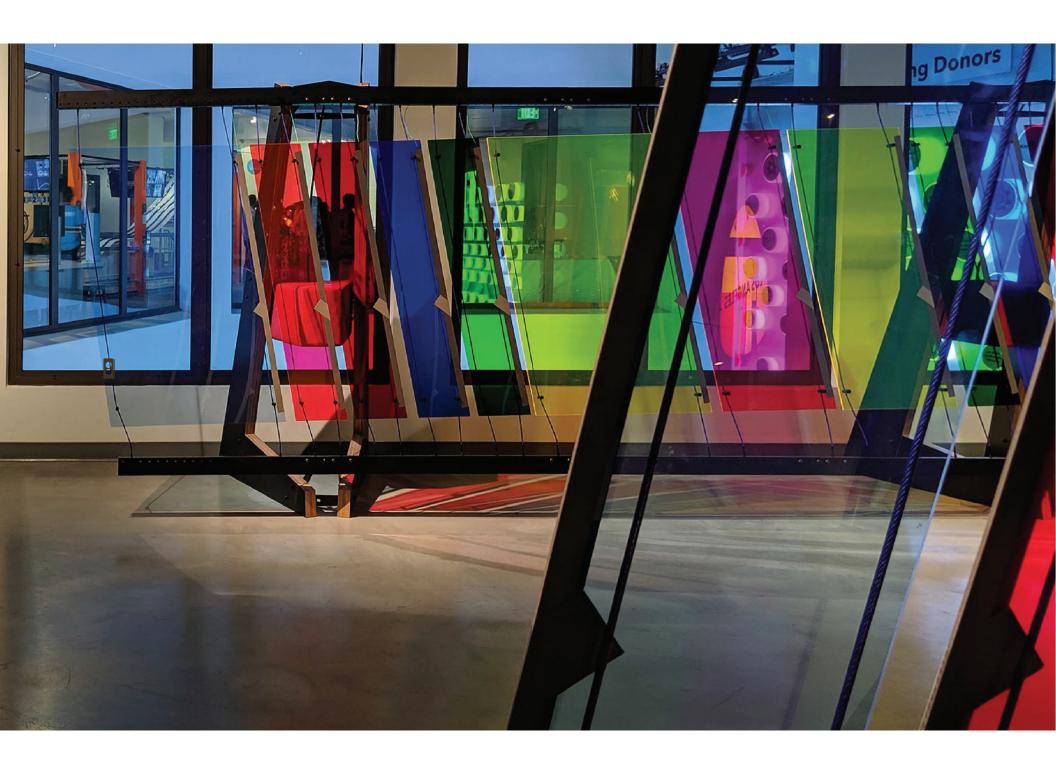
Imagine yourself walking along a bridge with a friend, thumping your finger against the side, but this time the bridge answers back, playing a melody. So, you move through the bridge again, creating melodies that move with you. What happens when you move fast? Move slow? Move together, or apart? Move the same direction, or the opposite? Can you create your own melody? This interactive exhibit is a physical and aural experience for all ages, exploring and making connections between sound and structure. The piece was hand-built, designed to take advantage of the ample daylight and angles of view of its initial installation site, but to remain flexible enough to be flat packed, transported, and reassembled in a modular fashion. It uses capacitive touch sensors and microcomputers to playback composed sounds. Sound is created when contact between the conductive tape on the back of acrylic panels registers a positive touch to the conductive tape on the vertical cables (see images). This location is indicated on the front of the panel at the diamond mark on the right side, however, the panels can be pressed in the lower 2/3rds of the panel height to register a positive touch. There are two halves to the exhibit, broken up into four quadrants, two quadrants per side. Each system independently controls a select set of panels, further enabling modular set-up and alternative configurations. The exhibit emanates from the concept of a "bridge", the interplay of concepts shared through song, structure, design, and making connections. It is the result of a collaborative effort between a designer and a composer, each relying on the tacit knowledge and mastery of skill of the other. An interdisciplinary exercise of crossing boundaries and building bridges between disciplines, with the common goal of manifesting a broad concept into reality. As a designer of space and a designer of music, design is ubiquitous. Design connects all things, and in some way, all things

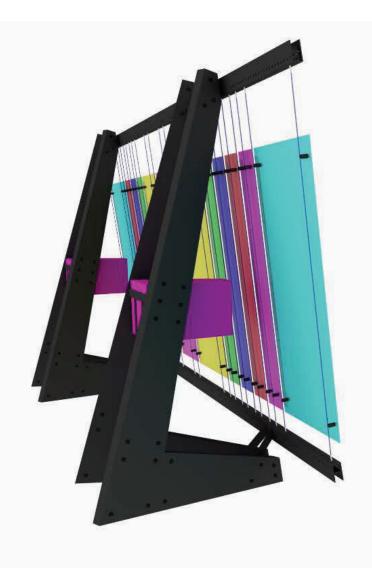
are connected. We intended to manifest this concept of song structure to that of physical structure to provide a way in which those connections are not just visual, but interactive and experienced. Our goals and objective for the exhibit were: to entertain, engage in discovery, and educate. This is accomplished three ways: 1) by providing a visual stimulus through the exhibit's physical design, 2) discovery through interactivity, which invites visitors to explore the exhibit's physical elements to the auditory response, and 3) leading that engagement to the concept of song and the structure of music. The presentation will cover the process, triumphs, and challenges such a unique exhibit piece and collaboration effort entailed. soundBRIDGE is a collaborative effort with composer Dr. Zach Zubow, Assistant Professor and Director of Music at Queens University of Charlotte.



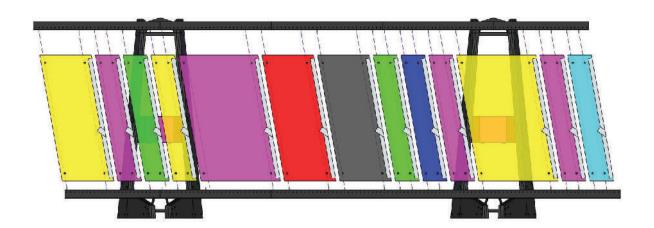


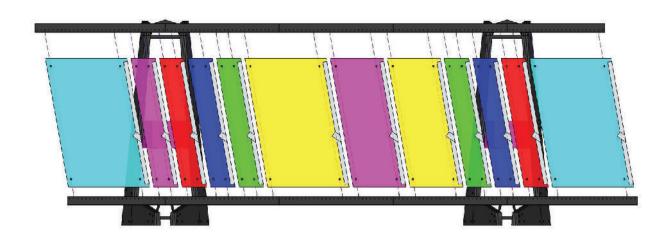




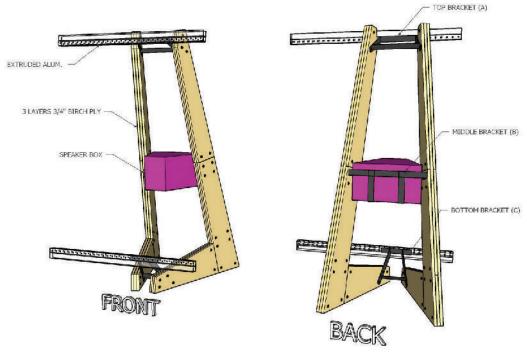


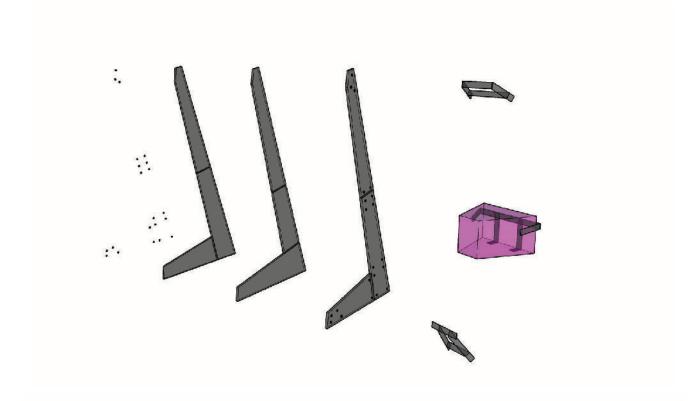


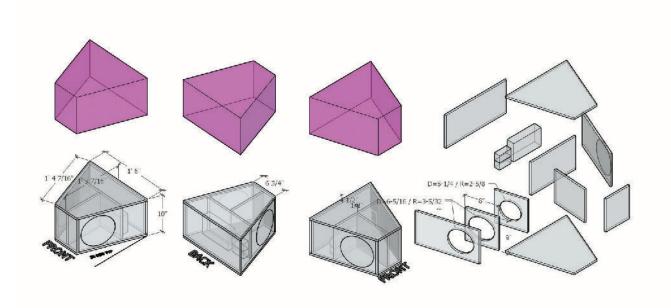


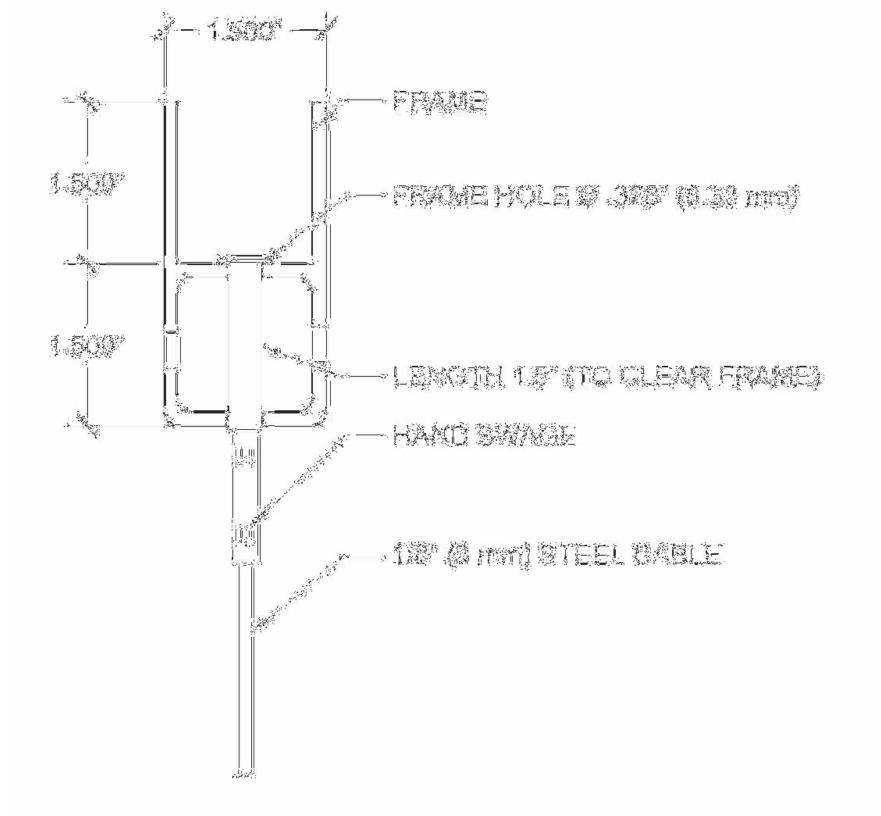














Creative Scholarship | Design as Art | Presentation

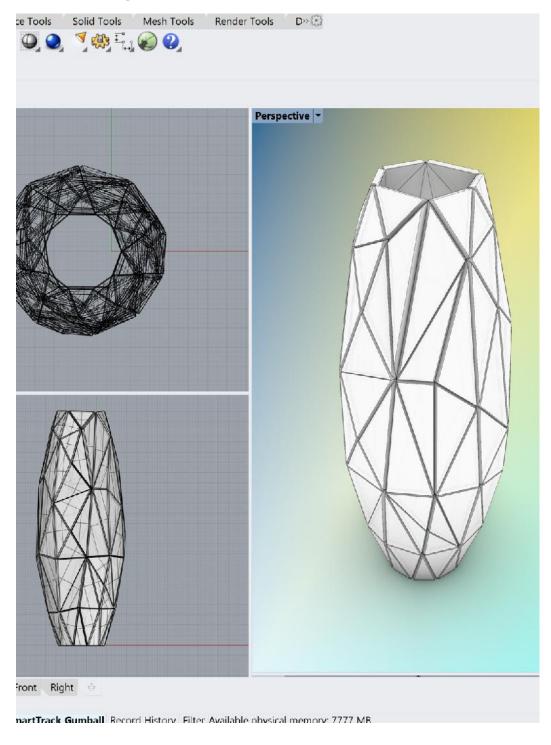
From Luminaire to Chair: A Collection of 3D Printed Interior Objects

Jacob Tucci, University of Arkansas, Fayetteville

ABSTRACT

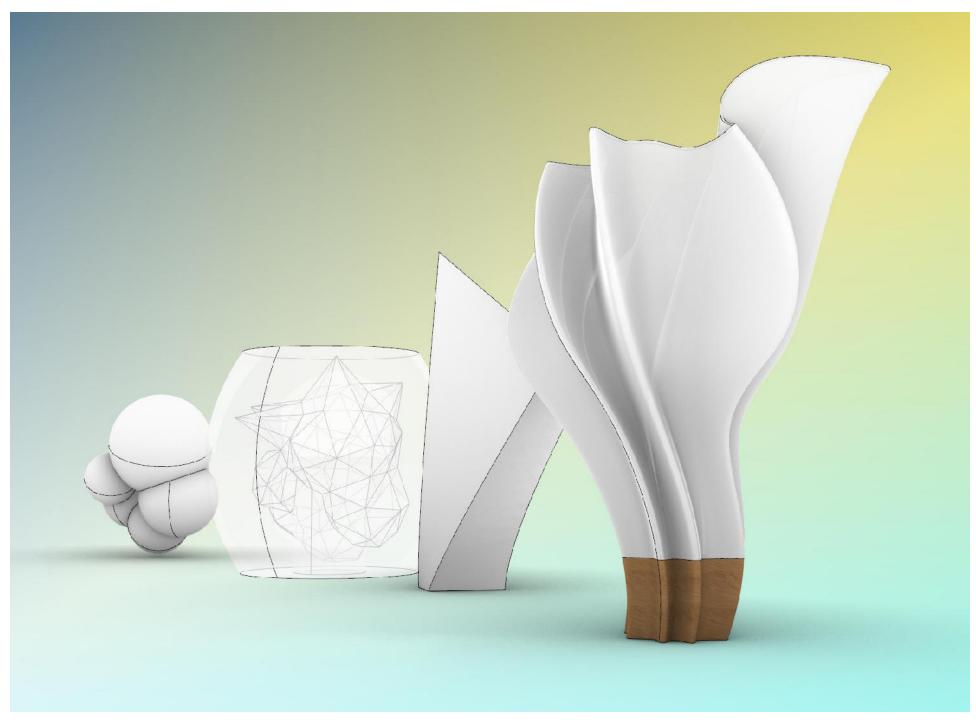
I am currently on a journey to make beautiful digitally manufactured interior objects. Passionate about the value of Making, I am building a collection of theory based interior objects and expressions that emphasize the valley between handmade and digitally manufactured things. Pursuing this path, I explored the tools of algorithmic 3D generation, virtual representation and 3D printing. This small collection includes a series of 3D printed luminaires and a full-size lounge chair. The process of Making and using my hands to craft an object is one of the most satisfying aspects of my work. I tend to be fastidious about every proportion and detail, celebrating the machine-like quality of the object's assembly. I use all the tools available to mehand, mechanical and digital- to design and make objects. 3D printing has exploded internationally and opened new avenues for design and making. 3D printing is the future of making. Rather than searching the shelves, a 3D printer gives an individual the power to create and make what they need or desire. Established corporations like Phillips are commercially producing custom order light fixtures while startup businesses like Icon are 3D printing entire homes. This collection shows my exploration into this new frontier. Furniture is first an object of utility, but many choose objects to place in their home to suggest far more about their identity than how functionally successful an object might be. Considering how humans relate to their objects, I strive to craft Modern Heirlooms, furniture that satisfies the values of beauty and function. While planning for an object's functional effectiveness over its lifetime, objects that sustain sentimental value transcend the status as an object of consumption. Unfortunately, 3D printed plastic trinkets and temporal objects are the antithesis to this and the potential impact of more 3D printed things must be considered. The series of digitally created lamps range from fully complete to digitally designed. Originally, I took on this endeavor to test the potential

viability and beauty of backlit 3D printed translucent shells, and to experiment with Rhino Grasshopper to produce algorithmic generated forms. In producing the luminaries, a primary goal is to embrace and celebrate the inherit "imperfect" qualities of 3D printing. Wall thickness, infill patterns and varying densities of the material affect the final light effect and are carefully taken into consideration, though there are many unplanned surprises with the process. Ultimately, the luminaires are digitally sculpted to be small sculptures in the interior landscape, offering visual warmth and charm. With my love for Making, I designed a chair that users could share in the satisfaction of making, customizing and assembling their own chair, yet still have high quality aesthetics and ergonomics. The programmatic goal was to create a comfortable and ergonomic lounge chair designed to accommodate the use of digital devices that can be printed by a consumer level 3D printer. The chair has pronounced lumbar support and arm rests. To address the size limitations of consumer level 3D printers, the chair is assembled from 29 individually printed pieces. Each part can be printed from a 11"x8"x 8" bed. To add flexibility to the chair, alternative bases can be crafted and mounted by the user. The mounting studs located under the seat act as both an attachment for the 3D printed legs or a stud for screw mounting a metal or wood base. The mechanical connections are celebrated rather than hidden from sight. Organic and mechanical describe Chair 29's silhouette. The form was inspired by the proportions of the Eames plywood lounge chair, one of the most comfortable non-upholstered chairs to date. The organic profile of Chair 29 is complemented with subtle angular lines of the legs and chamfered edges. The 29 parts are fastened with stainless bolts, adding to the mechanical maker look.





Rhino working file Luminaire 2











Digitally rendered image Chair 29











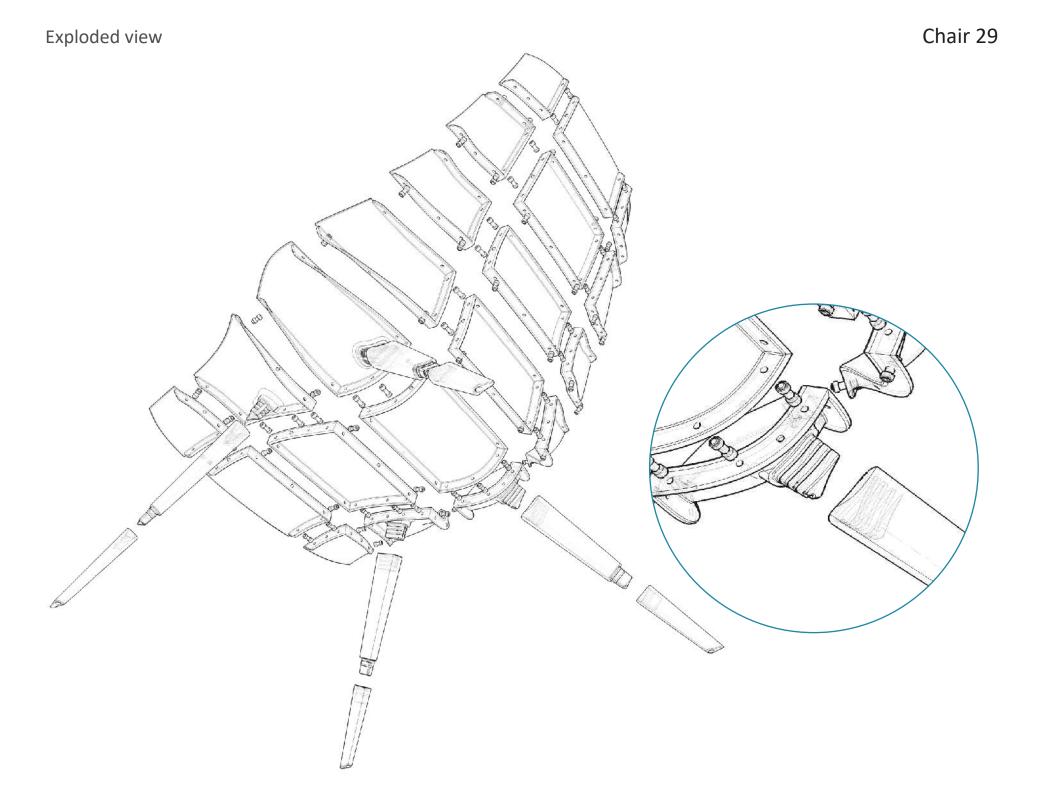


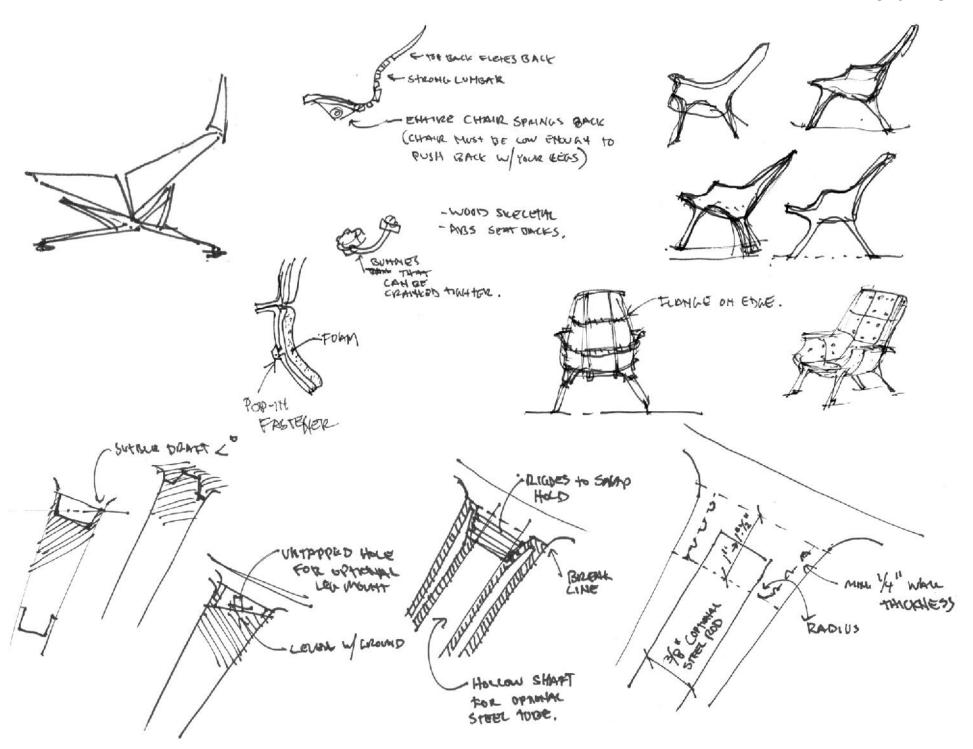












Creative Scholarship | Design as Art | Presentation

Memory and Perception: Mark-Making Utilizing Non-Traditional Lithography Techniques

Stephen Skorski, University of North Carolina - Greensboro

ABSTRACT

Lithography is a method of printing based on the fundamental principle that oil and water repel each other. It was established as a viable means of reproduction in the late 18th century by Alois Senefelder (Saff & Sacilotto, 1978). It became popular as an efficient means of production due to the speed and accuracy in which imagery could be replicated in large numbers and gradually grew into a medium well suited for commercial advertising (Antreasian, Adams, & Tamarind Lithography Workshop, 1971). Early lithographic advertising pieces highlight the work of pioneering illustrators such as Henri de Toulouse-Lautrec, Alphonse Mucha, and Will H. Bradley. The work in this collection uses lithography in a modified manner. While utilizing an underlying image matrix, it is through non-traditional printing and mark-making methods that no two works are alike and the possibility for infinite variation becomes achievable. The artist is motivated by the innovative and experimental works of the Crown Point Press and The Tamarind Lithography Workshop (Brown, 1996; Devon & University of New Mexico Art Museum, 2010). These two workshops are continually advancing the boundaries of print making. The processes used to create this submitted collection attempts to add to this tradition. The pieces highlighted in this submission are rooted in the convergence of two conceptual ideas. The first deals with memory, while the second speaks to the relationship between humans and the forces of the natural world. For the artist, these two ideas overlap in the examination of perception and control. More specifically, the memories that inspired this collection are not the author's memories, but instead are stories of the father. The original events have been altered with the passing years, filtered through a lifetime of lived experiences, and then transformed again by the artist's understandings of existence. These stories are now a part of the artist's consciousness, even though they occurred in a time and place that was never physically experienced. The second aspect of the work relates to the persistent human attempt to influence forces of nature that simply cannot be controlled. Underlying these attempts is the irrational belief that humans are made up of conscious decisions and strategic maneuvers. What is more probable, and what this work helps the artist reflect on, is that we are likely composed of a combination of the natural forces and the people that surround us. It is apparent that the artist's own internal sense of self is really a mirror reflecting all of these external influences. It is the artist's hope that these concepts and ideas move beyond the personal and speak to larger universal truths experienced by everyone. The resultant imagery is loosely structured in a manner that invites experimentation with variation. They are intentionally abstract so that any individual observer can bring themselves to the work. The images are not readable in the way we look at a photograph, but instead must be experienced in a more indirect fashion. Color, texture, composition, line, tone, and areas of overlap all work to stimulate a sense of a moment in transition. The work was created using a non-traditional lithographic process where the marks on the stone were not made by the artist's, or any human hands. Instead, they were made through the movement and evaporation of water over time. Experimenting with a variety of mediums to carry the markmaking tusche (an oily substance used to draw on a lithographic stone), the surfaces were worked and reworked in water baths during multiple phases. The final stage of printing was equally non-traditional where runouts, smudges, and off-registration was intentionally cultivated by means of withholding water from the stone. The final images are in flux. They are snapshots of passing episodes where created tension generates anticipation of the next moment.

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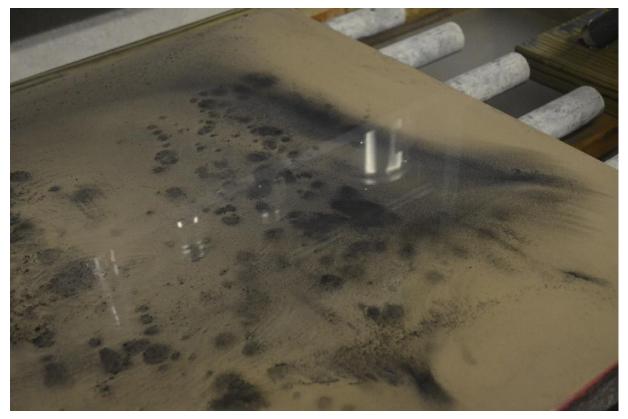
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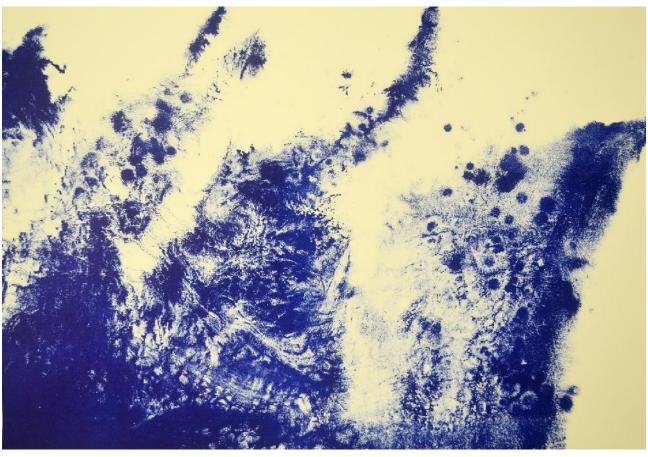
Images for the "Memory and perception: mark-making utilizing non-traditional lithography techniques" submission.



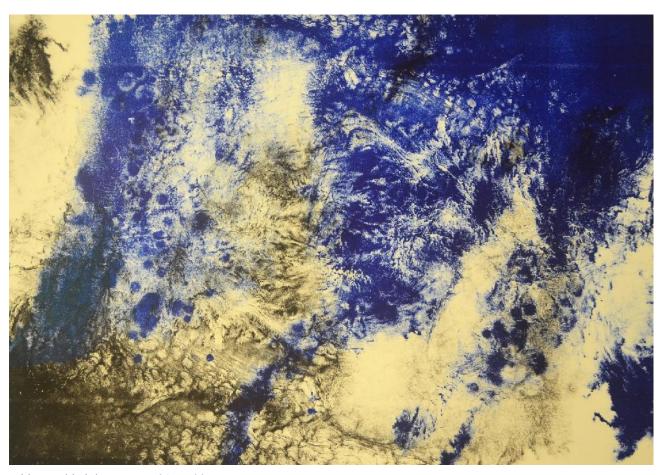
Lithographic stone with water marks - in process (pre-evaporation)



Lithographic stone with water marks - in process detail (pre-evaporation)



Lithographic ink on paper, 21" X 29"



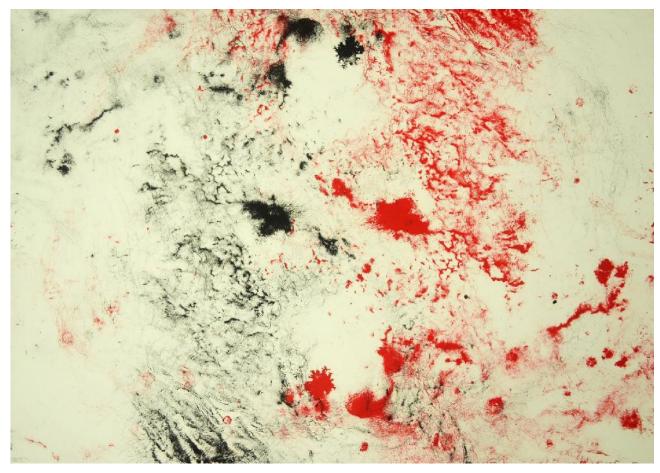
Lithographic ink on paper, 21" X 29"



Lithographic ink on paper, 29" X 42"



Lithographic ink on paper, 29" X 21"



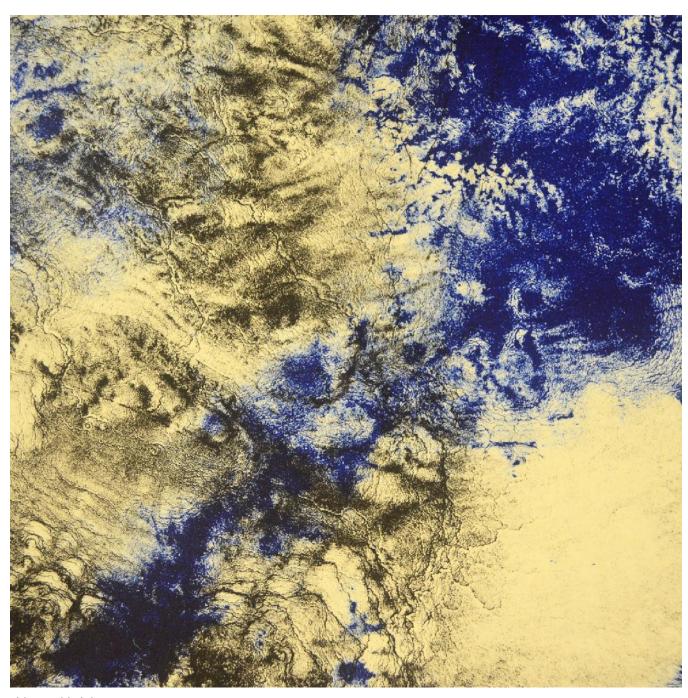
Lithographic ink on paper, 21" X 29"



Lithographic ink on paper, 29" X 21"



Lithographic ink on paper, 29" X 21"



Lithographic ink on paper, DETAIL

Creative Scholarship | Design as Art | Presentation

Operator Error: The Hand reSolution

Felicia Dean, University of Tennessee, Knoxville

ABSTRACT

OPERATOR ERROR: The HAND reSOLUTION examines the impact and added-value that hand-craft affords the failures of digitally fabricated objects. Three main ideas develop from the analysis of four projects: (1) Making mishaps and "operator errors" result in a series of work related to one original form; (2) the mistakes create a stronger alignment of the visual communication of ideas to the object; (3) form is more emphasized in the final realized project due to the re-evaluation of the form. The projects "Smock Locked", "Sew & Cut", "Dug by the Devil", and "Outerwear_BW1" demonstrate the ideas as outcomes of using hand-craft to resolve "errors" made during the digital fabrication process. The "errors" exist as opportunities, design challenges which strengthen not only the form but also the process. During the making process, unresolved iterations develop as part of the exploration. In the search for precision, digital fabrication iterations sometimes reside as failures in the studio due to machining "errors". Many fabricators focus on the accuracy of the machines output in relation to the digital model of the design. The linear direction of such a process sets limits on the design's evolution. For many art collectors, value of the object and process is based on the relationship of the maker to the machine or tool. The relationship of the human body differs in the connection it makes to machines and hand tools (Risatti, 2007). Hand craft resolves a failed iteration of a digitally fabricated object, placing a different value, added value on the object. Collectors of hand-crafted wood art value a lathe turned bowl by an artisan more than a mass manufactured retailed one, so much so that it does not function as a bowl but rather emotionally as a work of art. The need to go back and "fix" a digitally fabricated object's error by hand, offers the opportunity for the work to be re-evaluated with a "kinesthetic sensibility" (Risatti, 2007). During the making process, the body responds to the form and motion of the tool in hand (Risatti, 2007). The conscious connection the mind has to the making process through the tool, informs the direction

and re-constructs the projects narrative and visual communication of ideas. The fit of the tool to the hand provides a sensitivity to the approach which is traditional to hand-craft (Risatti, 2007). The move of more powerful machines to electric energy displaces the "kinesthetic sensibility" of human body to the object (Risatti, 2007). Material characteristics determine the outcomes that the power, speed, and force have on the form of a digitally fabricated object. The damaging force of the tool to the form's material requires the object to be reinterpreted, recycled or thrown away. The application of hand-craft techniques to problem-solve the "failure", evolves the object's form by diversifying the approach. "Operator errors", "failures", and mishaps during the digital fabrication process are all opportunities which increase the interpreted value of the object, the lateral approach to the deign process, the engagement of the maker to the process, and the possibilities of the design outcomes. The connection the maker has to the object and the story strengthens their design process and engages a consumer/collector audience in ways which change the perspectives of both digital and hand craft.

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One Digital Design = Two Works



First iteration of CNC mill of *Smocked Locked*. The wall thickness of the center bowl was cut too thin during the milling, so it was placed aside.



Second iteration of *Smocked Locked*. The wall thickness in the original file was adjusted in order to achieve form intentions of the original design.

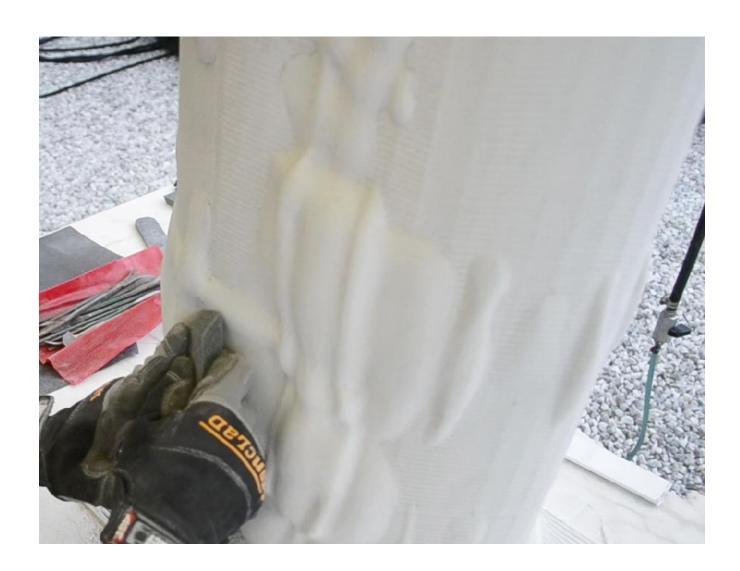


The first iteration of *Smocked Locked* was salvaged and altered by hand. It was transformed into a new work, *Sew & Cut*. The process and outcome of the work was unrestricted due to the spontaneous hand craft approach. The form of what it was to become was based on cutting, shaping and sanding to see what it could be as a salvageable work.

Operator Error?



The stone work *Dug by the Devil* during the 7-axis rough milling of the sculpture. The surface exhibited some irregularity in the smoothness of the center cylinder, appearing ridged which was not the intention of the digital design.



The rigid surface of the cylinder leads to a re-evaluation of the form. It is reassessed to understand the potential of strengthening the design's visual communication of the hand and digital fabrication methods.



The final form demonstrates a visual balance between the hand and digital methods of making.

Hand Resolution



The first wood rotational milling of *Outerwear_BW1* tears through the basswood chipping away pieces that are apart of the intended original digital design.



Prior to the wood milling of *Outerwear_BW1*, a test milling was completed out of foam. The foam test was identical to the intended digital design of the work. The foam form is used as a reference for understanding the original digital file intent and to inform the hand craft process of what the potential is for the new, salvaged form.



Hand sanding of the *Outerwear_BW1* form. Some of the remaining chipped pieces of the form during the milling process can be seen here.



The completed work, *Outerwear_BW1*. The impact of the hand craft on resolving the form and "errors" made during the milling process resulted in the object's features being more emphasized and having greater variation in the shapes and surface transitions.

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Social Cohesion as a Planetary Norm

Dr. Tiziana Proietti, University of Oklahoma Satyendra Pakhalé, Satyendra Pakhalé Associates

ABSTRACT

Covid-19 pandemic has recently exposed our societies' faults. Worldwide problems, set aside for too long, emerged on the surface; lost securities and resources, too often taken for granted, brought to a re-evaluation of everyday priorities; and human basic needs, largely not considered in their broadest expression, have been challenged. While navigating the new conditions, politicians and public health experts have talked about 'social distancing'. It took not too long time to recognize the misleading meaning of the expression and ask for its replacement with a more appropriate 'physical distance.' Human beings are social animals. Social isolation or distancing have been used for centuries as the highest form of punishment. With the current pandemic multiple forms of social isolation and discrimination have been exposed by asking us to solve a 'millennium pandemic'. While we think that modernity has reached the majority of the countries, the bigger and more desired project for a worldwide 'social modernity' is far from being completed. Since its origins, the world of design has played a seminal role in creating a sense of belonging and instigating positive social change. Indeed, while we tend to think that architecture is created by society, it is relevant, more than ever today, to acknowledge that architecture has, in its turn, the power to shape societies. At Design Studio (anonymous) daily design practice is a cultural act that is constantly inspired by secular humanism, celebrates the social nature of human beings, acknowledges the world as a unity, and yearns for 'social modernity.' Social not in the sense of 'charitable,' but rather conducive to 'social cohesion' as collective welfare and happiness of our entire ecosystem. Studio projects are designed to encourage people to be together, perform life actions with a sense of belonging, expand out defined boundaries, offer a rich landscape of architectural affordances, and glean from the most basic human social nature. Among several projects, we present here examples particularly

significant for the present world challenge. Meander stool (2007) is a stackable stool designed for intuitive, active use in collaborative spaces. Meander stool evokes a ludic response in users. People pick up the stool from the stacked wall, use it for sitting however they like, and place it back in the stacked conformation. The stacked wall is symbol of social cohesion, manifested by the will of people to explore their way to be together. Meander is a tool for equity and cohesion. Kid Day Bed (2008) is conceived for day care centers as well as for home use. It has two modular mattresses that can be used on both sides. When the mattress is placed flat, it becomes a bed for afternoon nap or night sleeping. When turned upside down the bed becomes a game board. The everyday functional object is transformed into a playful object for communal growth. NEKA (2011) – Non Electric Kitchen Appliances – was designed to create an awareness of healthy food preparation that instils an element of self-sufficiency while preserving energy, promoting a sense of slow living, and celebrating human action in daily routines. NEKA is a universal functional and sensorial object that creates social cohesion while asking people to live in the present moment. It is the responsibility of the designer to create a culturally rich and relevant 'secular humanistic' design possibility to any given condition and to build a cohesive society for common good. This could be one of those rare opportunities in the history of humanity for creating shall we say a 'movement of radical transformation'. As the adversities in almost all societies around the world became more evident with current pandemic; it is an opportunity to try and do something unthinkable. We propose to invest on 'social cohesion' as a planetary norm. It is high time for social cohesion worldwide and see no borders but just one world, we are all interbeings!

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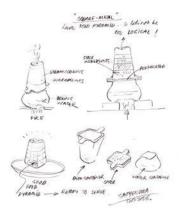
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Appendix

SQUARE MEAL — This piece in ceramic is a steam cooking utensil designed for the Good Food project of the Design Biennale Saint-Étienne, France, 2006. The brief from the curator Céline Savoye was to take an age-old utensil from the designer's cultural background and create a new contemporary object for cooking or serving food. Designer wanted to evoke the notion of the good-old 'square meal' and what it means to us today. He explains: 'Looking at the panorama of cooking utensils from India, there is a lot to choose from. I selected this wonderful steam cooking technique from Kerala, India. They call it puttu; it has vertical proportions and is traditionally made of bamboo. Taking the basic idea of steam cooking, we developed it into a contemporary vessel for preparing good food.'

SQUARE MEAL — 2006, Industrial Design, Commissioned by Design Biennal Saint-Étienne, FR, In production since 2006, Ceramic slip casting.



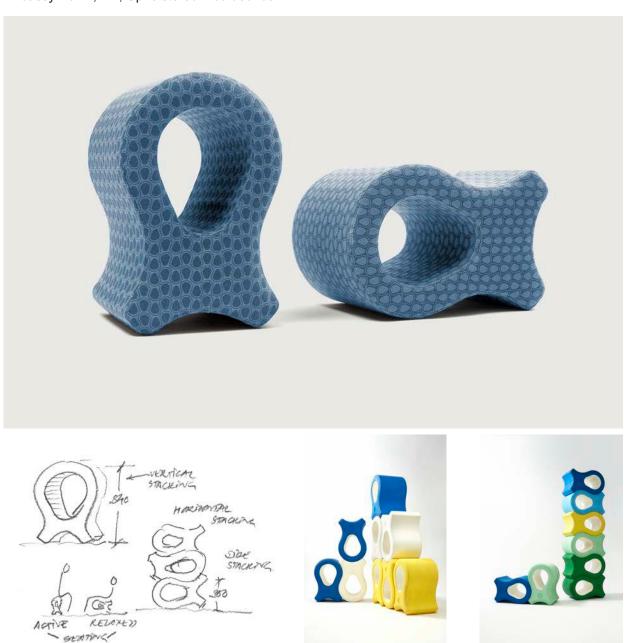






MEANDER STACKABLE STOOL — This upholstered stool is a seating object designed for intuitive, active use in collaborative spaces, making it ideal for spontaneous meetings and conferences. The stool can be used and stacked in two different ways – vertically or horizontally – creating a fascinating landscape in an interior space. The stacked stools can become a colourful backdrop or partition wall separating work and meeting spaces in open office areas and providing a good sound-absorbing wall. Designer says: 'The main feature of this object that I have observed is that it evokes a ludic response in users. They pick up the stool from the stacked wall, use it for sitting however they like, and place it back in the stacked position.' The stacked stools occupy little space.

MEANDER STACKABLE STOOL — 2007, Industrial Design, Commissioned by Ann Maes, Dutch Embassy Berlin, DE, Upholstered moulded foam.



KID DAY BED — This child's bed is conceived for daycare centres as well as for home use as an extra bed when a friend comes to sleep over. It has two modular mattresses that can be used on both sides. The mattress has a backrest on one side, making it a sofa or a playful spatial combination evoking fantasy and play. When the mattress is placed flat, it becomes a bed for an afternoon nap or for sleeping at night. At the daycare centre, several beds can be stacked and stored away. The bed and the mattresses are designed to be light so that two children can move them around easily and can arrange and rearrange the mattresses and make several configurations to play the way their imagination takes them. Made of rotational moulded polyethylene with a waterproof textile for the mattresses, it can be used both outdoors and indoors. To make the piece light and effective in manufacturing, unnecessary material is removed from the base. When the bed is turned upside down, there is a wonderful feature to discover: it suddenly becomes a game board.

KID DAY BED — 2008, Industrial Design, Commissioned by Magis, IT, Rotomoulded plastic with upholstered cushions.









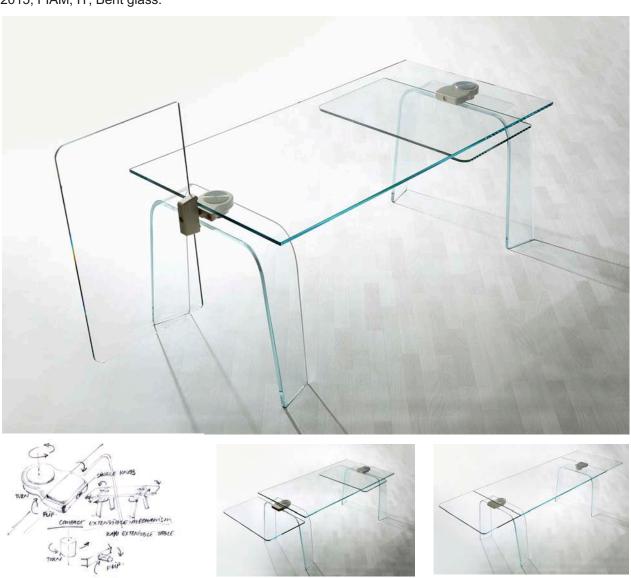
NEKA NON-ELECTRIC KITCHEN APPLIANCES — In the NEKA project, the designer revisits the hand-operated kitchen appliance, applying recent developments in materials and manufacturing techniques. The human effort required to use NEKA objects is significantly less than that needed for traditional hand-operated kitchen appliances. The project offers a sensorial and efficient way of preparing food, with minimum components that are easy to clean. NEKA addresses the current awareness about healthy living and the environment. It is designed to encourage cooking as social cohesion – as a basic act of living, with an awareness of healthy food preparation and preservation as a family activity that instills an element of self-sufficiency.

NEKA - Non Electric Kitchen Appliance — 2011, Industrial Design, Deep drawing steel and injection moulded plastic.



KAYO EXTENSIBLE TABLE — The way things are produced has not changed much over the years. Objects have been made using similar processes and materials for hundreds of years. But once in a while there is a breakthrough and an object is made in a manner never realized before. Glass is a magical material with futuristic associations and characteristics such as transparency, hardness and structural strength. These allowed the designer to create a table with only two supporting pivots, without compromising its stability. Kayo's main plane on bent glass legs and its extensible parts are connected by a compact mechanism that works effortlessly with a single knob, extending the table from a two- to an impressive three-metre span. Hannah Arendt mentioning a table in *The Human Condition* (1958) wrote 'The table brings everything and everybody together in a spirit of gratitude. It creates possibilities and inspires whilst remaining itself, as it were, invisible (...).' An invisible table that is elegant and magical – literally unseen – a tool to enhance the feeling of being together - is what the designer wanted to create.

KAYO EXTENSIBLE TABLE — 2015, Industrial Design, Commissioned by FIAM, IT, In production since 2015, FIAM, IT, Bent glass.



Creative Scholarship | Design as Art | Presentation

Textile Technique as Muse: Interrogating Scale Shifts for the Interior Realm

Annie Coggan, Pratt Institute

ABSTRACT

Textile Technique as Muse: Interrogating scale shifts for the interior realm. Submission for IDEC 2021 Annual Conference Design as Art category The leap from a two-dimensional textile surface to a three-dimensional is one that creates structural integrity in the depth of the textile. This presentation will interrogate a method of fabric manipulation or smocking technique that creates a structurally robust material to create forms, shapes and utility at a multitude of scales. Where crafters have mined these techniques, the potential of the configurations in this work is at an architectural scale. The presentation will put forward this haptic research which, through experimentation and multiple application, can impact the interior realm. The first exploration was a series of smocked tapestries that were installed in a gallery setting in January 2020. This project, entitled Computations, examined the impact of enlarging the size of each stitch from the scale of a dress to an interior scale. This leap would create significant depth and body for the textile. The precedents for this project are Sol Lewitt's epic wall drawings and the work of Eva Hesse. Both artists maintained a meditative and endurance-based practice. Each Computations tapestry garnered up to 30 hours of studio time and, when hung in the gallery, rather than maintaining a panel-like rigidity, they morphed and torqued, actions reminiscent of Eva Hesse's personality-filled Repetition Nineteen III. This textile research was then brought to a domestic setting. The first experiment was to apply a smocked tapestry to typical domestic windows. The result was an interesting play of light coming through one ply of the textile and a thermal break that was created because of the added density of the smocked surface. The next experiment was to see how the textile reacted to the scale of furniture. Since the stitching manipulation was on an x/y axis the surface became surprising supple when stretched in both directions. The surface was then perfect for upholstery, able to form itself over complex curves and provide extra cushioning. Finally, the textile is being tested at an object scale. In a collaboration with an artist who is primarily a ceramist, a series of experiments are happening with smocked textile vessels, forming them from textile to a ceramic state. The research is again taking advantage of the structural potential of the three-dimensional smocked surface; making the textile vessels requires sewing small expanses of smocking and shaping them into stand-alone forms. The textile forms are then sent via USPS to the ceramic artist's studio, and, depending on the size of the vessel, it is first dipped in wood glue to create more stability. The vessels are then dipped in porcelain, dried, then kiln fired, where the textile burns out, but the pattern of the smocking shapes are maintained. This process of creating an object and sending it off to another artisan for transformation creates a form of call and response, where making is questioning scale, form and utility. Tile experiments to be used as wall applications are also being conducted with this porcelain-slipped technique. This presentation will illustrate the potential of these smocking methods and show how the iterations of applications have performative potential as well as decorative potential within the interior.

Textile Technique as Muse: Interrogating scale shifts for the interior realm Image appendix



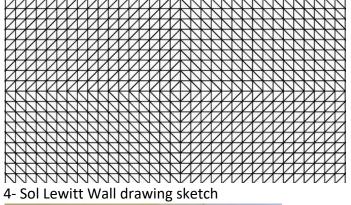
1-Installation view of Computations exhibition- January 2020



2- Installation view of Computations exhibition- January 2020



3- Work of Eva Hesse-Repetition Nineteen III





5-Tapestery at domestic/window scale



6-Smocking at Furniture scale



7- Smocking at object scale-textile vessels



8-Smocking at object scale-textile vessel in situ



9-Second Round of smocking at object scale-textile vessel in porcelain.



10- Second round of smocking at object scale-textile vessels.

Creative Scholarship | Design as Idea | Presentation

Beyond the Surface of Interior Architecture: The Behavior of Digital Ceramics

Linda Zhang, Ryerson School of Interior Design
Jonathon Anderon, Ryerson University School of Interior Design
Errol Willet, Syracuse University School of Art, Ceramics
Clare Olsen, Cal Poly School of Architecture
Naomi Frangos, Cornell University School of Architecture and
Planning
Georgia Barrington, Ryerson University School of Interior Design

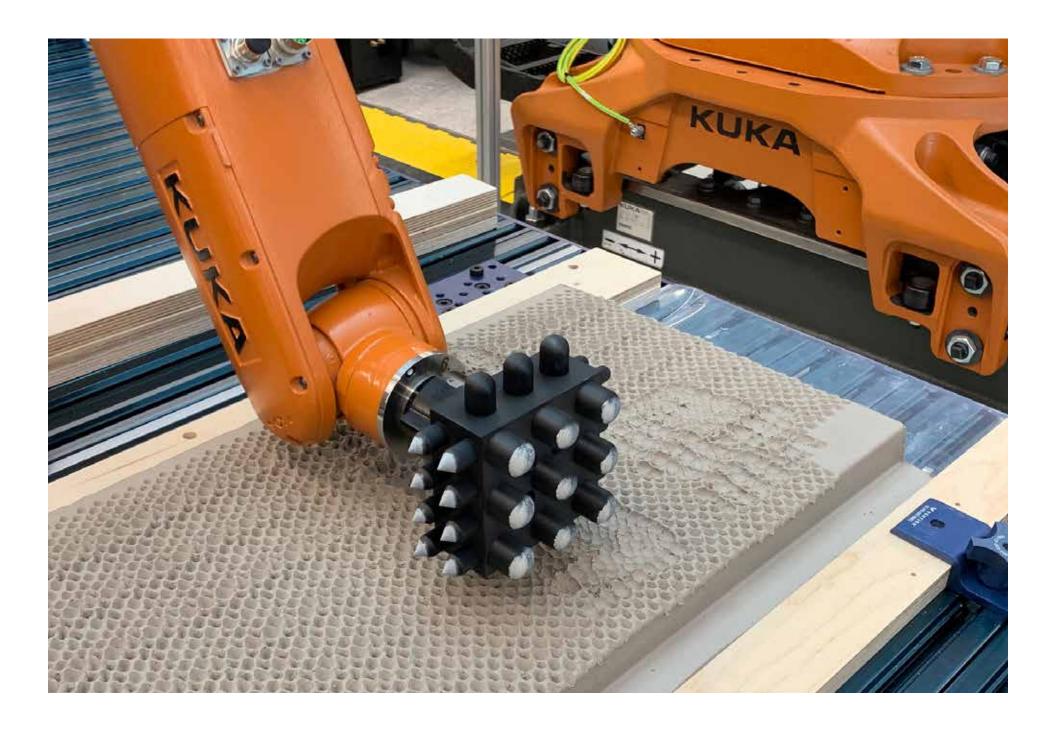
ABSTRACT

[Conceptual Significance] This design/build project critically reexamines the relationship between designer (craftsperson) and technology (robot) of interior architecture terracotta assemblies. Through an academic and industry partnership, Beyond the Surface challenges the disconnect between digital fabrication and the haptic qualities of material behavior in interior architecture by developing a new digital tactility rooted in craft ceramic traditions. [Ingenuity or Novelty Throughout history, ceramics have continually adapted to new tools and manufacturing processes: from ancient greek potters, to the industrial revolution and, most recently, today's digital design, fabrication and robotic automation processes. Each of these processes and tools open-up a realm of new possibilities for interior applications of ceramics. While industrial processes (mechanical matrices of molds and dies) have been widely explored in both industrial and artisanal settings, applications of digital design and robotic automation remain largely unexplored. Thus, this project brings together a consortium of ceramic artists, interior designers, technologists and industry to explore novel and ingenious applications for robotically-tooled interior architectural ceramics. [Visual Presence] Drawing from the visual presence of ceramic craft traditions, we determined that the terracotta interior elements must achieve visual presence at two scales: a haptic scale (up close) as well as at a visual scale (from afar). Visual presence can be understood at both scales, but also relationally in-between both scales. At a distance, we

worked with the legibility of large scale image mapping. Up close, we worked to bring out the material and tactile qualities of clay, producing surfaces which felt "hand" crafted by the "digits" of our robotic arm. [Strength of Aesthetic Value] When exploring the digital design and fabrication of clay, it is immediately apparent that clay doesn't always want to be digitally exact. This imprecision is precisely the aesthetic value of terracotta—it's material and tactile behaviors: how clay deforms, its moisture, how it forms ridges and builds up, how it sticks to the tool or peels off. However, the digital still struggles to account for such behavior of materials. Automation and digital design tend to treat all materials as a quasi "non" material—as a digital material without material behavior. In fact, there is no material modelling of clay during the manufacturing stages nor a physics generator for clay in robotic programming. As a result, existing approaches for digitally or mechanically produced ceramic elements tend to feel cold and lifeless. Instead, "Beyond the Surface" provides an alternative approach which elicits material behavior as an aesthetic value of terracotta interiors through a haptic feedback-loop between the material outcome of the tooled terracotta extrusions and the digital programming of the robotic arm. [Mastery in Craftsmanship] By mastering digital craftsmanship, this project produces a tactility of clay (and all its material behaviors and eccentricities) as digital material. This mastery allows prototypical wall elements to be precisely imprecise, allowing for the development of a haptic (imprecise) surface quality experienced from up close, which is contrasted by (precise) image legibility experienced at a distance from across the room. Because the robotic arm uses 6-axes of movement, multiple tools can be embedded within one effector tool, rotated, and applied to the extrusion, producing a gradient of markings, textures, densities, and thicknesses to ultimately produce a tactile and haptic image-capable of operating at many scales. By mastering the craftsmanship of the digital, complex images can be tooled at varying scales but also engage the inhabitant at varying distances.

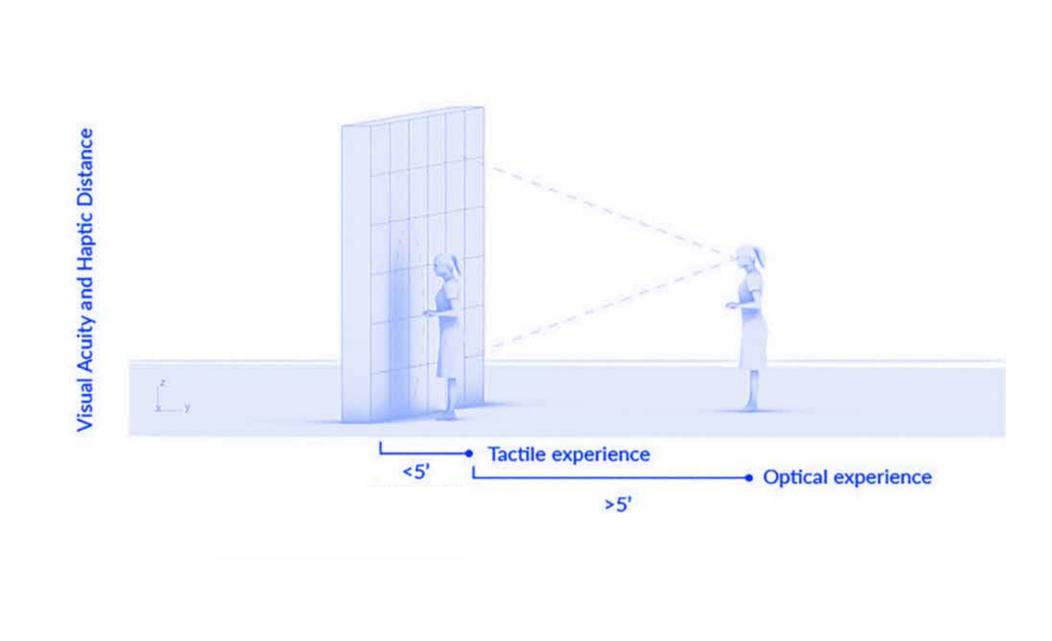
BEYOND THE SURFACE OF INTERIOR ARCHITECTURE: THE BEHAVIOR OF DIGITAL CERAMICS







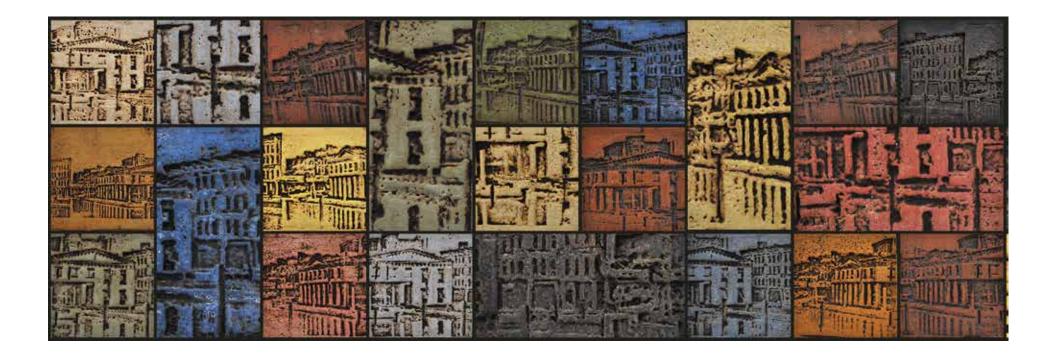


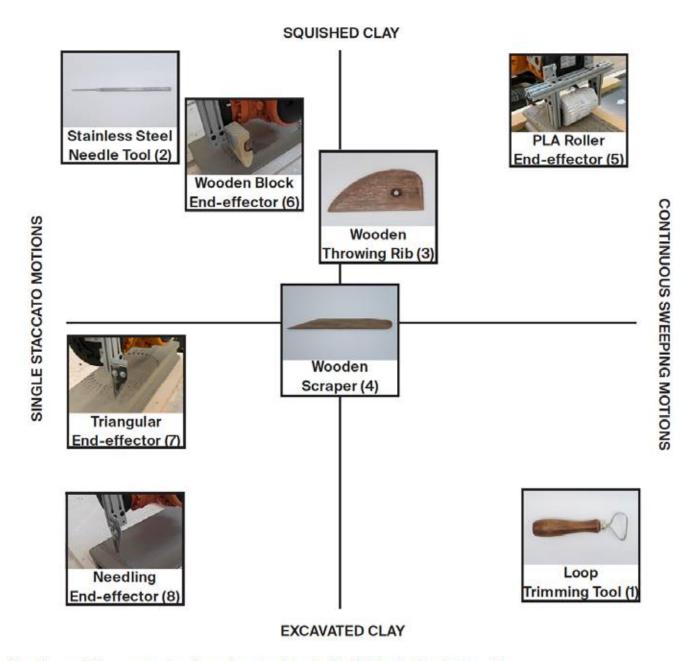




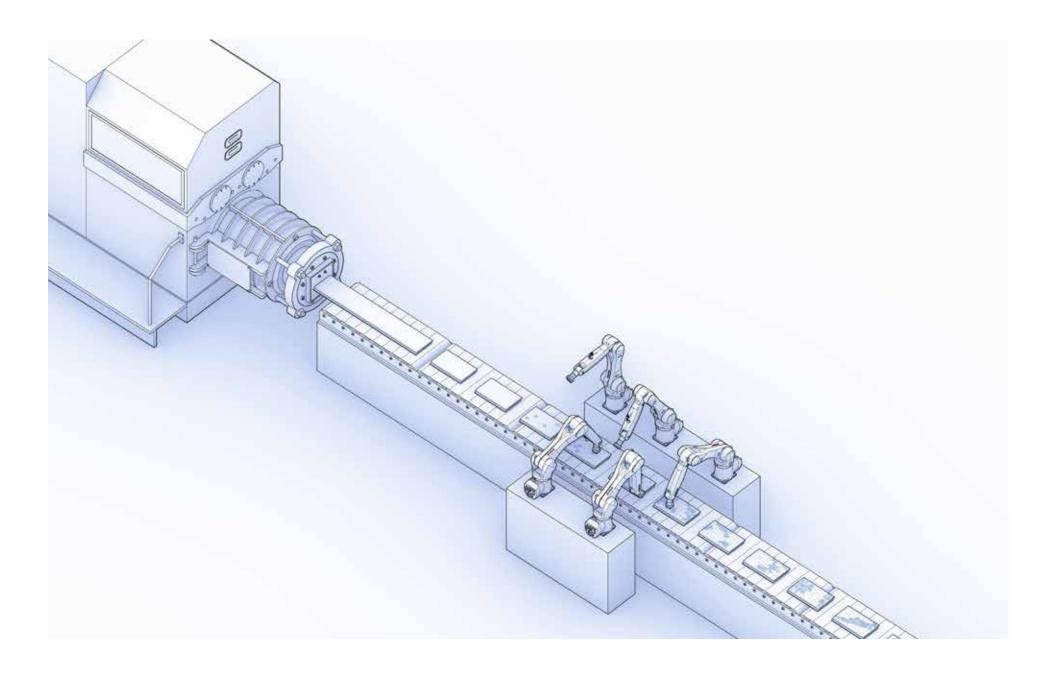


BEYOND THE SURFACE | Glaze Exploration |





Haptic qualities emerging from (manual and robotic) tool-clay interactions



Creative Scholarship | Design as Idea | Presentation

Contextures: Context and Meaning in Materials

Meghan Mick, Florida State University

ABSTRACT

Remove any scene, object, or design from its broader context and its meaning is inherently different. Blue skies are not as promising when you turn around to see the other side of the sky black with clouds. Architecture in tune with its surroundings doesn't appear as responsive when viewed separate from its environment. Even public art as effective as the "Black Lives Matter" street mural in Washington, D.C. gains further impact when viewed within the broader context of its specific location (Chayka, 2020). In this sense, context is everything. Not only does it shape and transform the perspective of the viewer, but it creates definition and meaning for design. Context refers to something larger in scale than any particular object, building, or space. It is the framework within which something exists - its setting, both physically and theoretically. Context can provide additional meaning that aids in understanding (Spirn, 1998). Designers use context at a macro scale, to drive program in order to help their work serve its function, or to inspire a visual style that can create, or elevate, a project's relevance within an environment. At a micro scale, context can also be reflected in details. Context driven materials can elevate the experience in, and meaning of, places we design. As designers of spaces, we are concerned with the human experience, often striving to create places that have inherent value and meaning for the people that use them. Places that connect people to their community and to each other are more important now than ever. Regional and locally sourced materials are one way that design works to be more sustainable, but they can do more. Context driven materials can weave setting throughout design in a way that elevates meaning and facilitates the connection between user and environment. The presentation focuses on one built example of context informing materials - in a natural play area within an urban stormwater park. The author initially proposed the project to local government and served as the lead designer through its completion. Community support was led by a group of volunteers that gained government and financial support for the project.

The intent of the interactive space is to connect families with the unique landscapes of their home state, but this can only be done at a broad level in terms of program or style. As a result of material selection, the larger connections being inferred in the space have a physical and tactile representation that people can experience. Instead of metal or rope creating the scaffolding for a climbing structure, the remains of an old growth Bald cypress are utilized, referencing the native species and its common place in the regional landscape. Limestone and repurposed telephone poles create access up a hill to the embankment slide - representing both the area's geology, and urban setting of the space. Context is represented and illustrated in a direct and sensory way for children, adding a layer of meaning that would be lost on a traditional playground (Keeler, 2008).

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= when you see the whole picture

Form doesn't have the same impact \equiv





when viewed apart from its environment

Even the most significant of statements







= can gain new meaning when seen in context

CONTEXT

Context is generally considered as the broader scale within which a design is set. Meaning can be derived, and expanded upon, by considering a design within its context.



CONTEXT

Context also contributes to design meaning when used in detail creation and material selection, revealing additional layers of texture and depth.







Main Discovery Zones

- () Cypress Climb
- 2 Steephead Slide & Scramble
- 3 Timber Hop
- Butterfly Garden
- (5) Infiltration Garden Overlook
- Picnic Area
- (7) Climbstone
- (8) Grass Dune
- Interactive Water Pump
- (O) Beach Sand Play
- Outdoor Classroom

Landscapes represented







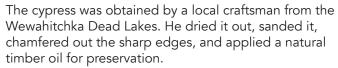


















Cypress installed and being used for play







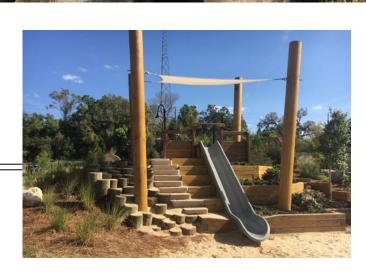
Textures add to the experience



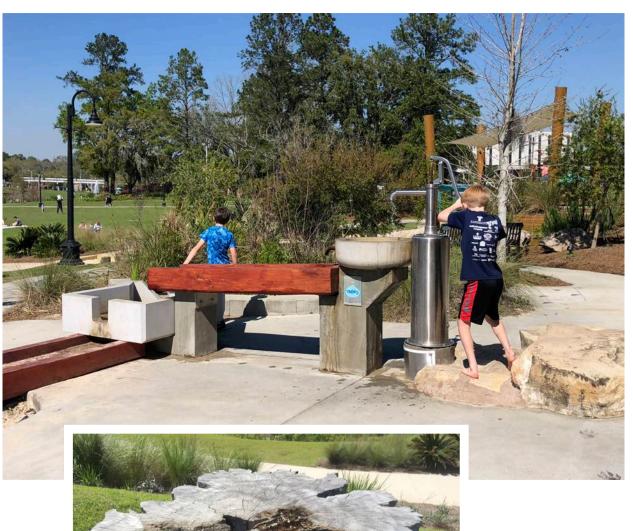


Recycled telephone poles from the local utility company were collected for use in the play area. After being cleared for toxic chemicals, they were cut and and sanded for safety. The wooden pole remnants mimic pine stands in arrangement and reflect the setting of the play area within an urban park.





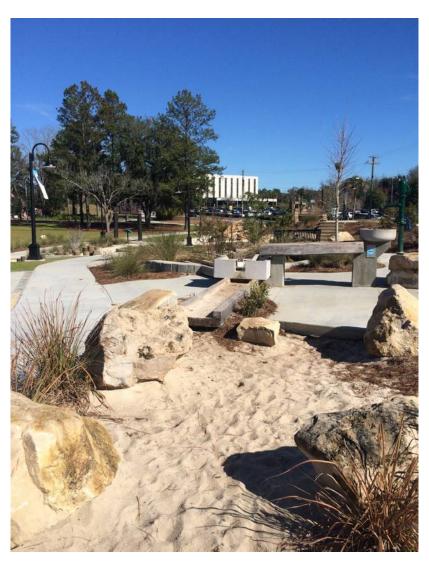
Over time, shade has been added, along with supplemental, native materials to stabilize the slope.



A blend of natural and manmade materials throughout the space highlights the juxtaposition of nature in an urban setting.







Views from within the completed space





The metal gateway at the entry to the play area was created by a local metal shop. Utilizing a more industrial material for scenes of nature reiterates the dichotomy of natural features in an urban context.





View from the top of the Steephead Slide

Creative Scholarship | Design as Idea | Presentation

Interior Speculation in Residence: Eden, Exodus, and Residual Traces

Cameron John, UNCG Department of Interior Architecture

ABSTRACT

Eden, Exodus, and Residual Traces This presentation displays the earliest stages of a thesis; A journey intended to explore liminality and the interior as a concept through a speculative design process and visual studies. Each series manifests a unique conceptual speculation within a consistent visual process as branches on a tree of exploratory design. Interior Architecture is a highly contested terminology in reference to the practice of interior design. The name itself has seemingly entered a liminal state on the legal and conceptual boundaries between Architecture and Interior. This complex state of existence has become a stumbling block for many as they question the ramifications of a name against their identity in design. (Pable, 2009) Interiority and spatial theory provide a basis from which to address this conflict by separating the characters of Interior and Exterior. (McCarthy, 2005) As a professional discipline, interior design has stalled at the crossroads of architectural and interior conditions. (Havenhand, 2019) In an effort to consider the interior as separate from the architectural condition, this stumbling block had to be altered or removed. The approach taken in this study revolves around the concept of space and the home as a "machine for living" as a framework for reconsidering the interior. This new frame of reference fosters a speculative image of the interior, freed from a distinct relationship with architecture, both conceptually and professionally. Speculative design is an increasingly popular methodology that aims to challenge the effects of new technology and trends in a variety of social, political, and ethical contexts. (Dunne & Raby, 2014) From this new position, a speculative context was developed using engineered structures rather than architecture, built off of existing contexts in RVs, mobile homes, prefabricated structures, and trends of trailer-bound micro structures. By taking "machines for living" as a literal context, we're provided the rationale for development of a speculative narrative aimed at considering the conceptual ramifications of growing social

nomadism and urban flight. As housing costs rise in metropolitan centers a growing number of individuals choose to sever their ties to static structures and the typical work week by investing in dynamic and mobile structures. The projects in this presentation represent conceptual explorations of dynamic and mobile structures as they dramatically alter our understanding of the interior but reflect a continuing socio-economic hierarchy of privileged isolation, urban exodus, and resettlement. E.DNs || Eden: The garden of pleasure; Heaven on Earth The Edens represent conditional paradises; Structures of safety and refuge where all needs are met for those who can afford them. Deep underground and high in the clouds, these private and exclusive structures are monuments to privilege. Mobile Homes || Exodus: Procession; Departure; Death; The MH series interprets the mass exodus from metropolitan centers as remote work becomes more accessible and the social context evolves to meet the demands of the workforce. This might be the 'death' of the modern city. As homes become untethered from static existence, the home and interior becomes a mobile environment and travel becomes a defining characteristic of the 'family image'. R.SDU || Residue: Something remaining; Root of Residence; to reside, to remain. The Residual traces of early Edens, too close to the urban center. They have been abandoned and repurposed as residences for individuals and communities in the social periphery. The compositions are created with residual material from digital fabrication methods. Within speculative methods, the benefit of the interior freed from architectural condition becomes a vehicle to evaluate and critique the present state of design practice. It allows for the consideration of a decentralized urban environment and radical infrastructural context.

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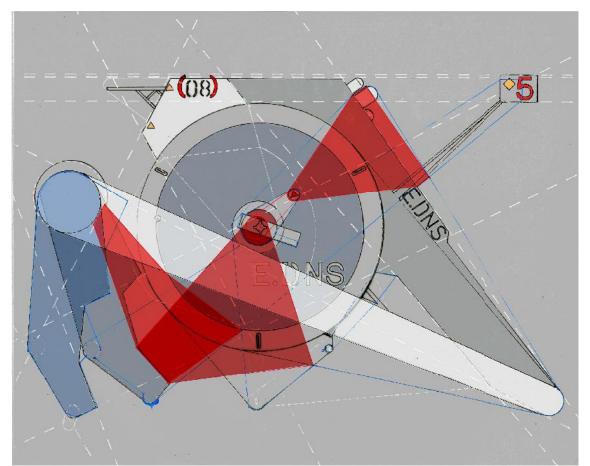
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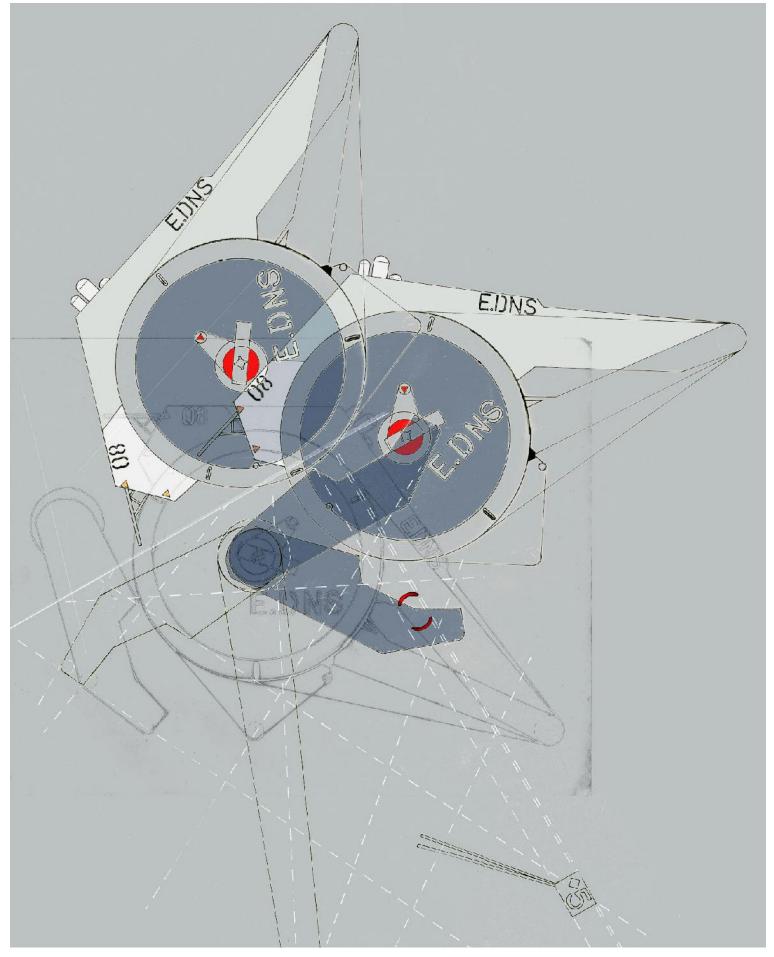
EDEN, EXODUS, AND RESIDUAL TRACES APPENDIX

E.DNs

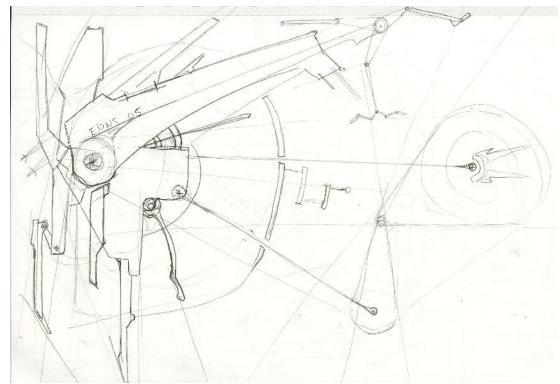
AS MONUMENTS
TO THE
HOARDING OF
WEALTH AMONG
ECONOMIC
CLASS, THE
EDENS
REPRESENT AN
OPULENT AND
ADVANCED
METHOD OF
SOCIAL
ISOLATION.

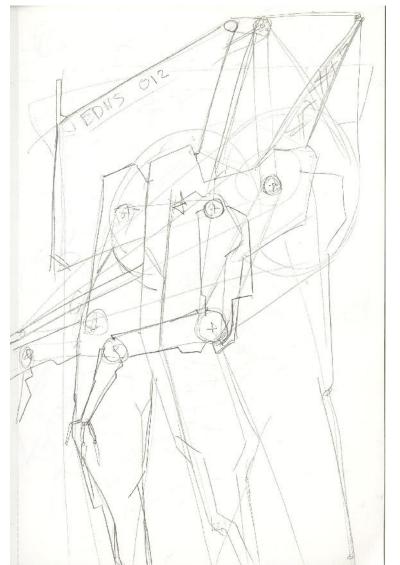






E.DNS

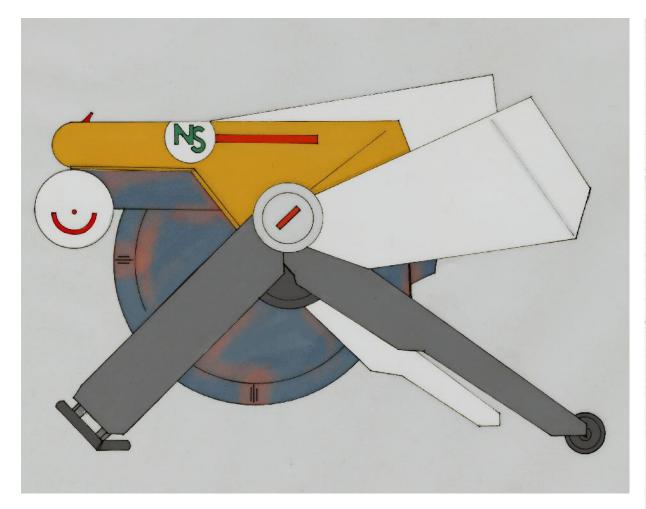




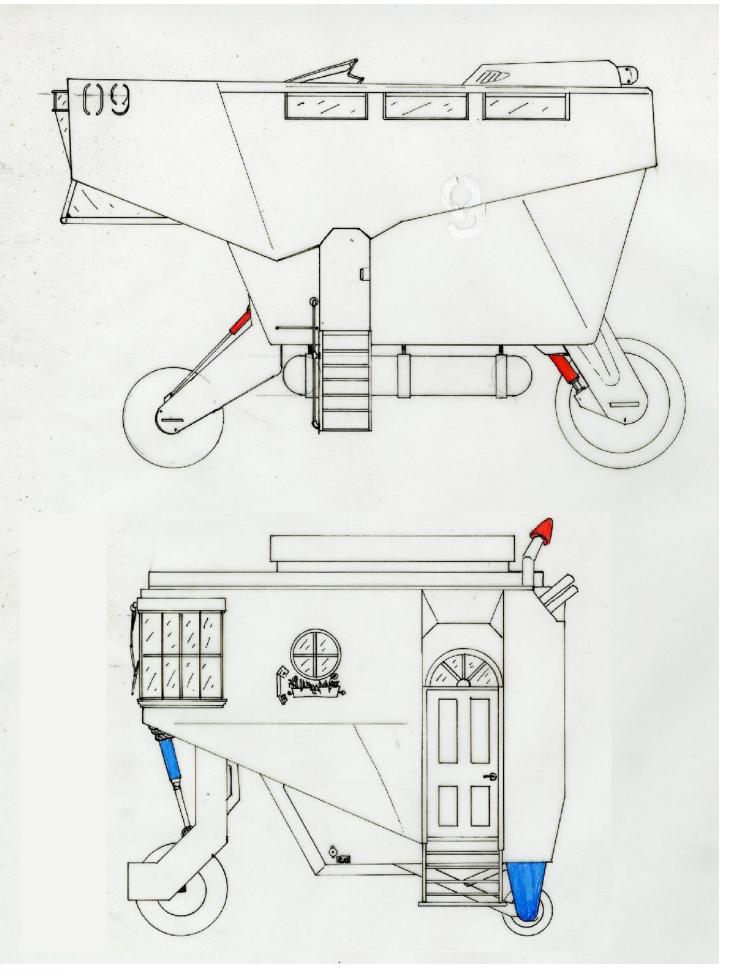


EXODUS: MOBILE HOMES

REPRESENTING A GROWING CULTURE OF MOBILITY WITHIN RESIDENTIAL CONCEPT, THE MOBILE HOMES SERIES REPRESENTS A CONCEPTUAL REDEVELOPMENT OF THE AMERICAN DREAM TO REFLECT THE PREFERENCE OF SOCIAL AND PHYSICAL MOBILITY IN A CULTURE OF RAPIDLY INCREASING ECONOMIC INEQUALITY AND RISING COSTS OF HOUSING.

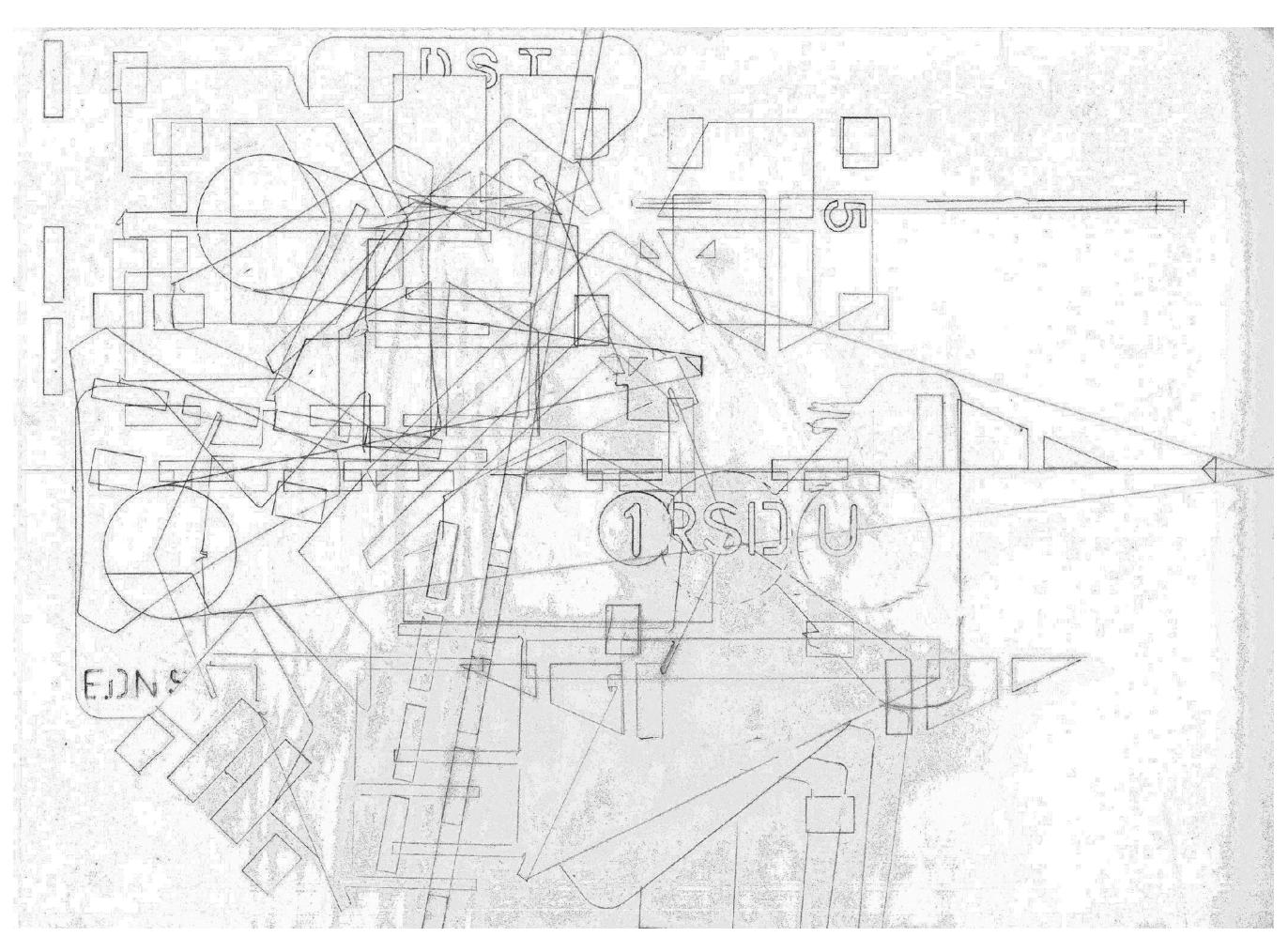






R.SDU #1

The residual TRACES OF PREVIOUS EDENS, THESE STRUCTURES HAVE BECOME CLUTTERED AND ALIEN AS THEY ARE CONVERTED TO HOUSE A GROWING DISADVANTAGED URBAN CLASS IN CLOSE PROXIMITY TO THE URBAN CENTER.



Creative Scholarship | Design as Idea | Presentation

Living Wall: Advancing the Role of Plants in the Interior Volume

Rana Abudayyeh, University of Tennessee

ABSTRACT

This project, a collaboration between Interior Architecture and Plant Sciences, involves designing modular living wall systems that integrate synthetically engineered plants to survey the interior air quality. The majority of our lives take place within interior environments. Incorporating biophilic elements such as plants in high-occupancy areas is essential to designing healthy settings. While this is true under any circumstance, it assumes a pressing urgency amid the "new normal" imposed by the COVID-19 pandemic where indoor air quality is among the chief health and design concerns. Plants are ubiquitous with our various settings and proven to enhance wellbeing. Yet, interior vegetation can do so much more. As environmental sentinels, synthetically engineered plant-based sensors (phytosensors) can be designed as specific microbe detectors to indicate that closer inspection of the interior air quality is warranted. Plants sense pathogens at the molecular level, yielding an inducible fluorescent protein readout to signal detection. These same proven strategies will be applied to detect the presence of the SARS-CoV-2 in the circulating indoor air. The project leverages several phytosensors in the design and fabrication of site-specific green-wall prototypes. Additionally, it implements topographic surface variations within the wall system to enhance the plants' detection capabilities and the aesthetics and function of the living wall. The research methodologies involve testing various design iterations of the wall; this approach enables us to fine-tune the form and the plants' synergy. While green walls are not novel systems, our proposal navigates new design opportunities within this typology by combining air monitoring capabilities, biophilic benefits, and user interface. The project utilizes new fabrication methods that primarily rely on additive manufacturing. It is modular and interchangeable based on the users' needs. Coupling the biotic plant technology and advanced fabrication methods allows for customization, encouraging direct

exchanges between the occupant and the interior space and vegetation. 3D-printed growth substrates utilizing plant-based biodegradable plastics enable the design of innovative interior topographies. These topographic surfaces are used for built-in furniture, acoustic control, or storage, thereby catering to much-needed adaptability within interior spaces. Experts agree that the COVID-19 pandemic has ushered lasting changes to all aspects of our living. Accordingly, our spaces must adapt to accommodate users and prioritize their physical and mental wellbeing. Under such an assessment, a multimodal living wall becomes an integral component of interior settings. Not only does it fulfill conventional spatial functions, but it also improves the interior environment both on physiological and psychological levels. The project directly serves highoccupancy/high-risk spaces, namely schools and workspaces. To that end, we have established a partnership with a local private school principal who works with special-needs students. We collaborated directly with her and the students to design a living wall suitable for their needs. Our next priority is finding similar like-minded clients for other settings. The different user groups demonstrate an understanding of the system's program-specific parameters. As such, they aid in designing the wall units and formulating comprehensive post-occupancy reports. As we embark on a new normal, designers, scientists, and health experts must work together and be fully involved in the authorship of this new era. The future will offer us opportunities to rethink how we approach design, specifically that of interior spaces, with a renewed commitment to health and wellbeing.

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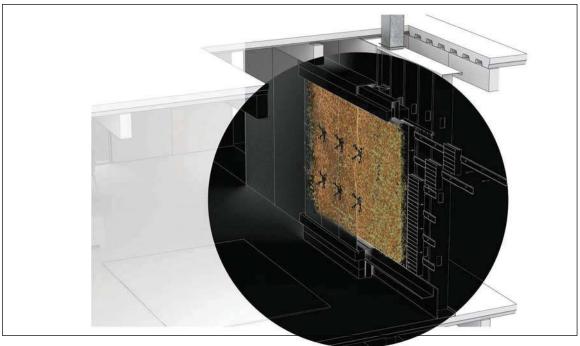
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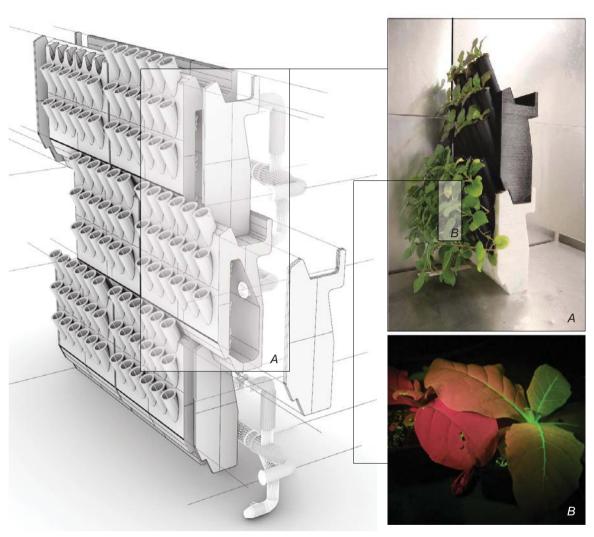
Nevalainen, A., Taubel, M., & Hyvarinen, A. (2015). Indoor fungi: companions and contaminants. Indoor Air, 25(2):125-156.





Preliminary formal exploration of the monitoring green-wall system. This example integrates the Living-wall unit with the HVAC system. This integration allows the plants* to survey the quality of indoor circulating air and glow in response to certain pollutants.

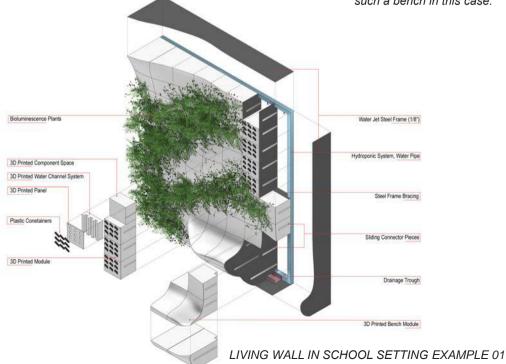
*The plant closeup in the image above is from our lab; a Nicotiana Tabacum plant has been bioengineered to luminesce if they detect VOCs (Volatile Organic Compounds) in the air. The fluorescent green glow is an indicator of the presence of VOCs.



Experimentation with stackable 3D-printed modules using Nicotiana Tabacum, synthetically engineered to detect Volatile Organic Compounds.

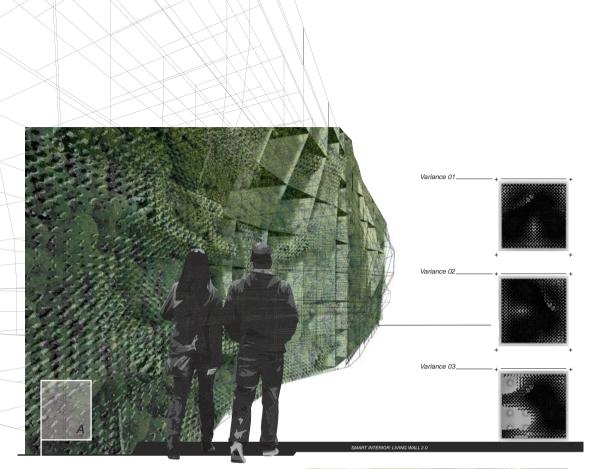


Experimentation with stackable 3D-printed modules to create site-specific interior elements such a bench in this case.

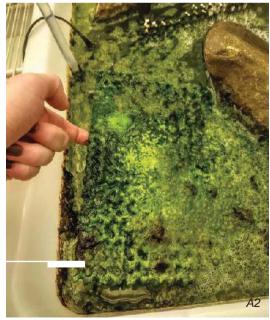












Experimentation using moss and 3D-printed growth substrates with various porosities.

LIVING WALL SYSTEM STUDY

Creative Scholarship | Design as Idea | Presentation

Public Interiority, Atmospheric and Psychological

Liz Teston, University of Tennessee

ABSTRACT

For this presentation, I will analyze the concept of "public interiority," or inside-feeling spaces that are actually outdoors. These types of spaces can be shaped by programmatic, formal, atmospheric, or psychological factors. Particular to this presentation I will focus on the psychological and atmospheric varieties, via case studies in New York and Nashville, respectively. Nashville Example: This instance of atmospheric interiority in the Nashville public realm underlines the fleeting, temporal conditions of the public interior. These ephemeral interiorities blanket the more static form-based conditions that exist in the city. On Independence Day in Nashville, the 30-minute-long fireworks display produced clouds of smoke and rapid-fire sonic discharges—a strobing radiance, broadcast across the concrete plaza at The Schermerhorn Symphony Center and reflected onto the glass façade of the AT&T Building. These ambient conditions reveal a kind of atmospheric, transient interiority against the night sky. Imagine here that public interiority might be seen as the plaza in front of the Symphony Center, roughly bounded by the hazy aftereffects of the fireworks, the adjacent building's portico, and the glowing bubble of effervescent illumination above. The smoke and fireworks are an unrestrained version of the close, separating us from the darkness. New York Example: In this section of the presentation, I will describe and analyze instances of psychological "exterior-interiority" uncovered in on-site research and observation in New York. While supported by formal architectural elements and urban ambiances, the public interiorities of New York are conditions that psychologically feel like interiors but are in the public realm and appear superficially unrestricted. I will explore multiple cases of internalized spatial experiences, including feelings of anonymity and voyeurism. Following Walter Benjamin and Beatriz Colomina's conceptions of the flâneur and the gaze respectively, these case studies are situated amongst the crowds of

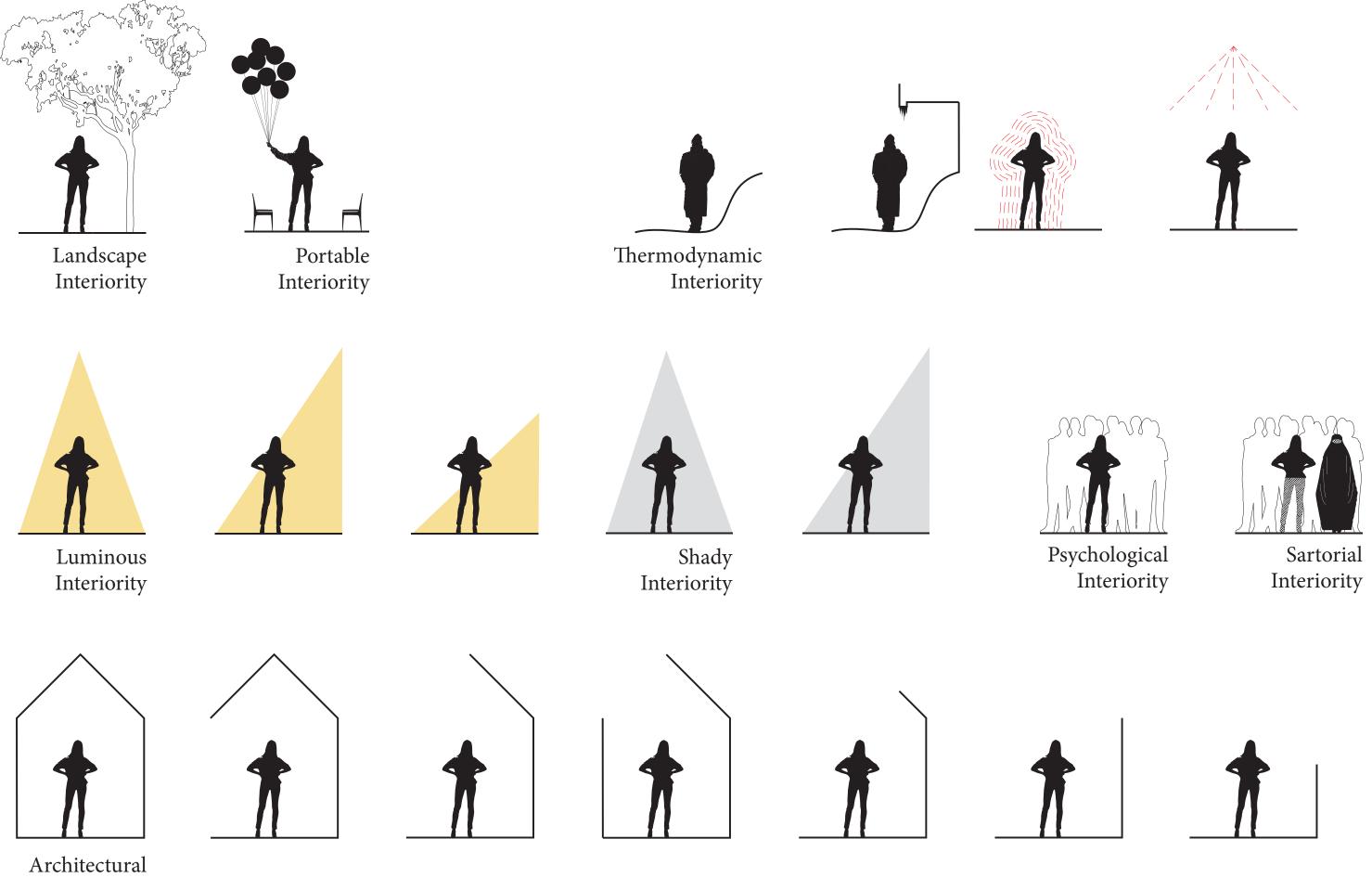
The High Line, heterotopic experiences and spongy interior-exterior thresholds in pocket parks, and the sidewalk queue at Glossier in SoHo. The nature of the interior, an inward-feeling private space, spills out into the sidewalks of Manhattan. This essence is reflected back to watchers and spreads to create more instances of public interiority in the psyches of the watchers. Exploring these public interiorities reminds us that the fundamental purpose of design is to improve everyday settings for everyday people. Thoughtfully-designed places recognize the perspectives of people from all walks of life. While this presentation focuses on revelatory ways of uncovering public interiority, this can lead to a deeper understanding of interiority, consequently leading to improvements in human-scaled design, interior, exterior, or somewhere in between.

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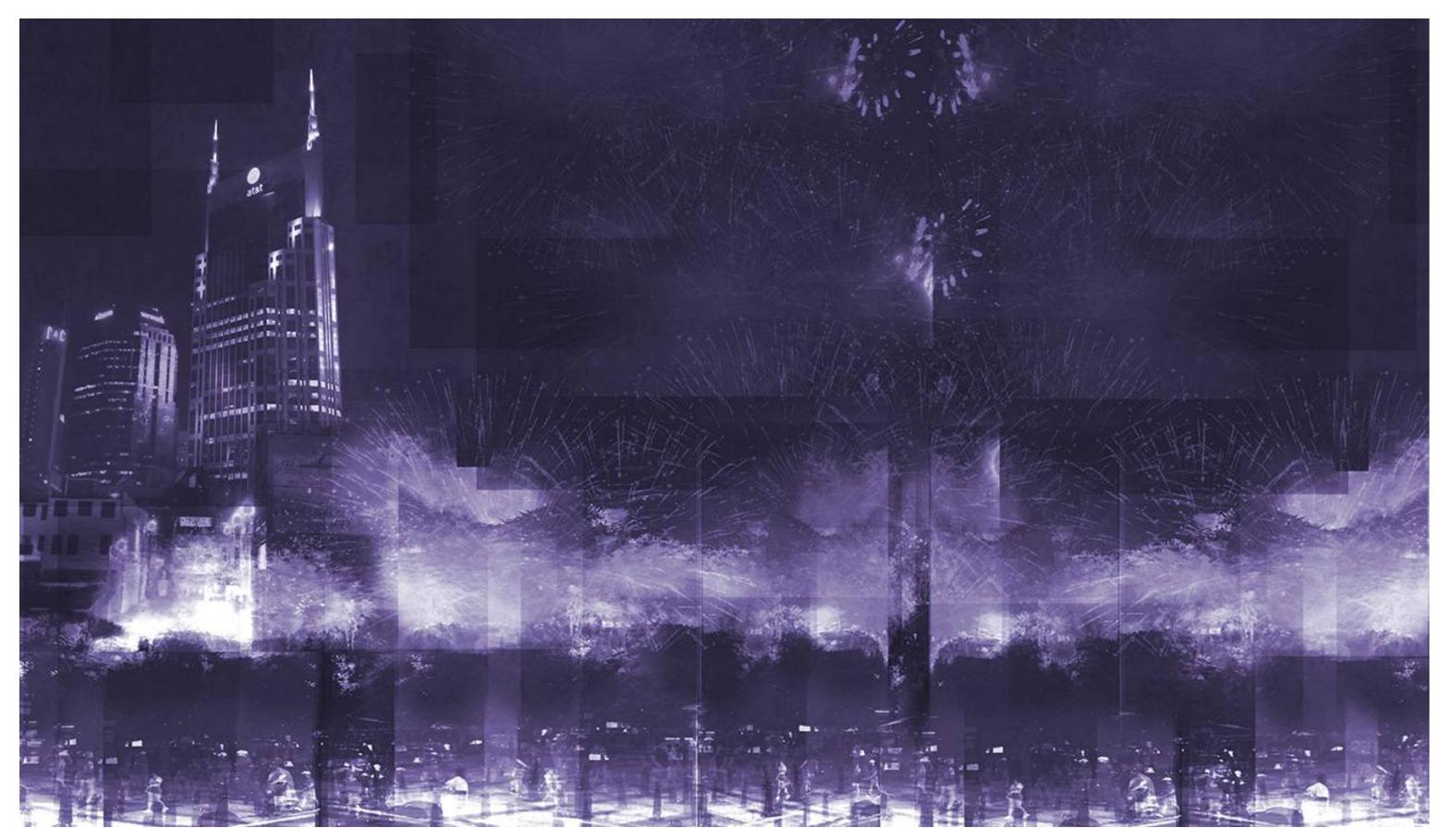
Alternate Forms of Interiority



Interiority



Phychological Interiority at Glossier SoHo, NYC.



Atmospheric Interiority at Schermerhorn Plaza in Nashville

Creative Scholarship | Design as Idea | Presentation

Sojourn: The Veteran's Memorial

Torrey Tracy, Department of Interior Design-Fay Jones School of Architecture & Design

Beau Burris, Department of Landscape Architecture

ABSTRACT

When designers attempt to appeal to or engage an emotive response with spaces of memory and honor, it is not uncommon to default to built constructions that define traditional space while highlighting objects and relics that assist in a telling a story. Spaces of honor and memory tend to be clearly defined, singular, and objective. When the call for a Veteran's Memorial Design submission for JB Hunt Park in Springdale, Arkansas was released in 2019, the designers aimed to challenge the construct of space dedicated to memory and honor by proposing a relationship that exists between an environment and memory. This would hopefully lead to visitors developing their own unique space dedicated to honoring and memorialization—a permanent "space" within one's psyche derived from the temporary experience. The result of the study and interdisciplinary investigation led to the schematic design of a military veteran's memorial entitled Sojourn. Sojourn is comprised of a collection of landscape, sculpture, and spaces for opportunities for social interaction—hopefully for like minds to reflect, honor, and commiserate. The intermingled relationship between elements is intended to create a poetic respite for reflection and appreciation for sacrifices made. The connection to nature also allows for a seasonally kinetic, ever-evolving, existence while being steadfast in its mission to memorialize. Sojourn is composed of two interconnected loops. At the northern loop, an expressive, treelike metal sculpture memorializes our veterans, a symbol of the permanence of their collective sacrifice within history. At the southern loop, a quiet forest glade holds a living tree with sprawling branches arching gracefully over a reflecting pool, inviting visitors to the lively future which veterans' sacrifices made possible. At the intersection of these loops stands a flagpole, uniting past and present.

REFERENCES

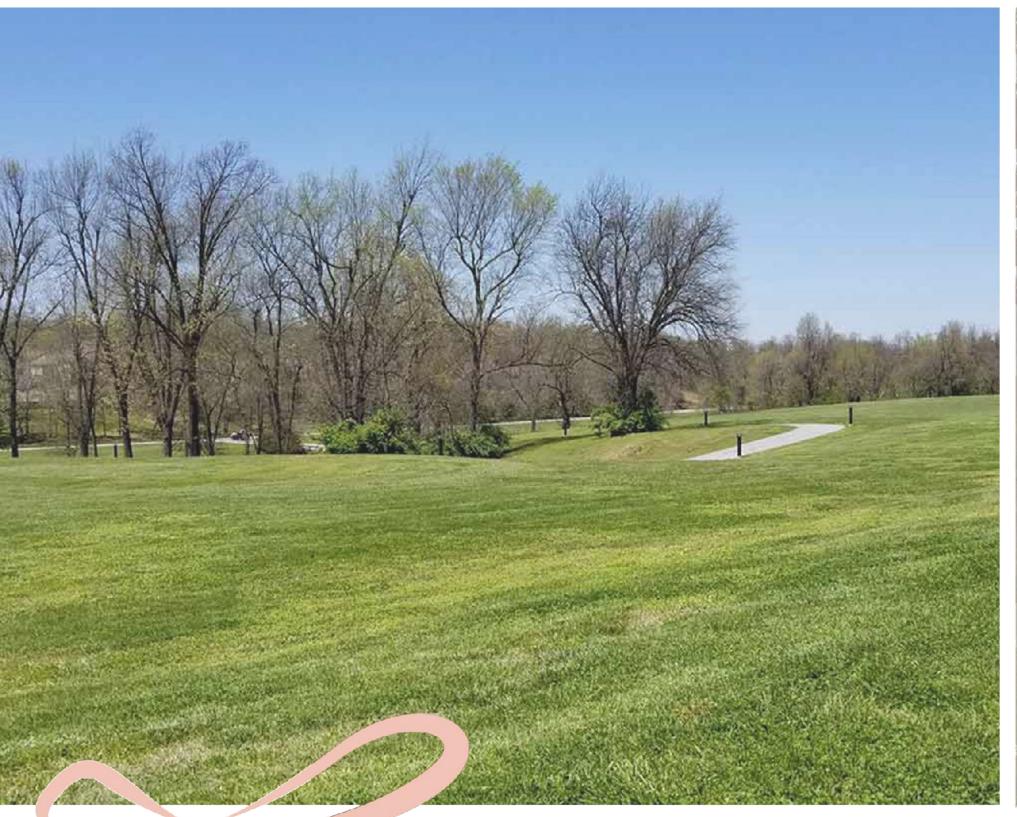
Design Competition_Springdale Veterans Memorial: https://www.svmo72762.org/design-competition





Sojourn: A Veteran's Memorial on the grounds of JB Hunt Park 1955 Fleming Dr., Springdale, AR 72762

JB Hunt Park sits on a lovely 200 acre site which features Lake Springdale and offers various recreational features.





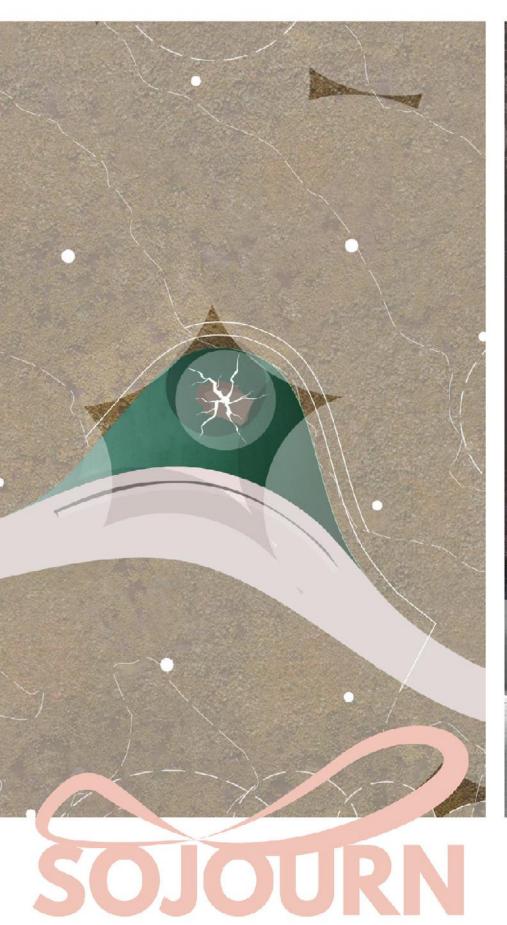
SOJOURN

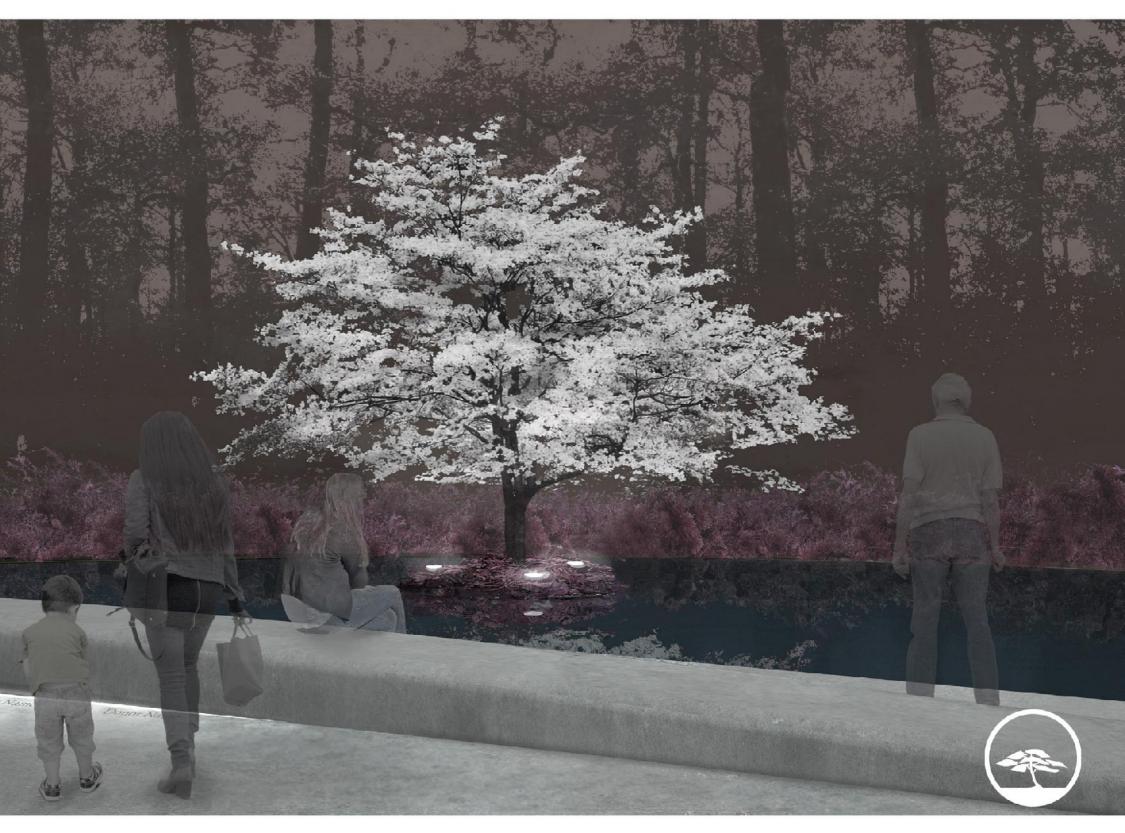


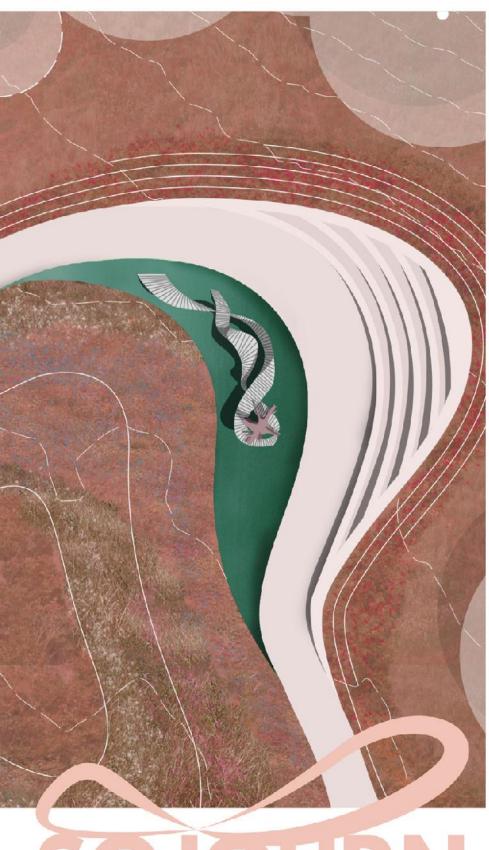
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SOJOURN

Creative Scholarship | Design as Idea | Presentation

The FlexiRocker

Paige Bischler, University of North Carolina Greensboro Amanda Gale, University of North Carolina at Greensboro

ABSTRACT

The FlexiRocker is a conceptual chair designed to aid in distraction and hyperactive behaviors for teens (12-18 yrs.) and young adults (18-21 yrs.) who have Attention Deficit Hyperactivity Disorder (ADHD). ADHD is a chronic condition that entails difficulty sustaining attention, hyperactivity and impulsive behavior, which affects millions of children and often continues into adulthood (Mayoclinic, 2019). This condition causes people to struggle with focusing on simple tasks or sitting still for extended periods of time (Angel, 2020). The most common movements associated with individuals with ADHD are constant tapping of the foot or hand, swaying, or fidgeting (American Psychiatric Association, 2013). Because of this, active seating options have made an appearance in many educational environments such as the Turnstone Buoy, by Steelcase. Active seating is a versatile accommodation for people who have ADHD as research has found that more blood flow to the brain is needed to concentrate (Mulrine, 2008). Therefore, having the ability to move while seated allows blood flow and thus increases on-task behavior while reducing distraction (Remer, 2017). Existing active seating options include the Wobble Chair by Kore, which accommodates swaying motions, the Ball Chair by Isokinetics, which accommodates bouncing motions, and the Sit to Stand Stool by Aeris, which allows swaying while giving the user the option to utilize it in a seated or standing position. Each of these chairs incorporate accommodations for a single movement, however, individuals with ADHD often perform multiple concurrent movements. To ensure an inclusive design, it was important to create something innovative that accommodated a variety of movement options. Consideration of how this single piece of furniture could improve upon the existing active seating choices was the starting point of the design process. The FlexiRocker offers its users an innovative active experience through the incorporation of three movements commonly seen in individuals with

ADHD. This piece enables its user to rock, bounce, and tap. To arrive at this design, multiple iterations were made throughout the creative process. The FlexiRockers' unique design is reminiscent of a rocking chair, but instead takes advantage of the circular motion that naturally occurs while rocking. Traditional rocking chairs use a curved material on the bottom to allow the chair to rock. Inspired by the existing curves in rockers, the arms are made of layers of bent wormy maple that intersect with each other in the center to create an entire circle. The four pieces of wormy maple are stabilized with two wooden dowels on each side to enable steadiness. The seat material is made of woven bungee cord to create a natural bounce, and webbing to make it more stable. The back is duck cloth and resembles a Director's chair back style. The Director's chair back utilizes its flexible shape to allow the material to 'hug' any user. Deep pressure simulation, reminiscent of weighted blankets or a "portable hug" vest can ease anxiety. In addition to these design features, the chair also exhibits stoppers on both rounded pieces for safety purposes to prevent users from tipping over. This contrasting piece pushes the boundary of complexity through a seemingly straightforward design. Clean and simple lines are applied so the design elements are not overwhelming to the user because research demonstrates complexity is distracting for those with ADHD. While the FlexiRocker was created to accommodate the various movements exhibited by individuals with ADHD, it is visually appealing for any person to want to use. It is imagined that this chair would be placed in a high school classroom, or higher education setting as an alternative source of respite.

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https://nwcommons.nwciowa.edu/cgi/viewcontent.cgi?article=1071&context=education_master



Process Sketches | Precedents (Swing+ Bungee chair+ Rocker = FlexiRocker)



Process | 3D Printed Miniature Chair



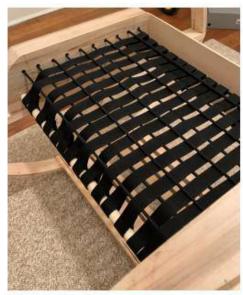
Process | Bending the wood over a particle board mold



Full scale model of the FlexiRocker



Details | Weaving element within wormy maple wood. Wormy maple is durable with a distinguished yet subtle grain.



Bungee Cord & Webbing Seat



Details | Stoppers for Safety

Creative Scholarship | Design as Idea | Presentation

Unraveling Code for Appreciation by All: On the Beauty of Textiles Translated to Music

Stephanie Sickler, Florida State University Karen Large, Florida State University

ABSTRACT

Problem: Aesthetics are paramount in the built environment, and are often paramount in human perceptions. However, visual aesthetic stimulations leaves little room for visually impaired persons to experience the beauty of physical surroundings as equitably as sighted persons. This begs the question, how can design enhance the user experience for all? Context: For the nonsighted, experiencing interior spaces can be quite different than for the sighted. Persons who are sight-impaired use spatial sequence, texture, material, and sound to gauge their surroundings (Afshary, G., Garofolo, I., Svetine, M., & Zupancic, T., 2018). Sensory-substitution devices have been used to generate visual-to-auditory information such persons, but these processes require training for users and only allows them to extract shape and color information that can be devoid of emotional qualities (Abboud, S., Hanassy, S., Levy-Tzedek, S., Maidenbaum, S., & Amedi, A., 2014). Approach: This project seeks to enhance the user experience for all by revealing the music that exists, if undiscovered, within the jacquard loom codes for woven textiles. Specifically, and in partnership with a colleague from the Music Department, loom codes were translated into scored music so that the visual and emotional experience of a textile pattern could be expressed to someone who cannot see it. The process first began as a translation of binary code from original jacquard loom cards to a melody on a music staff, and has led to a methodology for generating compositions from the vast computer codes of today's digital jacquard looms. Partnering with a prominent jacquard weaving company, the researchers obtained permission to experiment with proprietary loom codes and corresponding textiles. Data from the digital files was translated into block chords and broken chords to determine which method for translation was most pleasing. Backing tracks were then added to align the music

with the "feeling" the textile company was imagining for the textile. The process resulting music is attached in this submission. The goal of this process is to transform a static textile intended for consumption only by the senses of sight and touch to a full experience for all users, through the addition of sound. Expanding the barriers of textile design through the exploration of the fragments that have literally been within the textile all along not only potentially enhances the aesthetic quality of the textile itself, but expands its accessibility to a previously closed-off market of users. Significance: The music produced through this process, when played while examining the textile by sight or touch, may enhance the user experience, painting a picture in the mind's eye with melody and instrumentation. A logical next step in accessibility, unraveling the code within textile design has the potential to transform the way people experience spatial elements. Whether as an enhancement to a showroom or product catalog, or a reimagining of the museum experience, this process provides a soundtrack to an otherwise silent industry while simultaneously celebrating the history of its making.

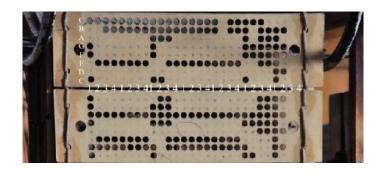
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TEXTILE MUSIC

An old jacquard loom card translated into block chords and broken chords and their associated sound files



Old Loom Card Block Chords Musical Score



Old Loom Card Block Chords Music Sound File (click below)

https://youtu.be/GtEQbKXl0Ac

Old Loom Card Broken Chords Musical Score

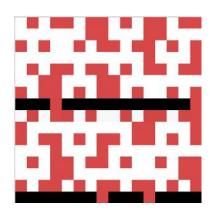


Old Loom Card Broken Chords Music Sound File (click below)

https://youtu.be/Fe99APM2-Eg

Modern Textile and its Digital Loom Card translated into block chords and broken chords and their associated sound files





Modern Loom Card Block Chords Musical Score



Modern Loom Card Block Chords Music Sound File (click below)

https://youtu.be/FT7Adz8Y8us

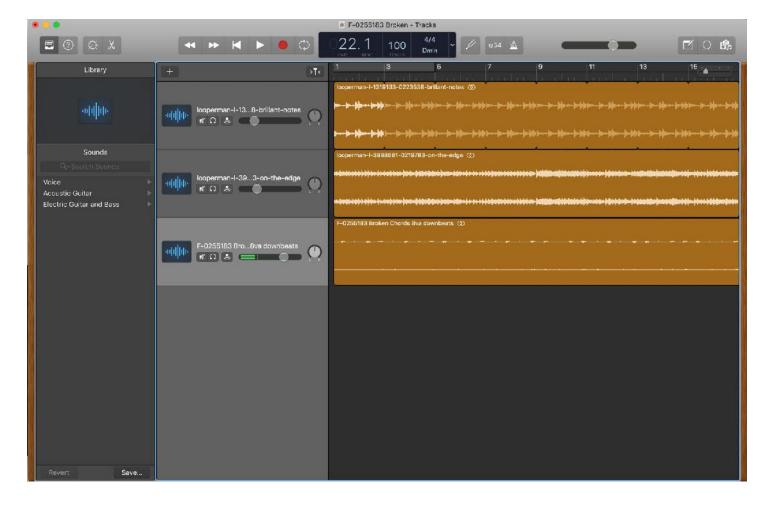
Modern Loom Card Broken Chords Musical Score



Modern Loom Card Broken Chords Music Sound File (click below)

https://youtu.be/Sq5Cn-5M2TU

Modern Loom Card Broken Chords with Backing Tracks (Garageband Screenshot)



Modern Loom Card Broken Chords Music with Backing Tracks Music Sound File (click below)

https://youtu.be/0LErW6rj6EA

Creative Scholarship | Design as Interior | Presentation

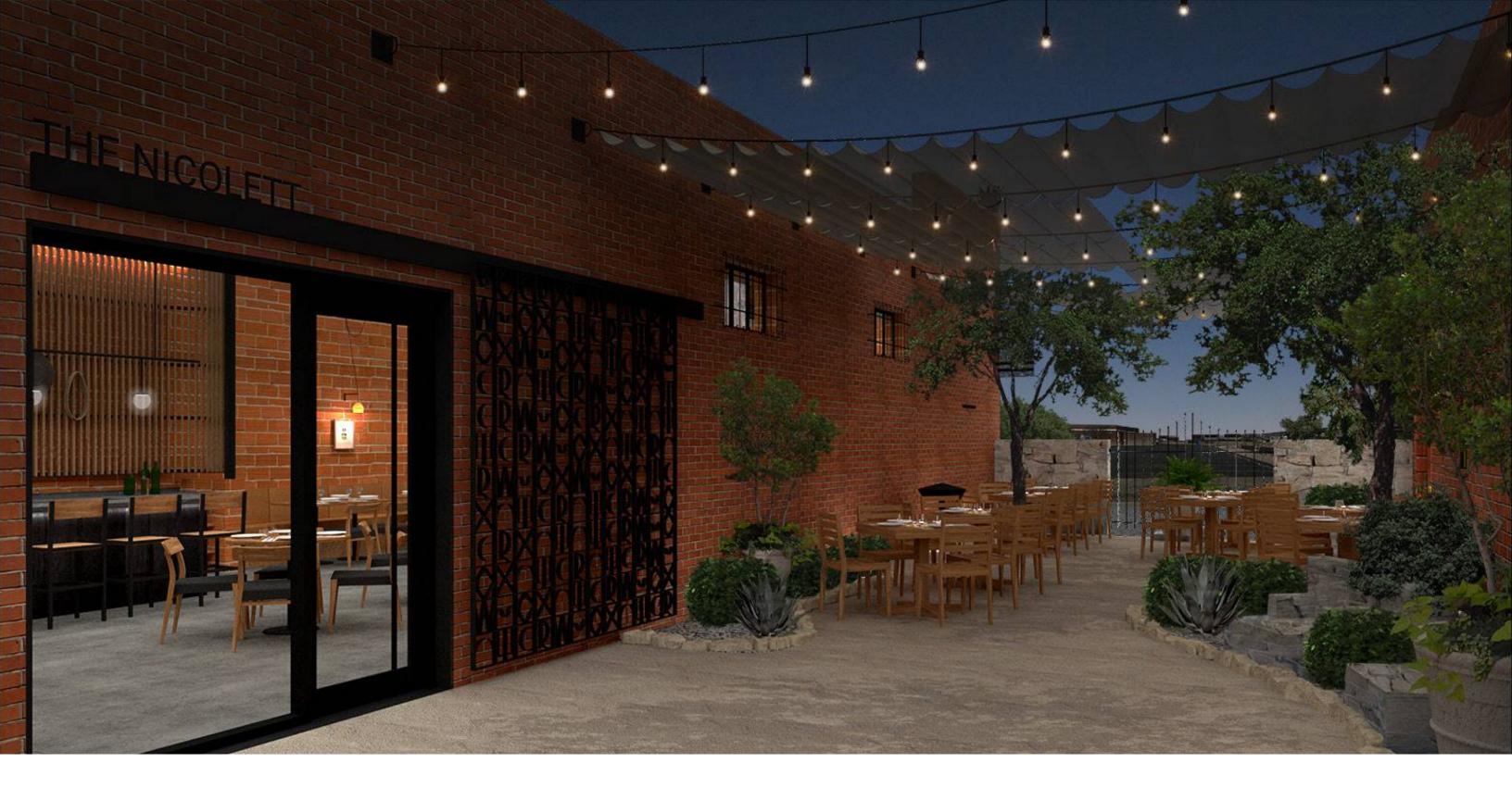
The Nicolett: French Cooking in the Texas Panhandle

Charles Sharpless, University of Arkansas Jessica Colangelo, University of Arkansas

ABSTRACT

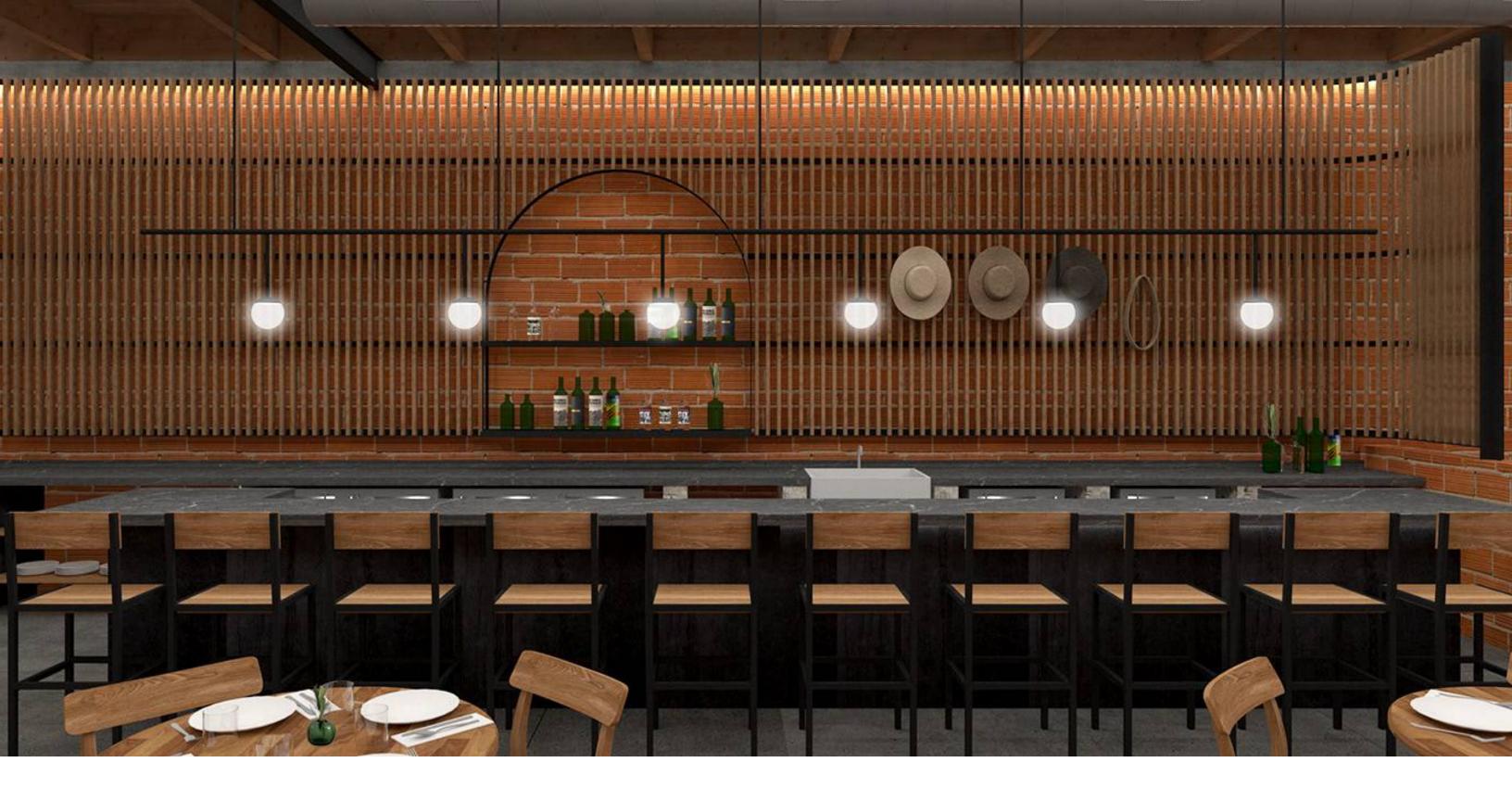
The Nicolett is a restaurant in downtown Lubbock, Texas that infuses west Texas history and culture with elevated French cuisine. This adaptive reuse project fits a new dining room, bar, kitchen and support spaces into an existing one-story terracotta masonry storefront building. The project's interior design was initiated with the creation of a logo, theme and brand for the restaurant from the combined research and conversations on the spirit of the place by the designers and owners. Named after the first hotel in Lubbock, the Nicolett's culinary and design vision stemmed from an interest in melding the simplicity and refinement that is embodied in French cooking with the utility and rugged beauty of the high plains of West Texas. The construction of cowboy hats served as an analogy that was able to connect the chef's French cooking background with the designer's modern details. In all three, a high level of craft and execution is required to create a final product that is both refined in its simplicity, relatable in its utility, and immediately identifiable in its aesthetic statement. After analyzing the many different cuts and styles of cowboy hats, the restaurant logo came from the most simplified profile of the Open style cowboy hat. This simple profile of an arch with out-turned legs became a motif that could then be repeated beyond the 2D logo in the forms and detailing of the project. The project site includes three existing structures: two large, 2,500-sf masonry buildings that were built originally as auto-repair shops and a small, 300-sf open-air masonry and glass greenhouse. Different from many adaptive reuse projects, the original structures had been carefully maintained as a private residence over the past 30 years, and this project sought to convert the buildings from a dwelling unit back to a commercial use. The buildings featured an abundance of unique details leftover from the previous owners, including masonry with tile insets, colorful

blown glass windows and a large stone fireplace. The design kept as much of this inherited character of the original buildings as possible, only removing a few interior walls and decluttering the space to create an open and functional dining room. The main restaurant is located in the western storefront building adjacent to courtyard patio dining. The greenhouse structure is left open-air for private outdoor dining and the eastern building is planned for a future event space. With a limited budget, the restaurant interior design focused its resources on a few strategic modifications including a slatted wood screen, an open kitchen design and a new entrance. The main entry to the restaurant is relocated to bring diners from the parking area through the exterior courtyard and into the heart of the restaurant. The new glass entry door and sidelight bring daylight into the restaurant and connect the interior and exterior dining spaces. Entering the restaurant, guests are greeted with the bar and the backdrop of the warm wood screen which wraps the restaurant interior space. The center features an arched opening in the screen, which highlights the terracotta masonry behind and gives a nod to the restaurant logo design of an abstracted open cowboy hat. The backdrop for the front dining room is a modern open kitchen framed by a quarter-arched wall-to-ceiling that clearly delineates old from new and dining from service spaces. The other half of the restaurant includes banquette seating and a communal table dining. The width of the existing masonry fireplace was reduced to allow for more dining space and the existing steel beams and columns of the auto-shop were left exposed to give a nod to the industrial history of the building. By bringing together the old and new in the structure and creating cultural connections through a shared appreciation of craft, the Nicolett attempts to engage a broad audience and facilitate a new experience of food and design in West Texas.



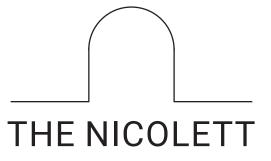
ENTRY COURTYARD

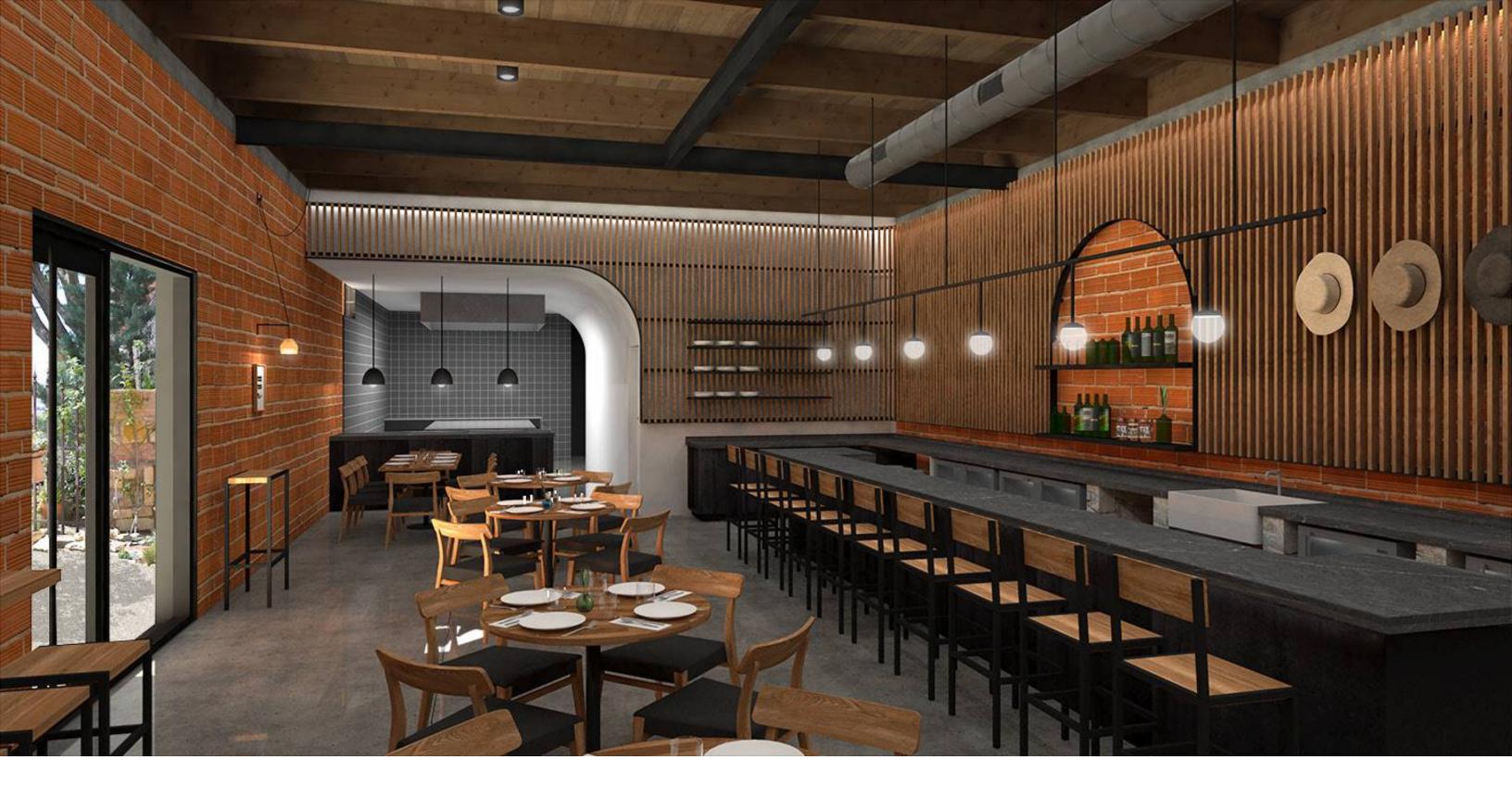
The main entry to the restaurant is relocated to bring diners from the parking area through the exterior courtyard and into the heart of the restaurant. The new glass entry door and sidelight bring daylight into the restaurant and connect the interior and exterior dining spaces.



RESTAURANT ENTRY & BAR

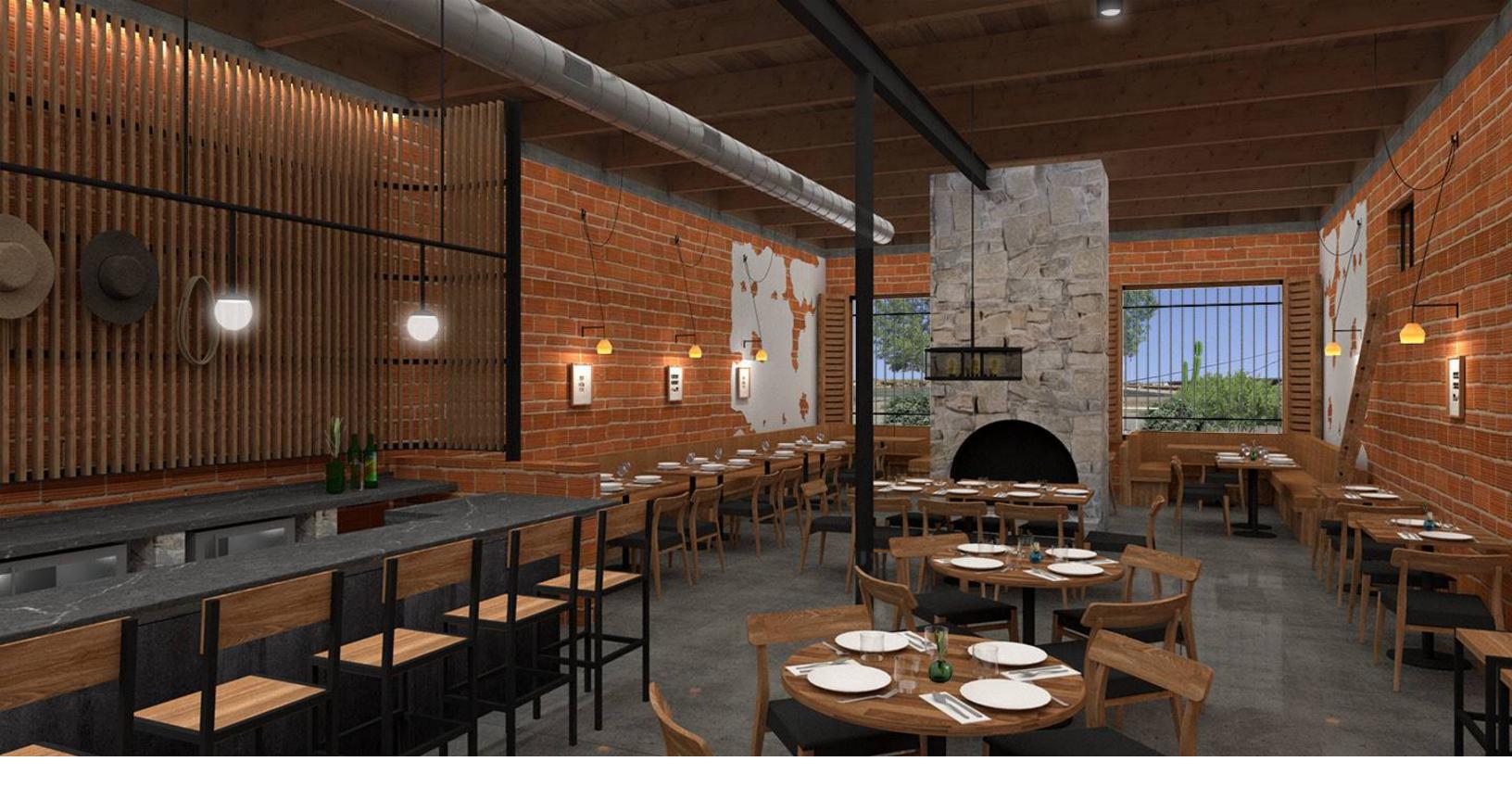
When entering the restaurant, guests are greeted with the bar and the backdrop of the warm wood screen which wraps the restaurant interior space. The center features an arched opening in the screen, which highlights the terracotta masonry behind and gives a nod to the restaurant logo design (to the right) of an abstracted open cowboy hat.





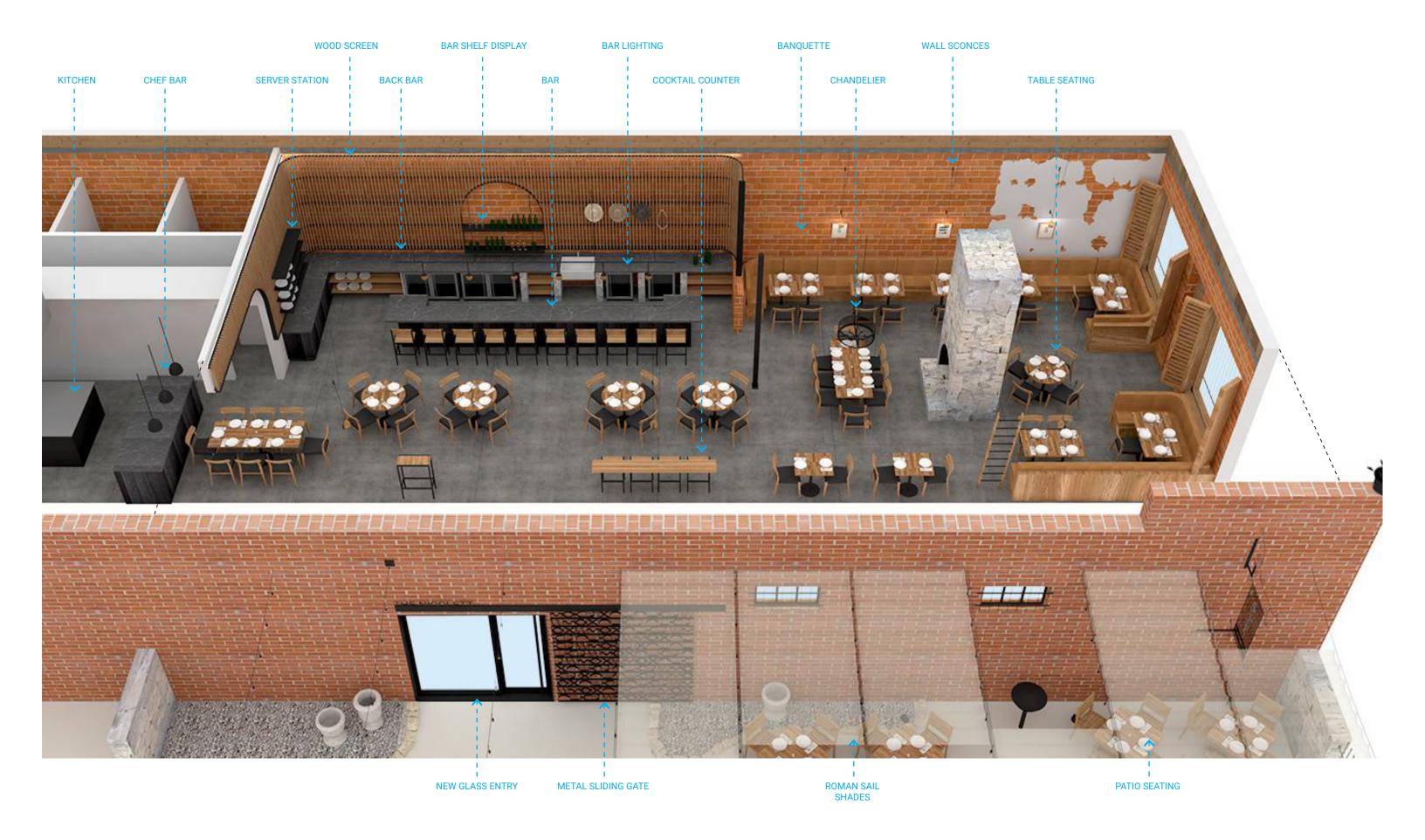
OPEN KITCHEN

The backdrop for the front dining room is a modern open kitchen framed by a quarter-arched wall-to-ceiling that clearly delineates old from new and dining from service spaces. The front of the kitchen includes a chef's bar for guests to dine and observe the cooking up close.



DINING AREA

The other half of the restaurant includes banquette seating and communal table dining. The width of the existing masonry fireplace was reduced to allow for more dining space. The existing steel beams and columns of the auto-shop were left exposed to give nod to the industrial history of the building.



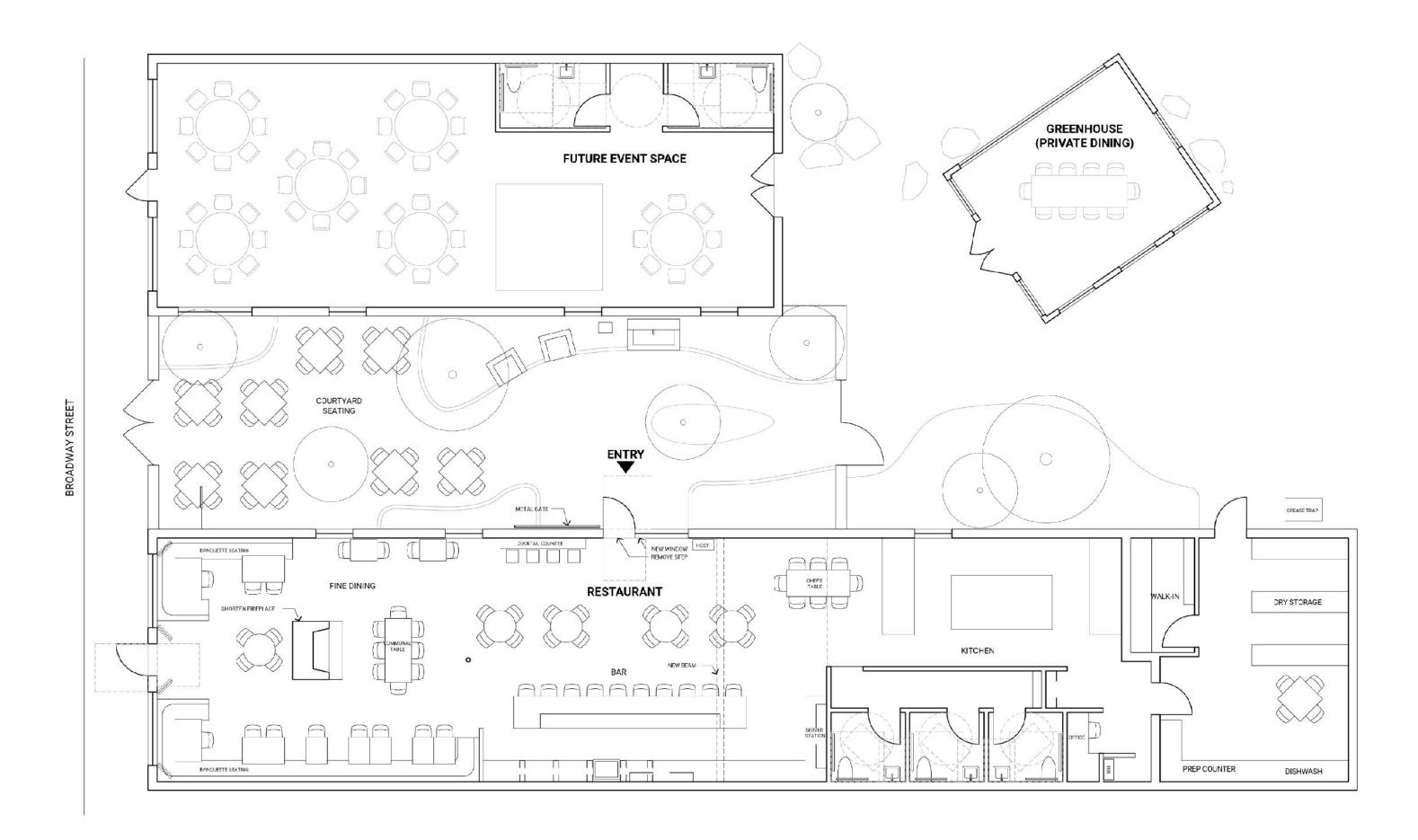




Photo from parking area of three buildings



Existing interior materials, natural wood and terracotta masonry



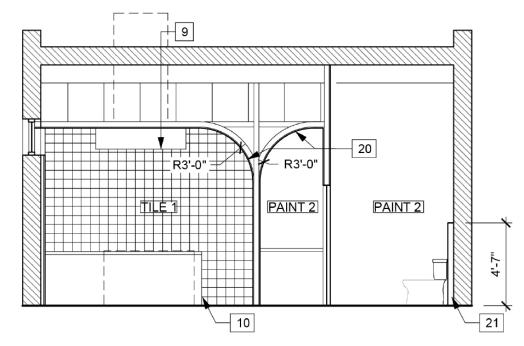
Interior of Restaurant Building



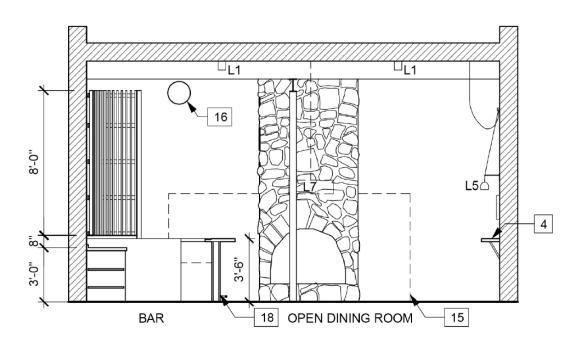
Detail of Greenhouse Building



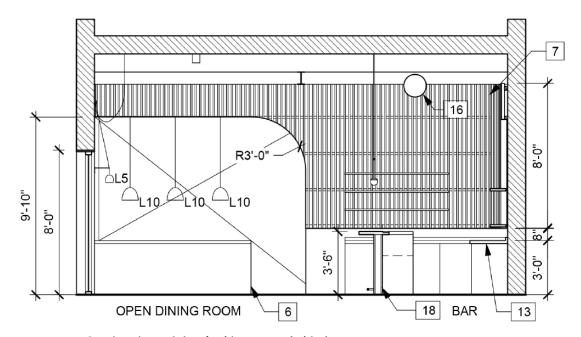
Interior of Greenhouse Building



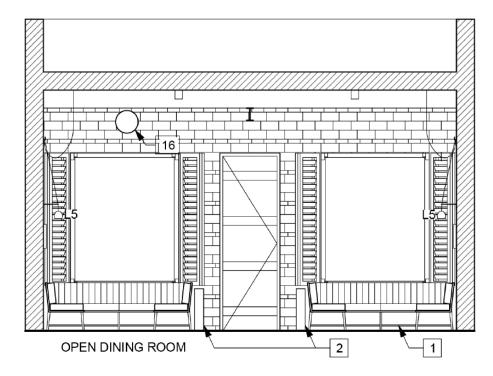
Section through kitchen



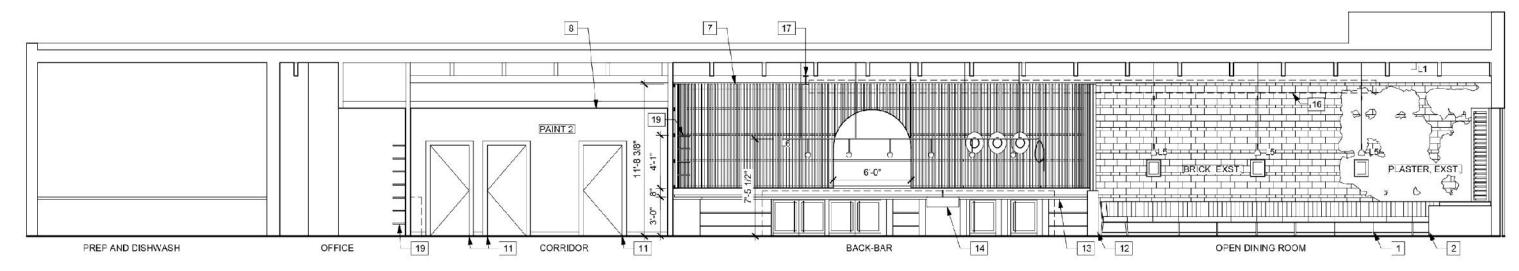
Section through bar looking towards fireplace



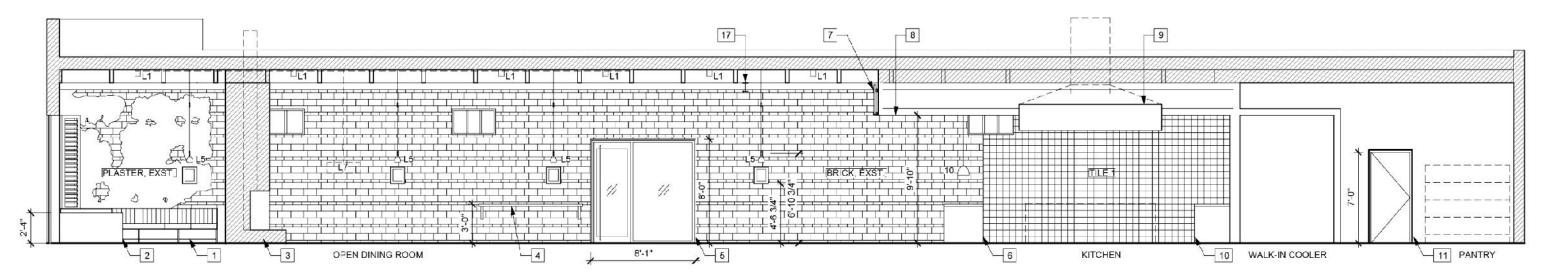
Section through bar looking towards kitchen



Section through dining area



West Interior Elevation



East Interior Elevation













Bar and wood screen installation

Wood screen installation

Bar installation

Kitchen wall framing

Kitchen arch and chef's bar

Banquette installation



Scholarship of Design Research | Globalism and Multiculturalism | Presentation

Confronting Lack of Student Diversity in Interior Design Education

Carl Matthews, University of Arkansas

ABSTRACT

Events of Summer 2020 have resulted in deep consideration of issues of diversity, equity, and inclusion throughout all segments of society in North America. Indeed five of the eleven articles in the current issue of the Chronicle of Higher Education are focused on the topic. As the Head of an interior design program in the flagship university of a southern USA state, one of the first tasks completed when the fall semester enrollment data was released was an analysis of the demographics of our student body. The findings of that study were not surprising but stung a bit more this year than in previous years. We are not as diverse as we should be. When comparing my departmental student race/ethnicity/gender to that of the state, the two groups with the greatest discrepancy of representation are African Americans and men. Only one percent of my students are African American and six percent are male yet the state is fifteen percent African American and forty-nine percent male. Unfortunately, my school is not an anomaly. According to CIDA data the average percentage of African American students is seven percent and male students is eleven percent at accredited programs. The questions of this study are, why aren't we more diverse, and what is required to recruit a more diverse student body? The proposed presentation mines CIDA data utilizing quantitative and comparative methods of investigation of the ten schools with the highest percentage of African American and male students. Qualitative analysis of discussions with leaders at the schools explore conditions that lead to better racial and gender representation. The study explores why African Americans attain a comparatively larger share of degrees from for-profit institutions versus public four-year institutions. The proposed presentation will engage discussion on strategies to attain demographic parity between interior design education and our larger society. In a recent podcast, Chief Executive Officer of the

International Interior Design Association, Cheryl Durst, simply states "It doesn't have to be this complicated solution to diversity. It's . . . as simple as starting conversations with teachers and guidance counselors and going to schools and demonstrating what a designer is and what a designer does." This is certainly one easy step on our way to a more diverse student body but we should do more. We must work to understand and counterbalance the "systemic societal failures directly tied to race" and to gender stereotyping. The profession of interior design knows that it is not as diverse as it should be. A statement from a recent discussion with a practitioner and member of my department's Professional Advisory Board highlights the role of diversity of students in interior design programs. "We would love to hire a more diverse workforce but we can't find these people. You educate them. We will hire them." The overarching argument for the study is that if interior design is to be broadly culturally relevant then interior design practitioner demographics should parallel the demographics of our society. For the practitioner workforce to reach demographic parity then the student body must also reach demographic parity. Why are African Americans and men under-represented in interior design student bodies?

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Scholarship of Design Research | Globalism and Multiculturalism | Presentation

Connotations of South-Facing Design Principle: Case Studies of Light and Shadow in Interior Design

Jun Zou, Louisiana State University

ABSTRACT

There are four layers of modern lighting design methods. How to make changes for lighting design that fulfill people's sentimental feelings and at the same time meet functional requirements? Some ancient thoughts and design methods may offer new ideas. The south-facing orientation has been historically a golden principle for architecture in China. Below we will review two examples, discuss the cultural bases and apply the general principle to a hypothetical library design to explore new forms of the principle in face of innovative technologies and design thinking. The first example is a typical farmhouse in a hilly region of South China, on which we took a 1-year field measurements and built digital models. Despite of stringent site constraints, the building maintains the basic four-sided courtyard layout with the prestigious rooms facing south and the rest facing east as the "second-best" alternative (Figures 1 & 2) The second example is the Forbidden City, the Royal Palace of Ming and Qing dynasties (Figures 3 & 4) The central axis is nearly south-north oriented with a deviation of 2 degrees towards the west to align with an older capital city, demonstrating a socially motivated arrangement. We conclude that south-facing or deviation from it are in general a trade-off between multidimensional factors. As for the social dimension, Confucianism and Taoism take predominant roles. Confucianism emphasizes order and structure, which consequently applies to architecture, where South-facing orientation is the norm, indicating power and authority. Daoism is centered on a belief in balance and harmony between metaphysical concepts Yin and Yang, which are used to model interactions between opposite and supplementary pairs including light and shadow. It was described in Gu Liang Zhuan (722-481 BC) that "The north bank of a river is

Yang, and the south side of a mountain is Yang". Clearly, Yang and Yin were originally derived from light and shadow, in which the south-facing preference implied. To explore the intriguing interplay between physical and metaphysical aspects of light and shadow, we took a hypothetical lighting design project in cooperation with Parsons for an interior environment of a "Poet's library" on the top floor of a building located along New York's High Line. The space was 50' wide by 60' deep by 11' high with a 15' deep balcony at each end. Figures 5-7 show the site, the floor plan and daylighting analysis. Our design concept is to use light as a media to build multiple horizontal layer of liner light surfaces from above. Accent lit wall represents abstract meaning of poet ("poet" comes from the Greek word poiētēs, to make). Indoor grass paths follow the main horizontal light surfaces, receiving daylight from the ceiling, at the same time create an open sense with diffused/even light in the space. By strategically coordinating patterned openings from the ceiling and surrounding walls, we not only meet the functional needs of lighting but also invite spirituality of light from the above to illustrate the enlightenment of poems, books and knowledge. The interaction between natural and artificial light sources and different materials create varieties of shadow patterns during different time of a day and different seasons of a year. Digital and analog models were built to calculate light level and visual effects of the interior atmosphere. Figures 8-11 provide a glance of the design. The south-facing principle here is effectively generalized to light-facing. Modern design and building technologies allow smooth transition between all horizontal and vertical surfaces, consequently, enable new forms of light-facing strategy. In short, light and shadow play significant roles in interior design with its physical relevance and metaphysical implications through yang and yin. Accordingly, the old south-facing principle can take new forms in accordance with technological advances.

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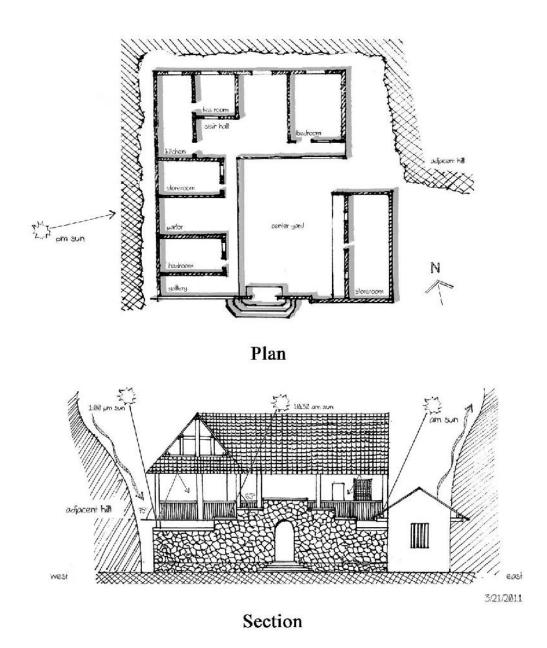


Figure 1. Plan and Section Views of A Farm House



Figure 2. 3D View



Figure 3. Forbidden City (Marked as The Palace Museum) In Beijin, China in the same site of Yuan Capital.

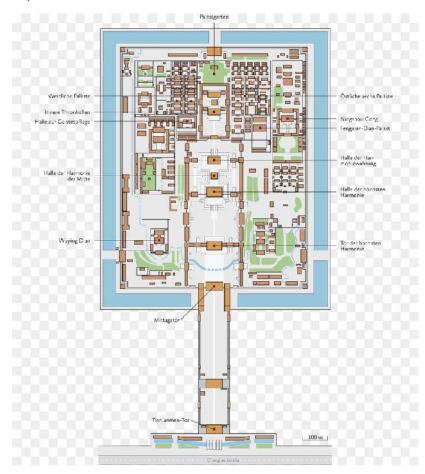
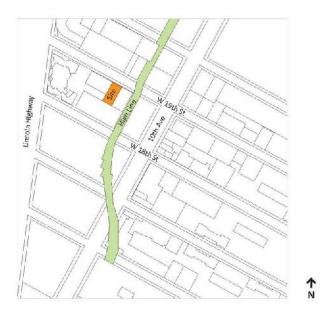


Figure 4. Forbidden City as a four-sided courtyard compound.



40° 44′ 43.33″ N 74° 00′ 24.78″ W

Figure 5. Site Map

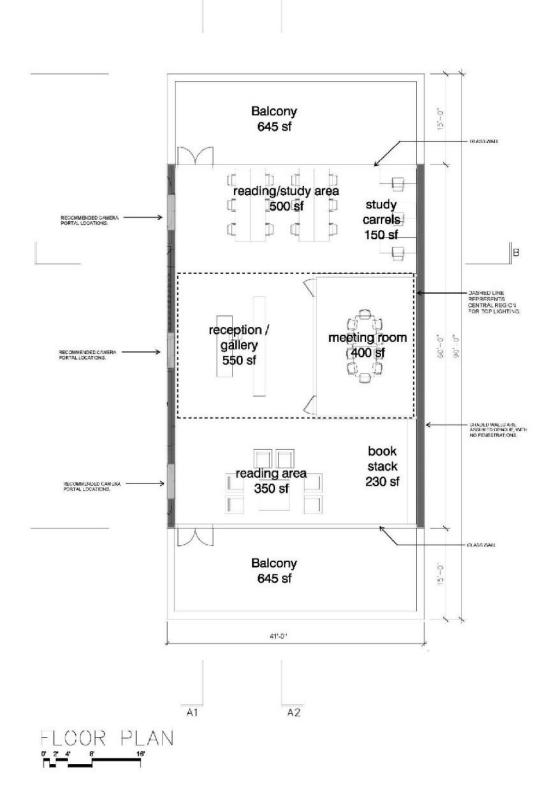


Figure 6. Floor Plan

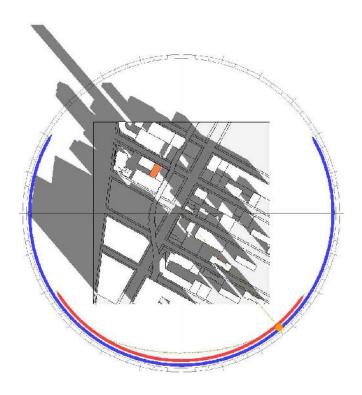
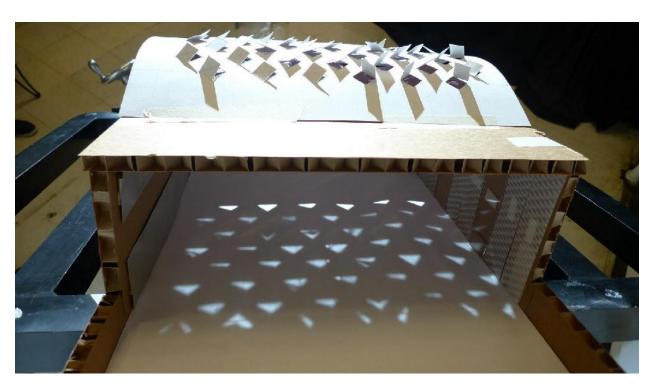


Figure 7. Daylighting Analysis







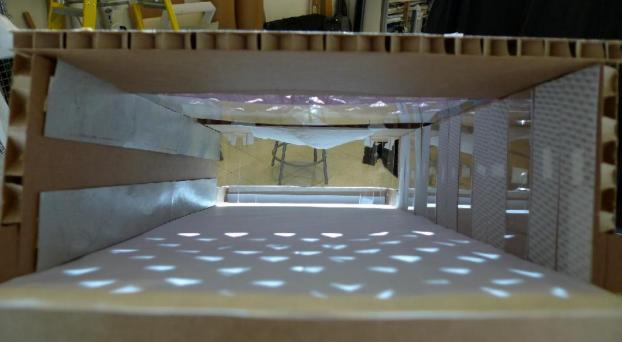


Figure 8-11. Poet's Library Design: Digital and Analog Models

Scholarship of Design Research | Globalism and Multiculturalism | Presentation

Yijing From Chinese Landscape Ink Painting as Lighting Design Method in Traditional Chinese Architecture

Jun Zou, Louisiana State University

ABSTRACT

To offer a different way of thinking on modern lighting design, traditional Chinese aesthetics and analogical reasoning demonstrated in landscape ink painting and architectural design may add values. This could be achieved through a holistic expression of yijing. Modern scholar of aesthetics Zong Baihua (1897 - 1986) emphasized on the unity. He suggests that yijing is a unity of the nature and enlightenment. This research uses Master Qi's painting to creatively elaborate three layers of yijing, then summarize lighting methods, and further relate the expression of yijing to light and lighting in traditional Chinese architectural design. A case study of yuelu academy is conducted to show how yijing transformed in yuelu academy through light. Master Qi's "mountain borrowing" (image I) shows a refined form of mountain that is adopted for the look, and yijing, tentatively translated into a comprehensible space, is then induced from the look to create a resonance between the painter and the spectator. In his "sound of frogs from ten miles-away" (image II), there is not even a frog in the whole painting. Without getting to a specific, it is clear that Master Qi casts the feelings of hope, strength, stability, and tranquility onto the conceptualized mountains through the interpreted light of void area. Three layers of yijing are elaborated. The 1st layer, jing. The key is the form and the "space". In the space is the scenery. On a piece of paper, stokes create marks and voids, which present black and white, 0 and 1, vin and yang, and infinite combinations of them through shadow or light. The 2nd layer, yi. The key is the interpretation and "comprehensible". At this stage, sentiments merge into scenery, and meanings are expressed through forms. Every viewers creates his or her own version of mountain and water. The 3rd layer, yijing. Putting the two words together, a

comprehensible space is proposed to characterize yijing on this highest level. All the subjectivities and objectivity from lower layers integrated as a whole to show the "ultimate truth of a mountain". The ink and white (void) space understood as shadow and light in the paintings are summarized as lighting design methods: free composition, blank-leaving, reflection and transparency, rendering and shading, and outlining. These methods are then further transformed in yuelu acadermy, a Chinese traditional architecture, of three dimensions. Dimension 1 is the overall configuration and planning (image III, IV). The overall planning (orientation) is rigid but the detailed layout in the overall layout are freely displayed. The contrast between rigid planning and ad-hoc planning show controlled and non-controlled lighting in the space. Dimension 2 is division (image IV-VII). Light as a paint brush, it renders freely on the master layout. The medium or even small void spaces absorb or reflect light. It gives power of reflected and shaded areas. Dimension 3 is borrowing (image VIII, VIIII). Like metaphor, in yuelu academy, what borrowed are not only scenery but also light. Indirect vision and filtered light is for dimmed feeling interior. Just like Tanizaki says in the In Praise Shadow, darkness or dimness is an aesthetic. Contrast to the interior dimness, the covered half opened exterior corridor (image X) outlines the structures in the master plan just like in ink painting. In summary, yijing as an ultimate goal to express harmony between human and nature in Chinese traditional landscape ink painting. Imagination is evoked by light and shadow on the painting. Designers follow the imaginations to extract lighting methods and map it to Chinese traditional architecture.

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image I



image II

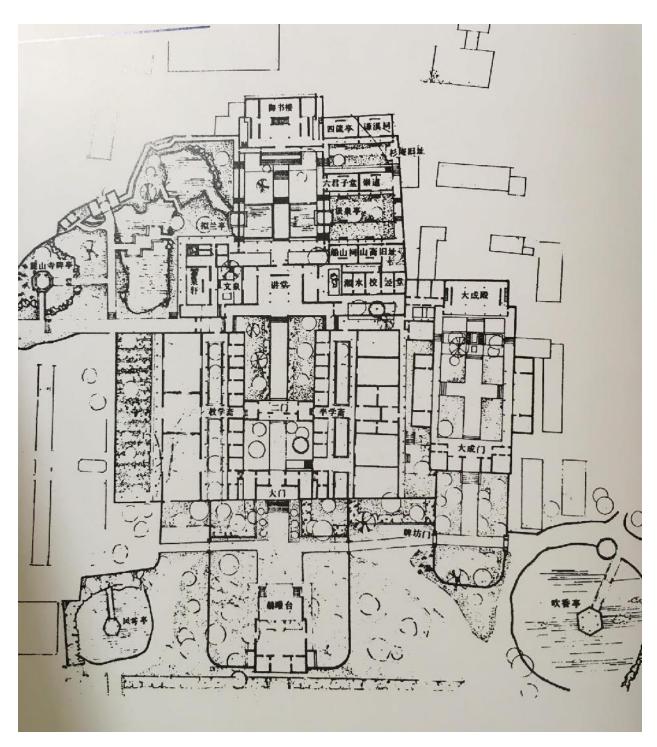


Image III



Image IV



Image V

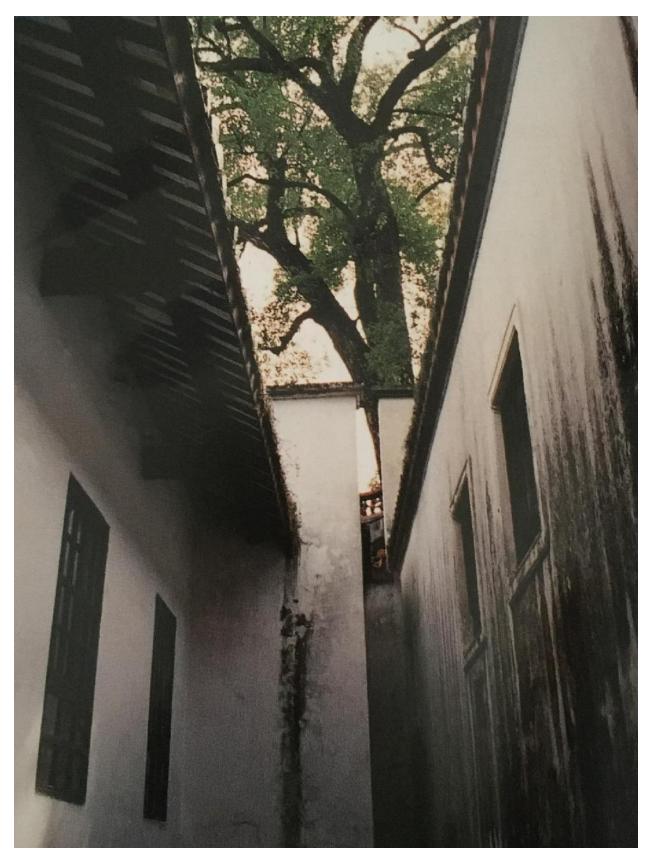


Image VI



Image VII



Image VIII



Image VIIII



Image X

For Bess's Sake: Expanding the Canon of Interior Design History

William Riehm, University of Louisiana at Lafayette

ABSTRACT

As we confront a moment in time and history where issues of gender, racial, economic, and ethnic inequality are at the fore of the cultural zeitgeist, the discipline of interior design history is called to examine its positions and canon in the context of these social changes. On the topic of feminism and interior design history, Mark Hinchman (2013) wrote, "One of the great achievements of design history has been the work on pioneering interior designers, 'the great ladies of the decorating profession,' documenting their achievements, and keeping their names alive." This paper addresses one such, "great lady," but not simply with a studied suggestion of inclusion into design history conversation, but also as a way to incrementally adjust the design canon of interior design historians and educators in a responsive, responsible way. [paragraph break] Elizabeth Talbot, Countess of Shrewsbury (ca. 1527-1608), also known as Bess of Hardwick, was an English noble woman who, over her lifetime, accumulated great wealth and control of significant industrial interests in Elizabethan Renaissance England. She was the patron for the 1560s construction of Chatsworth House and in 1590-1597, Hardwick Hall, a masterpiece of Elizabethan renaissance design with the architect Robert Smythson. Hardwick Hall is the current repository of Bess's significant Renaissance tapestry and textile collection. [paragraph break] Traditionally, social and political historians portrayed Bess through a lens suggesting she was an influential figure in design and construction. As early as 1877, Brunet-Debaines wrote, "the house this vigorous lady built at Hardwick contains some of the finest rooms in England, including a great state-room of audience and a very nice long gallery hall." More recently, Nicole LeBouff (2016) writes, "Bess's textile furnishings reveal that she was prepared to weigh in on such topics as female virtue and soteriology in ways that were empowering for her as a woman, a scholar, and a Christian." And in 2019 an anthology of essays, Bess of Hardwick: New Perspectives, includes the essays, "Bess of Hardwick's Gynocracy in Textiles," and "Elizabeth Hardwick's Material Negotiations" (Hopkins 2019). [paragraph break] In 2001 French writes that "Architectural historians studying Hardwick Hall have ignored Bess of Hardwick's agency as its patron ...," and Hopkin's anthology did not include an article by either an architectural or interiors historian. Although Hardwick Hall is included and pictured in many interior design history textbooks (A History of Interior Design [Pile 2005, 193], Architecture and Interior Design an Integrated History to the Present [Harwood, May, and Sherman 2012, 160]), only the architect Smythson, not Bess, is mentioned. This paper argues that based on the literature from the disciplines of social and political history and the clear impact of her construction activity on design history, Bess of Hardwick should be included in the canon of interior design history.

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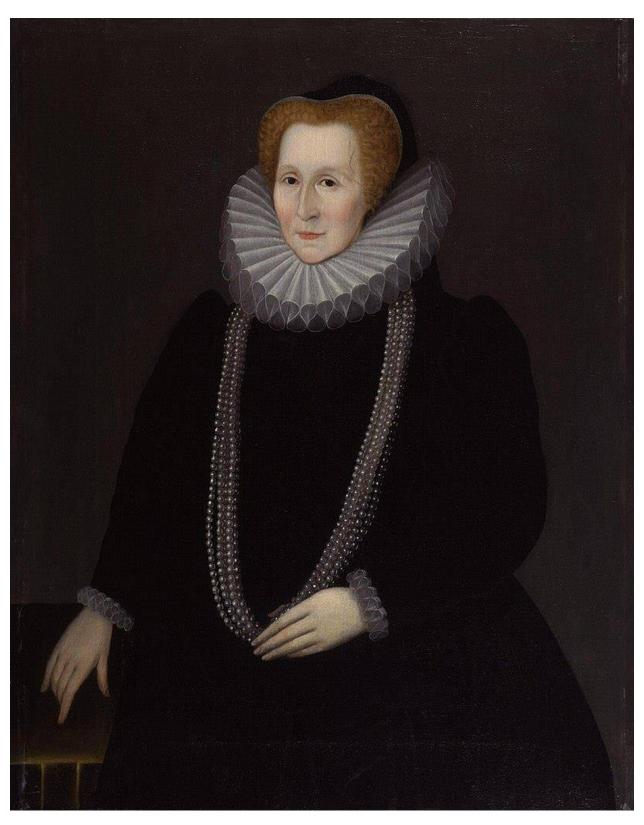
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Bess of Hardwick, Unkown Artist, ca. 1590, in the collection of the National Portrait Gallery, London.



Presence Chamber, Hardwick Hall (Photograph by Tony Hisgett, 2012).

Scholarship of Design Research | History and Theory | Presentation

The Chapel of St. Basil: Traditions and Contemporary Design Practice of Philip Johnson

Dr. Daniel Harper, Ohio University

ABSTRACT

With a career spanning more than seven decades and a portfolio of nearly seventy built projects, the interiors designed by Philip Johnson have been largely overshadowed by his more recognized and studied architectural accomplishments. Even in the case of the renowned Glass House of 1948-49, appreciation of the interior is secondary to the consideration given to the famously nonexistent exterior walls. Notably, Johnson's portfolio includes ten structures that are either religious or spiritual in nature. Because of Johnson's long career, the study of his work in spiritual interiors and architecture provides a means for concerted study and interpretation of Johnson's design in support of religious traditions and spiritual practices. Likewise, the diversity of styles is this body of work provides of means of interpreting Johnson's shifting views on spirituality and the role of design in supporting this evolution of thinking. Specifically, this presentation explores the rich symbolism utilized by Johnson in the design of the interior of the Chapel of St. Basil on the campus of the University of St. Thomas, Houston. Completed in 1997, the Chapel is a later example of Johnsons work in spiritual architecture and, as such, is daring in visual and philosophical sensibility. Located at the north end of the university's academic mall, the bisecting granite plane, bold white cube, and gold dome of the architecture lure pedestrians to that end of the campus. While visually impressive, it is the experience of the interior which captivates. The entry, designed to reference a tent flap, sparks curiosity. In Hildebrand's (1999) The Origins of Architectural Pleasure, humans are attracted to the thrill of the unknown and desire spaces which provide refuge. The tent flap design does just this and is a not so subtle example of the powerful symbolism used by Johnson for this project. Once inside, the design of the interior is a mix of tradition and irreverence for tradition. Familiar religiosity is quite literally turned on its side. True to the practice of Johnson and as with religious practice, the congregant

is intended to be both jolted to attention and comforted by the familiar. In this interior, Johnson successfully pairs an adherence to design precedent with innovative use of religious symbols and interior components including space planning, materials, and lighting. As with many of the interiors designed by Johnson, to truly appreciate the effect, it must be experienced in person. To that end, this study of Johnson's Chapel of St. Basil combines field study with an examination of photographic archives and interpretations of writings about the Chapel by Johnson and others. The design of the Chapel is analyzed through the lens of history and an understanding of environmental symbology and functionalism. Ultimately, Johnson's design of the interior of the Chapel of St. Basil demonstrates the potential of design to both support tradition while unleashing new excitement about design and design practices.

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Scholarship of Design Research | Open Track | Presentation

An Innovative Model for an Academic and Industry Research Partnership

Vibhavari Jani, Kansas State University Neal Hubbell, Knasas State University

ABSTRACT

Funding for higher education is dwindling. This has placed a huge burden on universities to find a constant stream of external funding. To find funding, as Baker (1980), once said, we must innovate or "automate, emigrate, or evaporate." One funding avenue can be through developing Industry - University partnership. Lutchen (2018), notes that "both industry and academia stand to benefit from long-term cooperation. Companies will gain greater access to cutting-edge research and scientific talent at a time when corporate R&D budgets are increasingly under pressure." He further states that "Universities will gain access to financial support and partners in research at a time when government funding is shrinking." (Lutchen, 2018, P. 1) After extensive literature review on University-Industry partnerships, these authors have developed a unique approach for an academic and industry research and design partnership. It is designed to generate a constant revenue stream to support their department's pedagogical goals, faculty's research goals, and students' academic growth. Through this research partnership, students develop innovative research-based furniture designs for the industry partner, generating significant royalties for both the students and the department. This research and design relationship started in 2015 and continues to date. Currently, two furniture lines designed by students are in production, a third under contract, and two more are under strong consideration. The first two furniture designs have won awards at NEOCON and are selling well. This two-part project starts with students learning how to conduct research in a graduate level Design Research course. The students utilize a mixed methods approach including qualitative and quantitative research methods to understand customers' and market needs. They also conduct in situ observations, and ergonomic testing for user comfort. Based on the research findings, the students then develop

furniture design solutions. At each phase of the research and design, the students engage with the industry partners, professional designers, and their instructors to get their feedback. After several design iterations, students develop full-size furniture prototypes which then undergo BIFMA testing, and once approved, go into production. This model developed by the authors can be replicated by other design programs. In this paper the authors will share how they: 1) developed this research based design project, 2) utilize Evidence Based Research and Design, Design Thinking, Learning by Doing, Project Based Learning, and Active Learning pedagogies to execute this project, 3) describe the benefits experienced by all parties, and 4) how other design programs can leverage their expertise to develop industry partnerships. These authors' University-Industry collaborative model provides a "real" project for interior design students to learn the importance of research in the context of their design work, provides insights into the process of how and why specific furniture designs are selected for production, how to generate financial remuneration for their furniture designs, and market their designs for production. The interior design program and faculty garner economic benefits and national recognition. The industry partner gains diverse benefits including evidence-based research, high-quality furniture design solutions, and positive publicity which benefits marketing and sales. Thus, this model promotes mutually beneficial collaborative partnership and a long-term revenue stream. Through this paper, the authors hope to assist other faculty and design programs in developing their own collaborative model.

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RESEARCH PROCESS

Select Topic of Your Research

Develop Research Question IRB Certification & Application

Preliminary Research
Prepare Basic Annotated Bibliography

Prepare Abstract

Conduct Qualitative Research
Prepare Literature Reviews
Research Various Theories
Precedent Analysis
Case Studies

Conduct Quantitative Research
Prepare Research Instrument
Collect Data
Analyze the Data

Prepare Introduction

Prepare Research Methods Section

Prepare Body

Prepare Insights for Professionals

Prepare Conclusions

2. Theories Research

Adaptive Design Method

Prospective, Ad Hoc, and Retrospective thinking and how that relates to reflective practices

Kaplan and Kaplan's Preference Model

Coherence, Complexity, Legibility, and Mystery



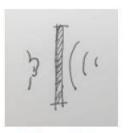


	Understanding / Making Sense	3. Complexity (involvement) (information richness of the scene)			
Present or Immediate (Two-dimensional plane)	Coherene (making sense) (the event to which the scene seems to 'hang together')				
Future or Promised (Three-dimensional world)	2. Legibility (the promise of making sense) (the predicted navigability of the scene upon further exploration)	4. Mystery (the promise of involvement) (the promise of the scene offering additional info upon further exploration)			

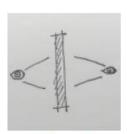
3. Furniture Analysis

The team investigated furniture items produced by leaders in contract furniture who specifically target the educational market.

The team analysed the furniture pieces for several qualities:



Acoustic Privacy



Visual Privacy



Ease of Mobility



Collaborative nature



Name of Furniture	Massaud Lounge Chair	Buoy	Window Seat	Flex Tables	BuzziSpark	BuzziDesk	BuzziMe	Lagunitas Lounge	Pip	Fem	Harbor Work Lounge	Mobile Storage Cart
iame of Manufacturer	Coelesse	Turnstone	Haworth	Steelcase	Haworth.	Haworth	Haworth	Coalesse	Haworth	Haworth	Haworth	Knoil
	-		F	口		AH			I			
urniture Photo												
Type of Furniture	Collaborative/Lounge Seating	Classroom Seating	Collaborative/ Lounge Seating	Classroom/ Workspace Table	Lounge Seating	Workspace Table/ Desk	Collaborative Lounge Seating	Collaborative Lounge Seating	Collaborative Mobile Workspace	Classroom/ Conference Seating	Collaborative Lounge Seating	Storage System, Seatin
function of Furniture	Comfort, Connection, and Contemplation.	To provide a seat that wobbles and tits to keep the core engaged and promote better posture.	phone calls or one-on-one	collaborative tables	shelter for relaxing	Provide and enhance the privacy of a co-working environment by creating separation at a shared table.	To create a semi- private lounge chair that utilizes acoustic deadening and visual privacy	Customizable bench seating utilizing sound deadening screens and moveable cushions for comfort selection	Mobile table to turn all spaces in to work spaces	Providing an adgeless seat that sustains posture and ultimate comfort to prevent distraction	A more lounge-like educational chair with build in tablet and space for accessories	A multipurpose cart that provides storage, seatin and extra surface
'urniture Use/Context		movement/ wlaking may not	Busy environmetrs that require some level of privacy at any given moment.	Grants the ability to moid a learning space. Can be used for individual or group work. Made for working environments.	Provides various levels of privacy to ecnourage spontaneous interaction in busy woking areas.	For a coworking environment or open office. Meant to be adjustable on a day to day basis.		in lobbies, forums, lounges, public space, anywhere that collaboration can occur	Anywhere that a table may be needed, functions in all environments	Classrooms and conference rooms, ideal for office use where long term sitting is a necessity	Can be used in classroom settings, as well as more individual areas like a lounge or lobby	Used in office settings, classrooms
urniture Materials	Leather or Canvas, Plywood, Veneer, Aluminum, Paint	Steelcase teotiles, Plastic, Paint	Felt, Steet, Plywood.	HPL, Veneer, Plywood Core, Paint, Merie/Seaguli Plastic, and Felted PET	Felt, Steel, Upholstery Fabrics (grade a-f).	Upholstery (fabric grades a-f), Feit, and Paint.	Fabric, Plywood, Steel, and aluminum	Fabric, Felt, Foam, Steel	Steel, Plywood, Wood Veneer	PET, Polycarbonate, Cast Aluminum Woven Textiles	Felt, Plywood and Veneer, Cast Aluminum	Steel, Aluminum, Plywood, Paint
Sustainability of Materials	N/A	NIA	Produced in Michigan, zero- landfill facility.	N/A	Produced in Michigan, zero- landfill facility.	Produced in Michigan, zero- landfill facility.	Produced in Michigan.	z NIA	Produced in Michigan, zero landfill facility	Produced in Michigan, zero landfil facility	Produced in Michigan, zero landfill facility	NIA
urniture Construction	Steel and Aluminum Bolts	N/A	N/A	Steel and Aluminum Bolts	Sewn, Steel Bolts	Sewn	Sewn and Fasteners	Woven, Sewn, Fasteners	Fasteners, Welded	Sonic Welds, Knit or sewn, F	s Sewn, Fasteners	Weided, Fasteners, and mechanical connections
tetail Price	\$4,000-\$5,000	\$382	\$2,000-\$5,000	\$3,000-\$4,000	\$8,000-\$20,000	\$700-\$1,720	\$7,000-\$9,500	\$7,000	\$1,200	\$2,000	\$3000-\$4000	\$90
Varranty	12 Years	12 Years	Lifetime	12 Years	Lifetime	Lifetime	Lifetime	12 Year	Lifetime	Lifetime	Lifetime	5 Year
Maintanance Requirements	Wet cloth cleaning for upholistery, polishing for aluminum and chrome base, avoid amonia- based solutions.	Wet-cloth cleaning, not recommended for hard wood floor installments- may cause scratching.	NA	Wet cloth cleaning for all phywood and veneer furniture by Steelcase.	N/A	N/A	N/A	Fabric Geaner	Wet Cloth, deanser	Polishing for Aluminum	Wet cloth for wood surface, polishing for aluminum	Wet cloth for metal parts and plywood
Strengths	Allows user to feel private or semi- enciceed, plush seat promotes comfort, swivel base, has an individual task surface.	Mobile, agile, easy to lift and move.	Semi-private, seats a single person, visual aesthetic, soft material.	Easily mobile, glide technology eliminates bulky casters, light, chord storage.	Semi-enclosed, comfortable. Open for rest or meetings. Does not require walls.	The ability to enclose a public working table. Promotes orwership of work environment.	Provides a large enclosed area to have private conversations or privacy form the bustle of the environment	Customizable cushions to change sitting position and comfort, as well as screening for privacy.	Makes everywhere a work space with a lightweight surface that can be moved easily.	Ultra comfortable chair that enhances productivity and limits distractions due to discomfort.	A more stylish and comfortable sort of tablet chair that can be used anywhere.	A useful little caset for storing bags and supplies that also doubles as a seet and a auxiliary surface.
Weaknesses	Task surface is small and at fixed location. Head rest height is at fixed location. Base is self-returning and does not appear strong for the visual weight of the product.	Does not height-adjust unless the user is a certain weight. Pneumatic device is within the piece for serving. Height smitation.	Acoustiv bar is not mobile, seat itself is stationary.	Height-adjustable option drastically increases price, storage hooks may cause bump-irs.	Stationary, some unwanted visual openness.	Does not seem permanent- might create the issue of moving a co-workers belongings to create more space.	Large chair may be less suitable for smaller users, large and likely heavy and had to move around.	Not moveable, alternate cushion positions are awkward and harsh.	May be an unconfortable height for some due to no adjustability and may not fit over some seating.	Easy to snag and tear mesh, easy to get dirty, no visual or spatial privacy.		A bit short to use for some older and less physically able people, small basket is see through and not secure.

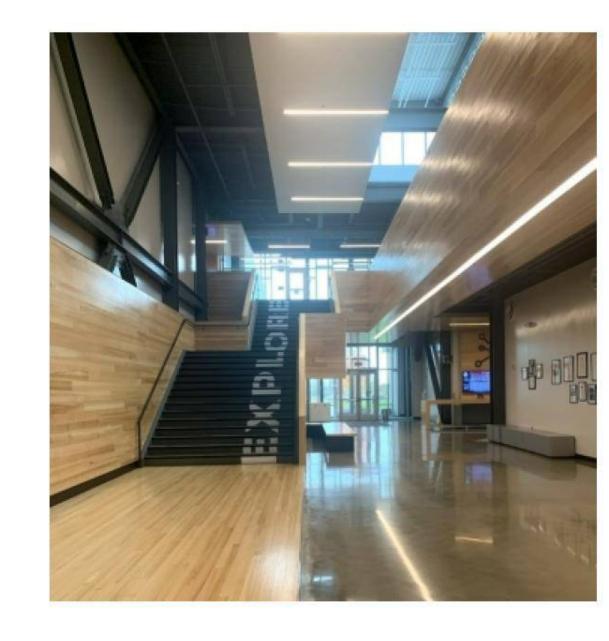
3. Furniture Analysis Lessons Learned

The team's observations led to the identification of three important factors for furniture that successfully supports mindful practice:

Adjustable privacy

Support for collaboration

Ease of mobility



Lessons Learned from Qualitative Research

- With flexibility, balance is necessary.
 "Permanent touchdown" spaces help students feel structured and secure (Jennifer Collet, BV CAPS).
- Places with no visual privacy (learning stairs)
 do not attract leisure/private use.
- Administrative trust played a huge role in student's comfort to rest and reflect.



4. Spatial Analysis

The team visited 3 school sites:

TCALC (Topeka), Blue Valley CAPS (Overland Park), and MIC (Lee's Summit)

In these schools, the team documented interactions and spatial designations that supported or hindered students regarding rest or reflective practices.



Connection brings us together.



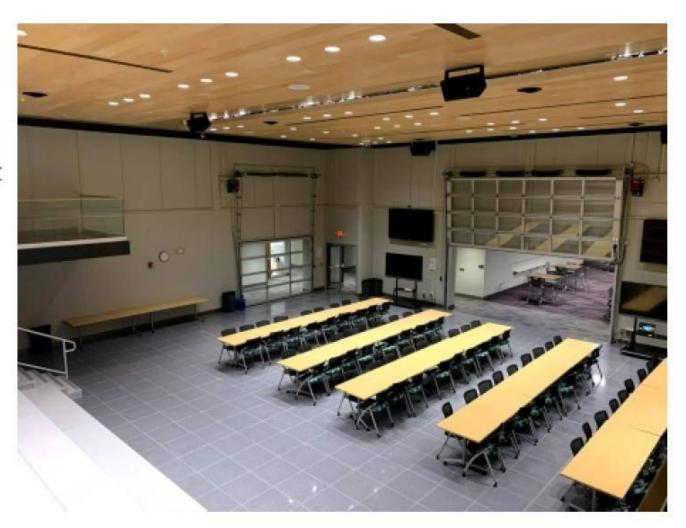
Discovery inspires us to think differently.



reates clarity for us.



Restoration helps us find balance.



^{*}The team considered OFS's 4 drivers of environment

Lessons Learned from Qualitative Research

- With flexibility, balance is necessary.
 "Permanent touchdown" spaces help students feel structured and secure (Jennifer Collet, BV CAPS).
- Places with no visual privacy (learning stairs) do not attract leisure/private use.
- Administrative trust played a huge role in student's comfort to rest and reflect.



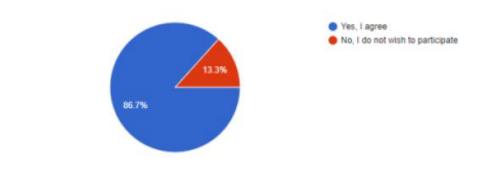
Quantitative Research

The team created a survey used to gauge the existing support for mindful practices from the perspective of current university students.

- Questions relating to destressing activities and creative expression came from Cotter's writings of eliminating distractions and focus on creativity
- Gaining multiple perspectives of mindful practices came from Niederrer's writings on positive behavioral changes

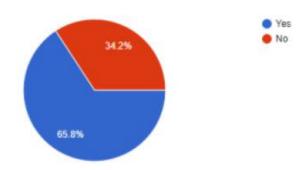
By participating in this survey, I consent to have my answers used in a graduate research study. Full consent form attached.

45 responses



Have you heard of Mindfulness?

38 responses



Data Collection

The team relied primarily on survey results from various student groups.

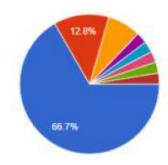
Primarily college students at fouryear universities.

45 survey results.



How do you prefer to take notes?

39 responses



- By hand, in a notebook
- Typing on a laptop
- By hand, on a tablet
- Recording audio on your cell phone
- I just download .ppt's now
- By hand and on tablet
- 50/50 written or on a computer
- Notes is part of the problem not solution

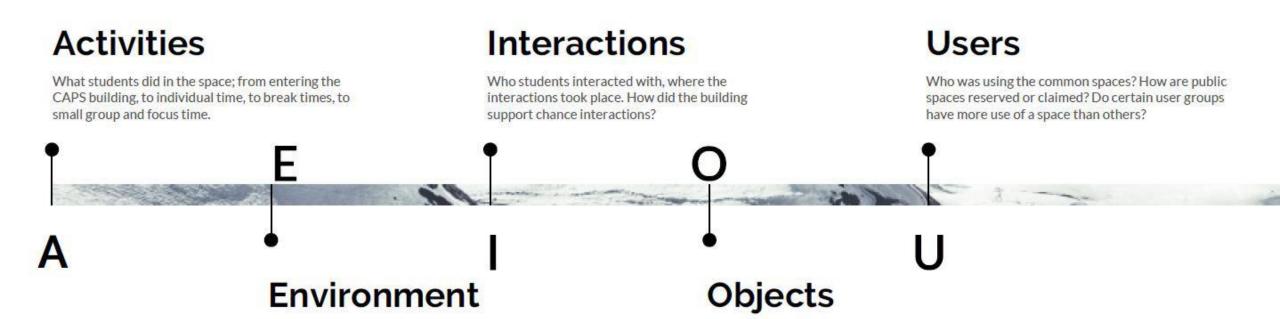
Data Collection Framework

How does the non-traditional learning environment

they were designed? Where are the exits to nature?

support students? Were the spaces being used as

Observing the students at the Blue Valley CAPS facility



Was the equipment or furniture supportive? Were

users truly using the available tools to help their

tasks?

Data Collection Process



Interviews

We interviewed 10 people; administrators and teachers in various high schools.



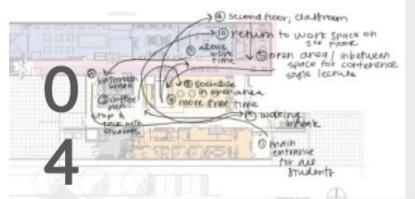
Observations
The team visited 3 schools-

The team visited 3 schools-TCALC, MIC, and CAPS. These locations practice alternative education pedagogies to suit student needs



Photo and Video
Documentation
133 pictures were taken to
document spatial
necessities.

Data Collection Process



Behavior Mapping
We observed education

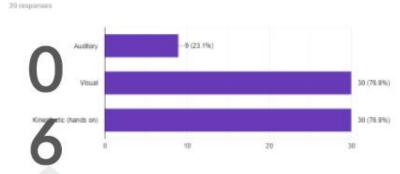
students at CAPS and their patterns between classes on break periods.

Activity Mapping

The team used this technique to observe what areas were used most often for restful or reflective moments by students and staff.



What kind of learner are you? Check all that apply.



Surveys

45 participants completed the team's 15 question survey.

Data Collection

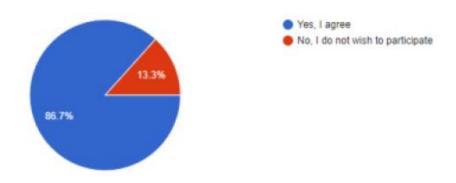
Challenges and Opportunities

Two major obstacles presented themselves in the process of data collection:

- Two intended sample pools (TCALC and MIC) denied student participation in our survey.
- 2. Some collegiate responses were erroneous/vulgar.

By participating in this survey, I consent to have my answers used in a graduate research study. Full consent form attached.

45 responses



Data Cleaning

The team's biggest task was to remove the answers from two participants from each question.

The answers were clearly joking and vulgar, distracting from relevant information from the rest of the data pool.

List a room (or rooms) in your school that may contribute to your anxiety or stress? (for example, the principal's office, the gym, or the entrance office).

31 responses



Data Analysis

Challenges and Opportunities

Through the use of google forms, the team was able to collect and graphically sort the data. The software allowed the team to deny access to participants who did not wish to be used for data collection.

The biggest challenge was ensuring that the survey reached an adequate sample size and was completed honestly by enough members of that sample pool.

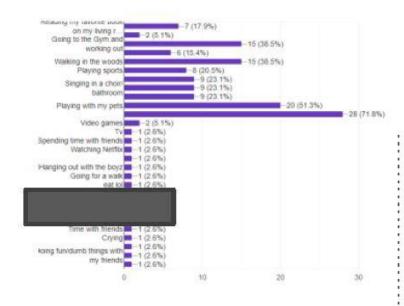
The team used the AEIOU analysis framework, along with the Clustering & Sorting and Elito Method to analyse data results.

These frameworks made it difficult to find a single solution to boost mindful practices in higher education.



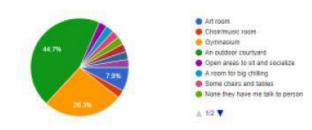






Spending time outdoors/walking was commonly cited as a stress relieving activity. What activities or spaces does your school provide that help you destress?

30 reoponses



Students cited several spaces in schools that relieved stress, but few areas are designed for rest or reflection.

Describe a way that you have changed your learning environment to make it more suitable to your needs:

31 responses



Students modified their environment for comfort by making it more "liveable", adding nature, or not changing it at all.

Scholarship of Design Research | Open Track | Presentation

Designing a Post-Pandemic Return to Campus

Rebekah Matheny, The Ohio State University

ABSTRACT

CONTEXT At their core, designers are problem solvers. When the COVID-19 pandemic broke designers began responding to our rapidly changing world, considering what novel interventions could be developed to mitigate the impact of the pandemic, addressing the shift in social behaviors, and humans' interactions with physical space. This presentation will present the findings from the research project Designing a Post-pandemic Return to Campus, a participatory design workshop. Conducted during the summer of 2020, the goal of the project was to gain insights from the student perspective to address their concerns and co-create an ideal scenario for a safe return to campus during the COVID-19 pandemic. The University and its physical places have multiple functions: place as a social, learning, working, and living construction, and place as the intersection of the four (Wyckoff, 2014). The student campus experience winds its way through all four of these places. To develop a post-pandemic approach to bringing students back to their campus community, it is important to study the student journey from diverse perspectives (majors/colleges/years/backgrounds, physical abilities). Through this, we can understand the ways in which place and people interact, identifying the human, physical, and digital touchpoints along their journey, how COVID-19 has interrupted that journey, and what solutions could allow students to feel safe returning to their campus community. While design research provides the necessary process to generate solutions, the co-creation component of the process is critical in providing an opportunity to bring students from different user groups to collectively identify the problems and explore solutions. In this spirit, we engaged student design research assistants (5 from interior design and two from visual communication design) in the development of the cocreation tool-kit. METHODS To support the University's Post-pandemic Operations Task Force, the research project was comprised of two phases. The digital survey was distributed to the university at large and received 614 responses from a diverse cross-section of the population.

The participatory design workshop gathered 59 participants from a diverse group of students to explore their campus journey, COVID-19's impact on that journey, their concerns for returning safely to campus, and generate conceptual interventions to address these concerns. Prior to the participatory workshop, participants completed a user journey narrative documenting their typical pre-COVID-19 student journey. Here they reflected on the four place typologies that they experience while on and around campus (Fig. 1). They also examined their touchpoint types (human, digital, physical) within these places, contemplating how COVID-19 will interrupt their behaviors. Building upon this exercise, the participatory design workshop included three exercises: Creating a PPE Starter Kit (Fig. 2), Envisioning the Campus Experience (Fig. 3), and Journey Mapping a Return to Campus (Fig.4). Each individual participant session was conducted with two student research assistants and the primary investigator. OUTCOMES: Analyzing the survey results and the 59 participant workshop outcomes, the research team developed insights and strategies to be presented to the University's Post-pandemic Operations Task Force. These 32 insights were organized into four categories: Personal Wellness, Place Prioritization, Campus Concerns, and University Communication and Outward Projects. Translating these, the team created eight design interventions: Break Tents, Safe & Social Oval, App Extensions, Mental Health Graphic Communication, Physical Health Graphics, Sanitation Stations, Quarantine Housing for All, and Pop-up PPE Pantry. These insights and strategies will be discussed and presented during this session.

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Designing a Post-pandemic Return to Campus

Figure 1

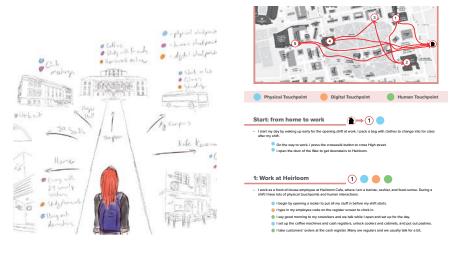


Journey Maps

PRE-COVID-19 JOURNEY EXAMPLES

Three students created the following visualizations, representing each of their pre-COVID-19 journeys.

Students were asked to visualize their journey using the format of their choice.





Student K Student L Student M

Figure 2



PPE Kits





Designing a Post-pandemic Return to Campus

Figure 3

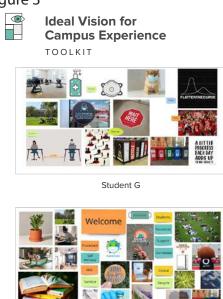


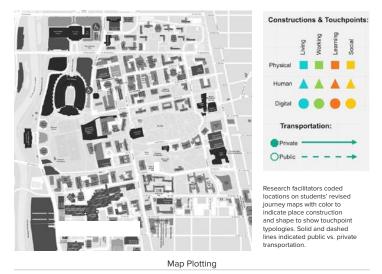


Figure 4



Student J

The following toolkit elements were used to plot the post-pandemic journeys of the participants.





Scholarship of Design Research | Open Track | Presentation

Exploring Environmental Stress Theories and Their Implications in Healthcare Design

Dr. Suining Ding, Purdue University Fort Wayne

ABSTRACT

Environmental stress is defined as a process that occurs when there is an imbalance between environmental demands and response capabilities (S. Cohen, 1986; Evans, 1984). The growing interest in environmental stress has been accompanied by a rapid accumulation of evidence indicating the environmental stressors, such as crowding, air pollution, and community noise can elicit substantial stress in many people. According to Ulrich et al. (1991), the second concept central to the environmental stress theory and research is "stress recovery" or "restoration." These two terms are used interchangeably. In healthcare design research, the primary focus is to develop theories and use scientific research evidence to inform design decisions to achieve patients' and caregivers' best possible outcomes. Therefore, what are the implications of the environmental stress theories that can be applied in healthcare design? What specific design guidance can be derived from environmental stress theories to inform design decisions? The findings of this study provide answers to these two questions. This study aims to critically review the current supporting literature regarding stress in the healthcare environment. This study examined where these environmental stress theories can be applied based on the critical literature reviews. This study also discovered the design strategies based on environment-behavior research findings of environmental stress for different specialized healthcare facilities. Practical theory applications were examined through case studies demonstrating how the stress theories have been applied to the successful projects. This research took a qualitative approach through literature reviews and case studies. Findings show that the vast majority of research related to the healthcare environment has focused on the situation challenges or threatens the well-being and accordingly elicit stress. An influential Theory of Supportive Design was brought up in the 1990s through Roger Ulrich's discussion and publication on the effects of healthcare design on

wellness. He interpreted the implications of multiple studies to suggest a theory that designers could use to develop a supportive design for healthcare settings to reduce stress and promote well-being. In the context of the Theory of Supportive Design, healthcare design should do more than produce adequate health facilities regarding functional efficiency and building codes. Another critical role for designers is to promote wellness by creating a physical environment that is "psychologically and socially supportive." (Ruga, 1989; R. S. Ulrich, 2000). The facilities designed by using environmental stress theories are not only complementary to the healing effects of drugs, medical technology but also have patient-centered or supportive characteristics that foster the recovery process and help patients cope with the stress that accompanies illness. Based on the literature surveyed, the implications of environmental stress theories were identified. Research and theory in the behavioral sciences and health-related fields suggest that healthcare environments will likely support dealing with stress and thereby promote wellness if they are designed to foster: 1) Access to social support; 2) Access to positive distractions in physical surroundings; 3) A sense of control and access to privacy. The studies related to environmental stress provide valuable guidance for designing many different healthcare facilities, such as children's hospitals, comprehensive medical centers, women's healthcare centers, and many other specializations. Examples of design strategies that should foster social support include: providing convenient overnight accommodations for families of patients in private patient rooms; comfortable waiting areas with movable seating that allows family or friends to support patients; outdoor gardens, or sitting areas that foster patient/visitor social interaction.

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Scholarship of Design Research | Open Track | Presentation

Homemaking Strategies in Temporary Housing After the Woolsey Fire (2018) in California

Dr. Mariana Junqueira, Kansas State University

ABSTRACT

After a natural disaster, governments and organizations seek to help survivors cope with physical and psychological damages associated with the event. Studies of evidence-based responses have led to improved interventions in many sectors. However, response failures still occur worldwide, especially in providing temporary housing to displaced survivors (Félix, Branco, & Feio, 2013). The scholarship developed to assess the success or failure of post-disaster housing has been engrained in technical viewpoints. Within the explorations on the places of those who are displaced, little attention has been placed on how the material culture of places organizes the displacement experience, and how the design of temporary housing may or may not support the creation of diverse experiences of "home." Disasters rupture peoples' sense of normalcy; when leading survivors to displacement, the traumatic experience is extended, and the loss of home has multiple meanings and constraints to one's recovery. In the process of managing and adapting to such loss, living in inappropriate housing may pose daily limitations. This study examined a wildfire re-housing response and addressed its appropriateness by shifting the focus of investigation from the design object (i.e., temporary housing) to an iterative design process (e.g., homemaking). When housing solutions do not address users' needs and expectations, they often make changes and additions to cover their necessities. However, most of the time, users do not have the appropriate skills, construction knowledge, or means to invest in secure modifications or maintenance (Félix et al., 2013). Then, how have people made meaningful places for themselves in temporary housing after wildfires? Per Quarantelli's (1995) definition, temporary housing is the place where displaces begin becoming "homed." Homemaking is the process that allows the creation of home qualities. This process includes "encounter, spirit, impressions, is open to and includes poetics, aesthetics, romance, imaging and imagination, and people's

feelings and emotions, including unique experiences, and intersubjectivity" (Mazumdar, 2009, p. 9). Consistent with this definition, the "person-in-environment" was the unit of analysis in this Naturalistic Field Research. Qualitative interviews, observations, and walkthroughs took place in the Summer and Fall of 2019. They included nineteen households displaced by the Woolsey Fire (ignited on November 8, 2018, in Ventura County, CA), still living in temporary housing. Findings revealed that homemaking in transition involves much effort: a strong and deep desire to not only survive and retain as much character and values as possible, but also to start anew, negotiate, compromise, improvise, reject, adjust, modify, and gradually re-root. Strategies found were intuitively evolved by participants covered two main themes. First, participants decided on relocation and rebuilding (Remaking Home) based on tradeoffs, such as opting for living in RVs and contradicting expectations based on the normative ideal housing in the U.S. to fulfill a wish to remain local. Second, participants were consistently engaged in virtual homemaking through online browsing and shopping for furniture (Replacing Home). This strategy helped survivors cope with the lack of space while focusing on the future. The idea that survivors are passively waiting for help is a mistaken assumption (UNDRO, 1982). Informed by a cultural-ecological understanding that homes are the deeply inhabited, this study expanded the conception of home as "a state of constant and dynamic becoming rather than being" (Lawrence, Mehzoud, Foster, & Lommerse, 2012, p. 16). This study extrapolated how displaced survivors have been able to adapt to life in transition and conceptualized their experience as not only complex but also dynamic and even celebratory, offering the opportunity for subversion and creativity.

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Scholarship of Design Research | Open Track | Presentation

Minfulness-Based Health Practice for Design Students' Mental Health and Well-Being

Vibhavari Jani, Kansas State University

ABSTRACT

Mental health issues among college students are rising in the US. The 2018 National College Health Assessment report for this author's university indicated that their students' individual academic performance was impacted by stress (30%), anxiety (28%), sleeping difficulties (18.6%), depression (13.1%), ADHD (8.8%), and alcohol and drug dependency (2.9%). Hegenauer, (2018), notes that "the psychological effects of stress, depression, and anxiety, often referred to as "negative emotions," lead many students down a path of hardship, often causing the abandonment of degrees" (p. 1). He further states that "though these negative emotions affect students in all majors, students in STEM fields and professional degree programs are more susceptible to the potentially unfavorable outcomes due to the intense expectations and aggrandized workload" (2018, p1). This is particularly true for engineering, architecture, and design students. In the last two years, the author has seen considerable rise in her design students' anxiety and stress. National research on this issue brought to light another shocking fact: suicide is the second leading cause of death among college students. The economic impact is huge as well: hospitalization cost for serious mental illness in author's state exceeded \$167 million in 2014. (USC Schafer Report, 2014, P1). Since last two years, this author researched for a drug free, cost effective, side-effects free solution to assist students in reducing anxiety, stress, and depression symptoms. Based on her extensive literature reviews, and personal interviews with psychiatrist, psychologists, and Mindfulness practitioners, this author found that there is a growing body of knowledge emphasizing the impact of Mindfulness-based practices in reducing stress, anxiety, depression, and other mental illnesses. Mindfulness is described as a "state of consciousness in which there is an enhanced attention to moment-to-moment experience" (Brown & Ryan 2003). It was developed based on the Buddhist contemplative tradition that

teaches one to be in the moment and observe each thought and feeling without judgement. This learned behavior of acceptance is the key aspect of Mindfulness practice. Mindfulness-based interventions have been found to reduce many forms of psychological distress, including generalized anxiety disorder (Kabat-Zinn et al., 1992), social anxiety disorder (Goldin and Gross 2010), depression (Kumar et al. 2008; Shapiro et al. 1998; Speca et al. 2000), depressive relapse (Ma and Teasdale 2004; Teasdale et al. 2000), anger (Speca et al. 2000), attention deficit hyperactivity disorder (Zylowska et al. 2008), and para-suicidal behavior (Linehan et al. 1991). Based on her research, this author wanted to develop a Mindfulness-based health course for her design students. The reports of stress and anxiety levels rising due to current COVID-19 crisis provided her an impetus to develop and offer an online, hybrid course titled "Happy You, Healthy You" during summer 2020 to mitigate COVID-19 related stress, anxiety, and depression in her students. In this paper, this author will share her research on history of Mindfulness and positive psychology, how she developed this course, the strategies employed to keep her students motivated to continue to practice Mindfulness-based exercises, and the outcomes of this research. The author found that her students not only enjoyed this course, but reported great results including reduction in their stress levels, anxiety and increase levels of happiness. Based on the success of this course, this author will also discuss how other instructors can develop similar courses to assist their students in maintaining good mental health and well-being. Author strongly believes that providing mental health tools is a need of the day, especially in high-stress environments of our architecture and design schools.

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- PROPER NUTRITION











— PHYSICAL ACTIVITY -

HAPPY YOU, HEALTHY YOU

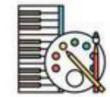
REST & HOBBY -











IAPD 605C

Credits: 3

HAPPY YOU HEALTHY YOU

Summer 2020 | Session: June 1 thru July 10

Course Description:

This course will introduce students to the important strategies to lead a happy, healthy, and fulfilled life. The concept of happiness and good physical and mental health will be explored through diverse cultural, spiritual and scientific perspectives and prepare students to successfully incorporate specific Mindfulness and Positive Psychology- based happiness and wellness activities into their daily routine, and develop understanding of how to lead a happy, healthy and meaningful life.

Course Methodology:

This course utilizes project based, active, distance learning pedagogies including interactive online discussions based on lectures, and review and analysis of new scientific research, popular movies, informative videos, Ted Talks, and a series of enjoyable and fun exercises, to develop a clear understanding of:

- The myths and perceptions about happiness,
- The myths and perceptions about physical and mental health,
- How different cultures view happiness and health,
- How each culture has developed their own practices to achieve good health and happiness,
- How different religions view happiness, and have developed rituals that promote health and happiness,
- How spiritual practices are developed to achieve good health and happiness,
- What is Mindfulness? How it can assist in reducing stress, anxiety, and depression and increase your happiness,
- How neuroscience, psychology and our built environment impact our behaviors and the quality of life,
- How our brain works and leads us to the way we think and act,
- Your own role and responsibilities in developing and sustaining your happiness and good health, controlling stress, anxiety, and mental health issues,
- How to change, or develop new productive habits and develop a customized plan to increase and sustain your own happiness and good health, reduce stress and anxiety,
- How to lead a meaningful life.

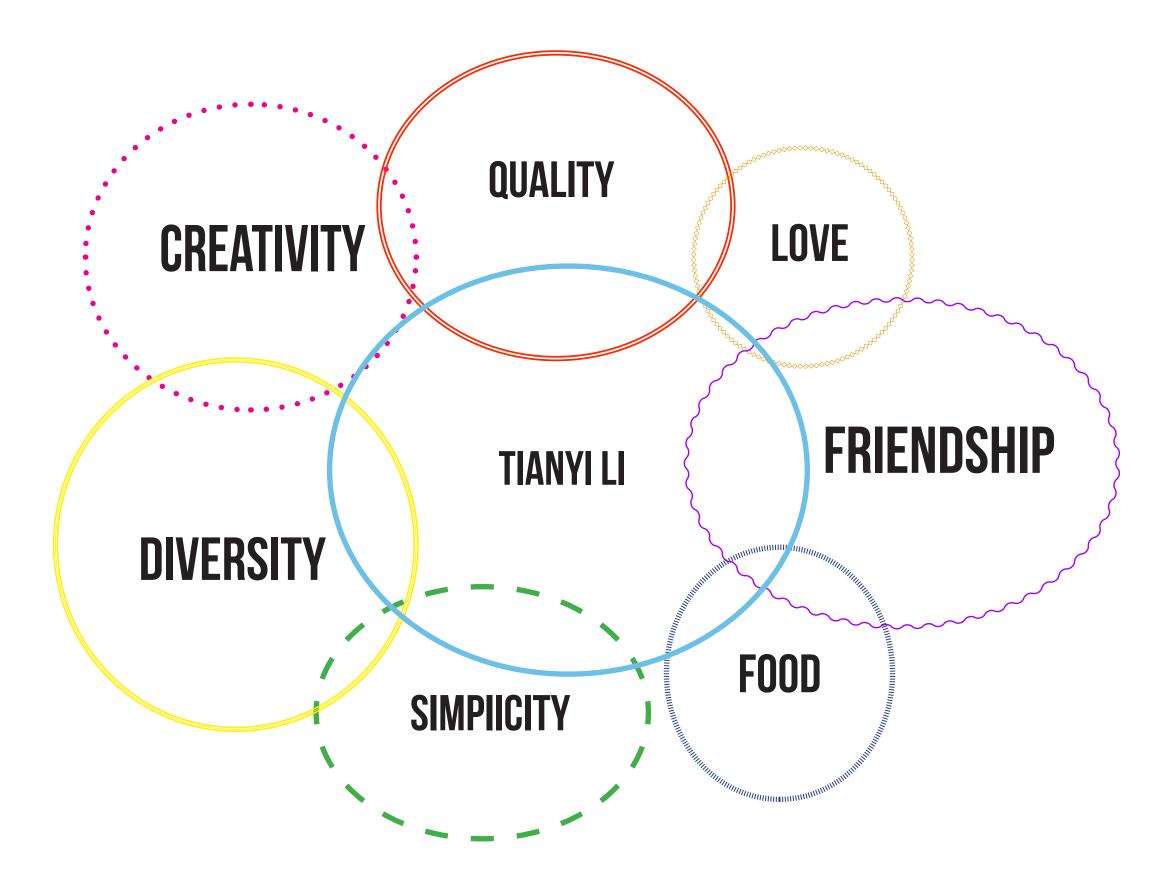
IAPD 605C

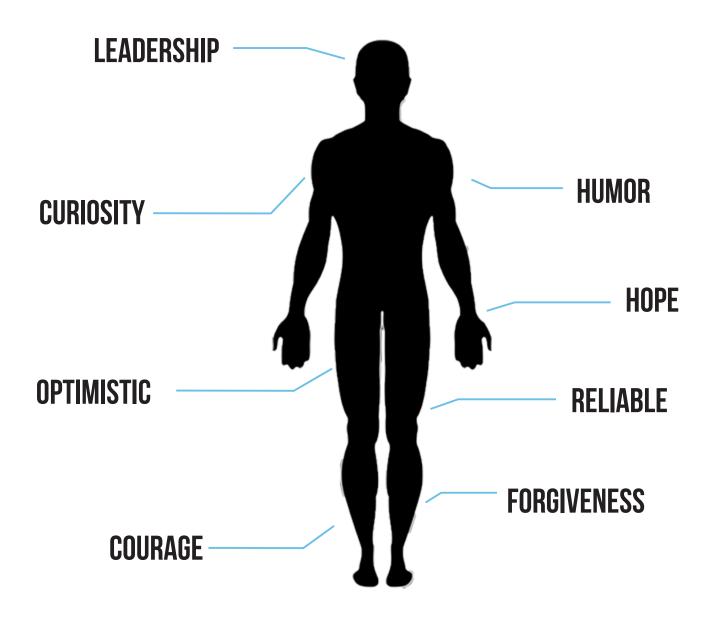
Credits: 3

HAPPY YOU, HEALTHY YOU WEEK ONE ACTIVITIES

- 1 <u>Review Video1</u>: The How of Happiness: The How of Happiness with Sonja Lyubomirsky, PhD, at Happiness and Its Causes 2016
 - https://www.youtube.com/watch?v=F7JDbP_x8So
- **2** Who you are? Think, draw, write, paint, collage exercise
- <u>Develop a Concept Map</u> of your Happiness, Strengths, and Values This is like a bubble diagram you are in the center, activities and people are around you. Draw proportionate circles and right the activities and people and places that makes you happy. Similarly, draw your concept map for your strengths and values.
- 4 Review Video 2: My Interview with Ms. Laura Donnelly
- 5 Count your blessings by documenting in your journal
- 6 Offer Gratitude this week it can be your parents, siblings, friends anyone. But has to be in a written format a card, a letter, that you can share with the person you are offering gratitude to.
- **Select a physical activity you enjoy from the list below:** record your experience either video or photo and written documentation why you enjoy this activity what do you feel during and after this activity.
 - a. Walk in the woods
 - b. Running or jogging
 - c. Yoga
 - d. Zumba
 - e. Dance
 - f. Thai-ci
 - g. Pilate
 - h. Or any other activity you like
- 8 <u>Review a Movie this weekend Happiness Expedition</u> (Available on Netflix) Will discuss the movie in class Thursday
- **Make a healthy weekend meal:** It can be breakfast smoothie, or lunch, or dinner: take a photo or video and share the recipe document why you enjoyed this meal

Value

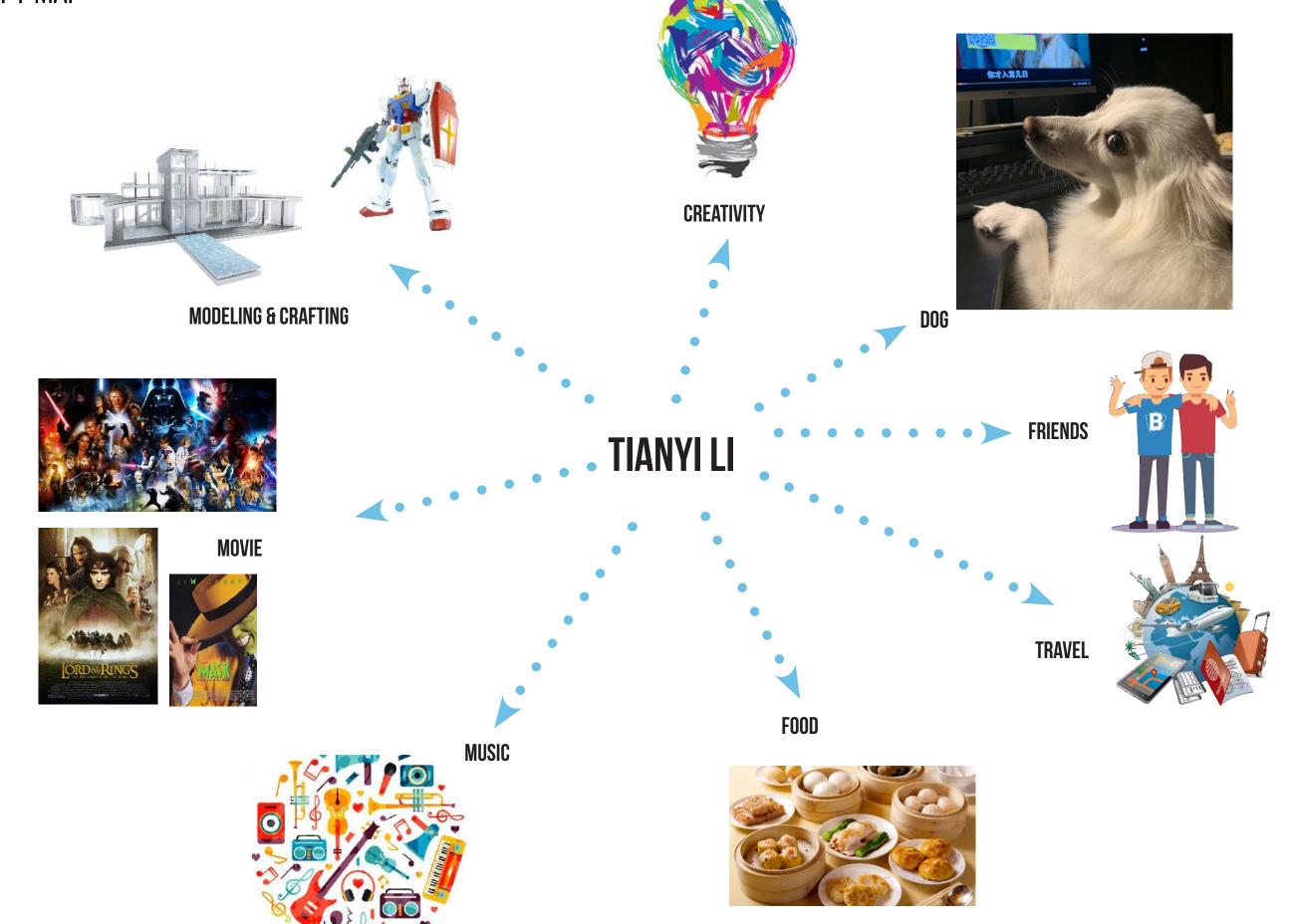




TIANYI LI

CONCEPT MAP

Happiness



PROPER NUTRITION











PHYSICAL ACTIVITY -

HAPPY YOU, HEALTHY YOU

VIBHAVARI JANI

REST & HOBBY -











EXERCISES FOR WEEK TWO

WAKING UP WITH A SMILE

BREATHING

MINDFULNESS MEDITATION

LAUGHTER YOGA

MINFULNESS WALK

TEA OR COFFEE RITUAL

MINDFUL EATING

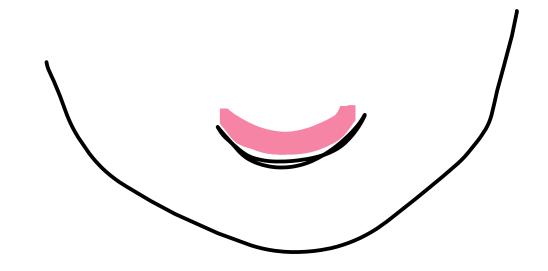
RESTING – DOING NOTHING!



- I would like you to try these Mindfulness concept-based exercises this week.
- Please reflect on your experiences while performing these tasks.
- Please document your reflections for each activity in your journal.

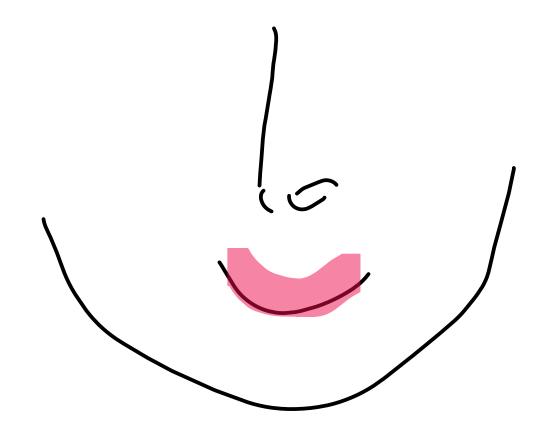
WAKE UP WITH A SMILE





- Remember to wake with a smile.
- Practice smiling as many times a day as possible

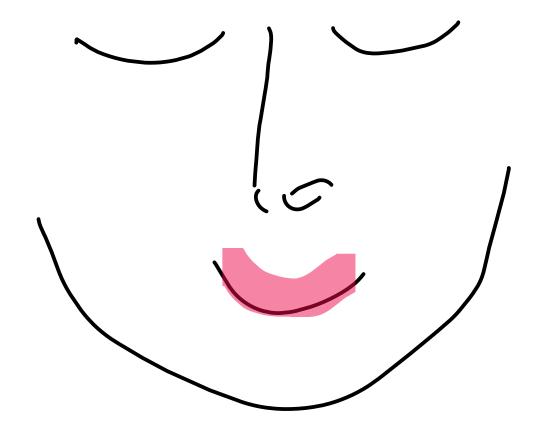
BREATHING EXERCISE





- There are different breathing techniques.
- Mindfulness Breathing
- 3-4-7Breathing
- Click the link below to review the breathing technique

MINDFULNESS MEDITATION





Click the link below to review and follow Mindfulness Meditation technique

LAUGHTER YOGA





Click the link below to hear about benefits of Laughter Yoga and laughter techniques



IAPD 605C

Click the link below to read about what is Mindfulness Walking is and how to do it.

THE TEA OR COFFEE RITUAL





Each culture and country has their own tea or coffee ritual.

- The tea ceremony is part of the <u>Zen</u> meditation rituals. It is what the Japanese call *Ichigo*, which means "a moment, an encounter."
- Concentrating exclusively on the moment at hand and noticing even the smallest details of the ritual is the focus.
- This <u>ritual</u> is a gift of respect and affection from the host to the guests.

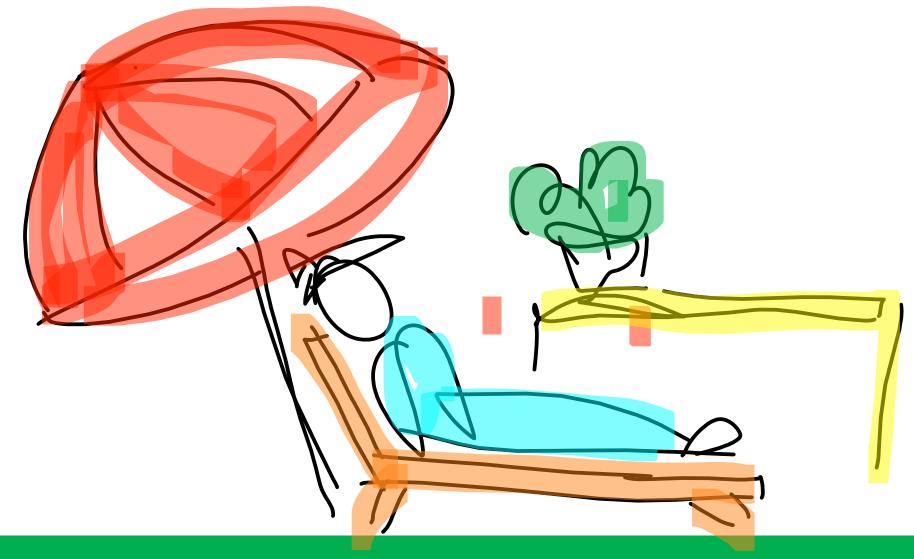
MINDFUL EATING





Click the link below to review and follow Mindfulness eating technique

THE ART OF DOING NOTHING!





Click the link below to review and master the art of doing nothing!

ACTION FOR HAPPINES



Develop a Happiness Action Plan

Make your own **Rituals**

Make time in your schedule to perform these rituals

After trying the First
Week's + This Week's
Mindfulness Exercise,
and based on your
understanding of
who you are – your
values, strengths, and
understanding of
who and what makes
you happy, now
create your
Happiness Action
Plan

Scholarship of Design Research | Open Track | Presentation

Public & Private, I & We Space: Exploring a Typology of University Library Spaces

Adrian Del Monte, University of Florida Margret Portillo, University of Florida

ABSTRACT

In the words of Henry David Thoreau (1961), "The Library is a wilderness of books" (p. 84), and this wilderness occupies a special, albeit evolving, place on college campuses. More than a repository of books and reference materials, campus libraries are accessible to its students, faculty, and scholars, and others connected with the campus. Offering protected space for studying, connecting with others on shared work or related endeavors, we might think of libraries in the pandemic as offering a point of respite and safety, a protected space within Thoreau's wilderness. Campus libraries have long been considered private/I and shared public/we spaces as one in the same, but a recently published study reinforces the concept of a university library as both supporting independent work within public settings and collaborative work within private settings (Kim, Bosch, & Lee, 2019). Library patrons want a mix of private and public space: protected space for independent ("I" space) and collaborative ("we" space) work with access to tools for exploration and the ability to allow its patron to use its spaces over an extended period. During its most recent history, the present and future role of the campus library has been in question: How integral is the library's place on campus? Given the rapid acceleration of technology, how relevant are physical books and print materials? What is the campus library's role in high education? And how will this "wilderness" be cultivated now and post-crisis? We will overview these challenges but will delve into greater depth on the ways the public and private spaces on campus libraries can creatively support students as individuals and facilitate collaboration, creating communities by bringing people together, promoting inclusivity, safety, health, and well-being. This presentation will focus on a campus library at a top ten public research university. We will share a pre-design evidence-based process that involved a faculty

and a doctoral student from the department of interior design in collaboration with a library dean and three other library faculty, including the director of assessment and user experience of the particular library under study. The future renovation plans were envisioned to create new public and private spaces that support all disciplines, but also to foster dynamic and integrated opportunities for students and staff to interact, explore, and commune by designing a healthier, safer, inclusive, and connected learning environment. Integral to the study was to explore how students utilize and think about the realities of the pandemic spatial attributes and adjacencies that could be developed to support the independent and collaborative study and work needs of library users and staff. Using a framework of public/private and individual/group needs and aspirations. To assess the usage of the physical environment, data were collected through a crosssectional observational study of users engaging in specific activity types within the four library floors over a representative time period. The spatial analysis revealed patterns in how libraries are designed that go beyond occupancy counts, how students use space, and how space could better serve their needs. These data informed options for creating new spaces that foster engagement, creative thinking, and problem-solving. We will share these findings along with our precedent study of extant library spaces using public/private and individual/group categorization as a framework, including the ways a university library can evolve its form, space, and practice to remain a highly valued and safe oasis on campuses. As a wilderness that invites exploration and engagement, a library can continue evolving as a truly human-centered response to the postpandemic world, offering a rich and varied wilderness celebrating tradition, stability, resilience, and innovation that can be modeled and adapted across the globe.

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Appendix 1: Library photograph taken by the first author (July 31, 2020)

Recently renovated spaces:

















• Spaces positioned for renovation:

















Appendix 2: Precedent images of existing library designs



Retrieved from: https://www.lib.washington.edu/suzzallo/study/study-spaces/reading-room



Retrieved from: https://www.designboom.com/architecture/woods-bagot-australian-catholic-university-raheen-library-05-01-2014/ (Australia)



Retrieved from: https://instinctfurniture.com.au/earth-work-library-at-university-of-cyprus/ (Cyprus)



Retrieved from: https://www.msn.com/en-us/travel/travel-photos/the-worlds-most-beautifullibraries/ss-BB11qKgR#image=10 (China)



Retrieved from: https://mymodernmet.com/christoph-steelbach-bibliotheken/ (Austria)



Retrieved from: https://www.facebook.com/pg/ucberkeleylibrary/photos/?ref=page_internal (USA)



Retrieved from: https://www.lmtonline.com/news/article/Japanese-libraries-turn-a-new-page-Reading-over-11199376.php#photo-13036970 (Japan)



Retrieved from: https://www.archdaily.com/145789/musashino-art-university-museum-library-sou-fujimoto (Japan)



Retrieved from: https://www.dezeen.com/2020/07/02/deichman-bjorvika-library-atelier-oslo-lundhagem/ (Norway)



Retrieved from: https://www.dezeen.com/2019/12/12/wolfgang-tschapeller-bookshelves-cornell-university-library/ (USA)



Retrieved from: https://blogs.ifla.org/public-libraries/2015/11/29/reopening-of-pasir-ris-public-library-the-first-mall-library-with-a-dedicated-teen-space-in-singapore/ (France)



Retrieved from: https://brutalistinteriors.tumblr.com/post/141001132780/study-pods-torontoreference-library (Canada)



Retrieved from: https://www.dezeen.com/2018/11/14/calgary-new-central-library-snohettadialog-aaron-betsky-opinion/ (Canada)



Retrieved from: https://www.archdaily.com/930888/architecture-library-chulalongkom-university-department-of-architecture/5e024a183312fdcacc000100-architecture-library-chulalongkom-university-department-of-architecture-photo?next_project=no (Thailand)



Retrieved from: https://staffassembly.ucmerced.edu/news/2019/library-renovation-providesmuch-needed-quiet-space-students (USA)



Retrieved from: https://karmatrendz.wordpress.com/2012/11/06/york-university-learning-commons-by-levitt-goodman-architects/#jp-carousel-79234 (USA)

Scholarship of Design Research | Open Track | Presentation

Systemizing and Empathizing: Fundamental Traits of the Designer

Steven Webber, Florida State University

ABSTRACT

Theoretical Context and Problem Interior design is a blend of art and science that demands the student and practitioner to use both sides of the brain. Arguably, this discipline rewards those who have "the drive to analyze, understand, predict, control and construct rule-based systems", or, in other words, the desire to systemize (Wheelwright, S, et al., 2006). Empathizing, or "the drive to identify another person's emotions and thoughts, and to respond to these with an appropriate emotion" (Baron-Cohen & Benenson, 2003) acts as a counterbalance to systemizing and is the foundational step of design thinking. This relationship between empathizing and systemizing is expressed in the E-S theory as a series of five brain types: S (systemizing dominant), E (empathizing dominant), B (both systemizing and empathizing, or balanced), S-X (extreme systemizing), and E-X (extreme empathizing). This research seeks to identify the systemizing and empathizing traits of interior design students through the use of the SQ-R and EQ tests and place the findings in context with research performed with other populations of university students (Wheelwright, S, et al., 2006). These research questions were answered: 1. What is the SQ and EQ of interior design students? 2. What is the distribution of brain types of interior design students? 3. How does the SQ and EQ of ID students compare to other university students? 4. How does the distribution of brain types of interior design students compare to that of other university students? Methodology With human subjects approval, interior design students in the 2nd – 4th year design studios at a selective-entry program in the U.S. voluntarily participated in the research. Two self-report instruments were administered to the participants, the Systemizing Quotient Revised (SQ-R) and Empathy Quotient (EQ) (Wheelwright, S, et al., 2006). The SQ-R and EQ were selected due to their widespread use and statistical reliability (Wakabayashi, et al., 2006; Lawrence, E. J., et al., 2004). Results were analyzed to determine

distribution of brain type of the interior design students and compare SQ-R and EQ results with those of other university students (Wheelwright, S, et al., 2006). Both tests use a 4-point likert scale and the SQ-R has 75 questions resulting in a score on a 150-pt scale and the EQ has 40 scored questions resulting in a score on an 80-pt scale. Findings and Discussion The interior design students (n=104; mean SQ-R=64.2; SD=18.1) (n=104; mean EQ=49.9; SD=10.7) possess a higher SQ-R score and EQ score compared to other university students from an outside study (n=1761; mean SQ-R=55.6; SD=19.7) (n=1761; mean EQ=44.3; SD=12.2) and the difference is statistically significant (SQ-R: t(1863) = 4.32; p<.01)(EQ: t(1863) = 4.61; p<.01). The interior design students Brain Types were measured as follows: S-X:1 (.9%); S:29 (27.9%); B:42 (40.4%); E:32 (30.8%); E-X:0. The population of students from the outside study were categorized by discipline group: physical science, biological science, social science, and humanities; the presentation will go into further depth on the SQ-R and EQ comparison between interior design and these disciplines. The data demonstrates a higher SQ-R and EQ for the interior design population in comparison to each of these four groups. As stated, interior design is a combination of art and science, and, quite possibly, these findings related to systemizing and empathizing reinforce this dual nature of the discipline.

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Scholarship of Design Research | Open Track | Presentation

The Definition and Perception of Design Concept in the Education and Practice of Interior Designers

Natalie Badenduck, Mount Royal University

ABSTRACT

One thing designers reliably agree upon is that design concept is hard to define. This is partly owing to the broad, abstract nature of the term itself and the fact that it means different things to different people. Design concept also runs through varied phases of the design process, which further obfuscates the issue. Additional challenges lie in the observation that individuals generate, apply and communicate design concept in different ways. This lack of clarity results in a component central to interior design education, being one of the most frustrating and confusing notions for students to grasp. In (direct) recognition of this problem, a mixed-method qualitative research study was undertaken in five cities and within seven international institutions (including: Ryerson University, Toronto; Fashion Institute of Technology and Parsons New School, New York City; Royal College of Art and London Metropolitan University, London, UK; Berlin International University, Berlin, GER; and Glasgow School of Art, Glasgow, UK) between September 2019 and March 2020 to construct a comprehensive investigation of the topic. This presentation will outline preliminary findings from the study and provide responses to the posed research questions – how is design concept perceived and defined by interior design students, educators and practitioners? In interiors, design concept is often associated with design processes and notions of creativity. Design processes enable designers to link seemingly disconnected ideas, methods, and experiences and translate these into interior environments (Cross, 1997, 2011; Goldschmidt, 2016; Pedersen & Burton, 2009). Creativity is viewed as essential for Interior Designers (Pedersen & Burton, 2009, p.22), who require the ability to "produce, play with, merge, synthesize, and evaluate" ideas to create "new/novel/original" design solutions (Pedersen & Burton, 2009, p.24). Research into processes and creativity of

designers seldom focuses on the topic of design concept, if at all. Some scholars, however, have identified aspects of design processes that are arguably synonymous with design concept. Nigel Cross speaks of a "creative bridge", as opposed to a "creative leap", to illustrate how ideas build upwards in pursuit of solutions (1997). Gabriela Goldschmidt utilizes "linkography" - a form of protocol analysis - to examine the role of divergent and convergent thinking and highlights "critical moves" that stimulate creativity (2016). Jane Darke identified prominent and influential ideas in the design process as "primary generators" (1979). These texts provide insight into the important function design concept (or related term) plays within the design process and offer further evidence of the varied understandings and alternative definitions that exist. Supported by the review of literature and analysis of primary data, an initial finding of this study, perhaps unsurprisingly, is that there is no single definition of design concept that adequately captures the myriad understandings of it. What emerges from a thematic analysis, however, is that categories of definitions seem to exist. These include two primary categories – operational or actionoriented, which can be subdivided into: the stimulant, the strategy, the guiding principle, and the inquiry and declarative or description-oriented which can be subdivided into: the (big) idea, the connective tissue, the poetry, and the significance. These categorizations, in addition to a summary of the literature review of creative and design processes, will be presented in an attempt to provide greater clarity to how we, as educators, articulate and engage design concept in our teaching practices.

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Scholarship of Design Research | Open Track | Presentation

Understanding Visual Complexity of Interior Spaces Through the Lens of Fractal Dimensions

Dr. Joori Suh, University of Cincinnati Steen Peterson, Wright State University

ABSTRACT

A fractal is a complex organic or geometric figure in which the same patterns occur repetitively at different scales. An interest in the effects of fractals on humans' overall well-being has grown among researchers in psychology, psychiatry, and behavioral medicine (Hagerhall et. al, 2008; Joye, 2007; Salingaros, 2015). Among them, Wise's seminal research in 1986 proved that fractals benefit individuals by dampening their physiological response to stressful work, especially when the fractal fall within mid-range of the fractal dimension, D value of 1.3 - 1.5(Taylor, 2006). The significant implication of the research is that it is not nature itself nor simple geometry, but a certain abstract image with mid-range fractal complexity and principles that showed a higher positive physiological response. How do we know if an interior space designed with various spatial components presents low, medium, or high fractal complexity? In this preliminary research, Wise's and Taylor's (2006) discovery on the stress damping effect of midrange fractal dimension was used as a milestone for us to take the first step to investigate the ground principles behind the visual complexity of interior spaces. This research aims at identifying key principles that cause the visual complexity of an interior space to be closer to the medium range of the fractal dimension, thereby providing practical guidelines for interior designers to use in designing spaces. For the first stage of this exploration, 55 real world interior scenes that include various interior design elements of lines, shapes, spatial volumes, light, and texture, were collected to identify preliminary factors. To calculate the fractal dimension the images were converted to black and white. The fractal dimension was calculated using a box counting method, implemented in the Python programming language. For each image an overall dimension was calculated, and each image was divided into 132 sub-images and the dimension

of each sub-image was calculated, resulting in a histogram, this histogram illustrated the distribution of fractal dimensions within the overall image. Based on 6 preliminary factors identified during the first phase, 20-25 images that contain the focused aspects of each of the 6 factors were collected (a total of 136 images) for the second phase of this exploration to analyze the effect of the 6 factors in detail. Analyzing the fractal dimensions and histograms of these images, the results of this preliminary research showed that (a) large size spatial volumes created based on repeated geometry tend to fall within mid-range global fractals when the outlines are highlighted; (b) the natural texture of natural materials such as stone walls or plants increases the fractal dimension; (c) nature inspired graphic patterns with higher complexity applied to a larger surface increases fractal dimension; (d) if used to project the surface of the wall with texture, such light effect increases fractal dimension; (e) linear elements such as slatted walls/ceiling elements increase fractal dimension when they are used in the direction of spatial depth; (f) three dimensional layers of patterned elements and materials increase fractal dimension. Although the results of this study are preliminary and limited in that it used a small number of images, they provide insight into the nature of interior design elements that cause visual complexity of interior design scenes using fractal dimension as an important lens. The findings provide useful information for designers, students, manufacturers, and researchers to consider in designing and researching fractal inspired spaces that can fall within the medium range of fractal visual complexity. The research is meaningful in that it promotes an interdisciplinary approach by integrating an understanding of the human-environment relationship from the perspectives of design and mathematics.

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Virtual Interdisciplinary Collaboration: The Process of Creating an AR Application for Interior Design Experiences

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ABSTRACT

Efforts to enhance the experience of interior environments have led to experimentation with augmented reality (AR) technology to encourage users to participate in their interior environments using their mobile devices. Museums and other immersive interiors have used phone-based augmented reality technology to invite visitors to unlock digital overlays of experience on the physical environment (ARTECHOUSE, 2020). The role of virtual reality and augmented reality technologies is being explored as part of the design process for experiencing & visualizing interior environments (Choi, 2017; Paredes, 2018). Less explored has been the process of designing these technologies for interior design across interdisciplinary teams collaborating virtually. As part of a larger grant-funded research project examining the role of AR technology in assessing the effectiveness of building design strategies, this study seeks to understand the interdisciplinary process of designing AR technology for interior design experiences. In particular, this study examines this process of designing an AR experience using virtual platforms for collaboration. Method: To investigate the interdisciplinary process of designing an AR experience for an interior environment, this study draws on two sources of data for analysis including: 1) in-depth interviews with members of the interdisciplinary design team and 2) methods and tools for collecting user feedback for the AR technology during the design process. In-depth qualitative interviews were conducted with five members of the student design team which included students in interior architecture and design, computer science, and electronic arts. As part of the AR app design process, a think-aloud protocol was developed as a tool to collect interim user feedback to inform the AR development. The building tour thinkaloud protocol was used with an experiential sequence storyboard to gather feedback from five building occupants. Both sources (interviews and tools) are analyzed to identify key aspects of designing AR technology for experiential interior environments & the role of technology-based collaboration methods. Findings/Implications: The emerging findings from the interviews indicate the role of sharing scene demos, storyboards, & mock-ups virtually as "boundarynegotiating artifacts" (Lee, 2007, p.318; Halpern et al. 2013) which helped team members from interior architecture and design, computer science, and digital arts develop common language for sharing key aspects of the AR development process. Moreover, the interviews suggest the importance of the frequency & types of artifacts that are shared as part of interdisciplinary teams collaborating virtually. The emerging data from user feedback from the building tour think-aloud protocol identified critical insights for refining the design of the relationship between the digital overlay of information and the specific physical locations within the interior environment as part of the AR experience. Designing Technologies for Experiential Environments: As immersive interior environments are becoming more dependent on a convergence of digital and physical experiences, the complexity of designing for seamless integration across these environments is becoming part of an interior designers' scope of work. This study identifies a series of strategies for designing digital experiences (augmented reality technology) for interior environments. Virtual Collaboration: While collaboration among diverse disciplines has become key to innovative solutions, the reality of bringing together experts across disciplines often leads to challenges in communication of discipline-specific terminology & approaches. These challenges may be further amplified when a team is collaborating virtually with little face-to-face interaction. This study suggests methods for intentional development of boundary-negotiating artifacts to further technology-based collaboration on interdisciplinary teams.

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3D Rising

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ABSTRACT

Light reveals information, even in its absence. Gilles Vandewalle uncovered that light stimulates and alters brain activity in seconds, independent of vision, as long as the brain engages in active processing rather than resting. 1 For interior designers, light is a three-dimensional resource spatially pliable (flexible), monitor-able (scanned and recorded), and tempered (tune or adjusted). However, submerged in a two-dimensional world, per COVID-19, 3DPD slang, meaning 'three-dimensional pig disgusting' used in anime, indicates that two-dimensional experiences are superior to the three-dimensional world.2 Keller Easterling has argued that the reconditioning for how we now view 3D makes "the light, the blizzard of photons coming from everywhere, blinding and ugly." 3 Ironically, without thickness and volume, the 2D world and the 3D world converge. Consequently, on Zoom, as 2D skillsets rise, 3D's experiential understanding flattens. This transference in perceptual ability4 prompts the question _How can Interior Design education deliver insights about the 3D world and its spatial tangibility or value via 2D platforms? Particularly in reference to light, where additional inquiries regarding light's intangible origin, its ability to render spatial expression, and the processes that temper its presence center on experiential strata. Our first online studio focused on the 3D world, structured explicitly to emphasize light as a 3D resource and a lexicon-based method that tracks its interior effects. The mix between terminology and manifestation was subsequently reapplied, alongside an analog assemblage of a BlackBox system enabling the manual sculpting and carving of light. These exercises inadvertently lead back to the 3D world, galvanizing some toward forensic praxis for space-making, an effort that underpins the constraints and potentialities of the flattened world. "There's no such thing as silence," 5 and likely no such thing as darkness or the total absence of light, yet this study contends that it is in-the-dark and not in- light that the potential to shape space exists. It argues that the flat world is insufficient to gauge how to define 3D space.

Why? Like a blank canvas, the BlackBox scenario offers opportunities to explore spatial logic. Through a thesaurus of control photons, the scale, aperture, thickness, direction, and orientation of each sculpted or carved surface becomes a learning opportunity to overhaul the mysteries of light. A wide range of applied methods featuring light's behavior ensues, and a display of design intent showcase the spatial qualities of the 3D world rising. This presentation will address spatial inferences and narratives extracted from the outcomes of the approach. It will articulate the methods, reviews, and conversations believed to prelude the means to reimagine 3D spaces in the age of 3DPD challenges.

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Enabling Health and Wellness in the Design Studio: A Proposal for Scaffolding Based on the WELL Building Standard

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ABSTRACT

As public interest in health and wellbeing has increased (UN Development Programme, 2011), multiple building certifications focusing on resident health and wellbeing have emerged (ULI, 2013, p.48) including the WELL Building Standard (WELL) (IWBI, n.d.) and Fitwel (Fitwel, n.d.). These programs certify built environments according to targeted thresholds within their standards. According to the two certifications' homepages (June 2019), WELL impacts the built environment more than Fitwel; both WELL certified projects and WELL memberships are growing rapidly (IWBI, 2019). In response to this growing trend in application and adoption, this exploration executed a search of ACSA Proceedings, Journal of Architectural Education, Journal of Technology, Architecture, and Design, ScienceDirect, and Taylor & Francis for the keywords "WELL Building Standard." In addition to a basic lack of research, none of the thirty-nine found articles addressed opportunities for how to incorporate WELL in design studios for Architecture or Interior Architecture programs. Therefore, this research proposes a structure for supporting instructors in Architecture and Interior Architecture design studio courses to encourage their students in designing WELL certifiable built environments. Toward this goal, this research uses a systematic review methodology (Aboelela et al., 2007). This research reviews the criteria of the WELL Building Standard v2 requiring a specific form, shape, or a layout in the built environment. For example, a part of #05 Enhanced Daylight Access feature in the Light concept of the WELL Building Standard v2 states "70% of all workstations are within 7.5 m [25 ft] of transparent envelope glazing or atria. Visible light transmittance (VLT) of transparent glazing is greater than 40%"; this criterion requires a specific layout to get one point of the feature. By reviewing the criteria of the WELL Building Standard v2, this research questions what criteria of the WELL Building Standard should instructors strategically emphasize to guide students in designing a healthier built environment? As a result, this research 1) identifies 2 Precondition and 23 Optimization criteria with 32 sub-criteria (Max. 38 credits) of the WELL Building Standard appropriate for design phases in terms of form, shape, and layout in the built environment, and 2) proposes an instructional framework focusing on these identified criteria of WELL to help guide student projects. Consequently, instructors of Architecture and Interior Architecture design studios would be able to guide students in designing healthier environments, as well as WELL certifiable projects. Students in the design studios will learn how to work toward a WELL certifiable project as a future design practitioner. Furthermore, students will be better able to understand how to positively impact health and wellness in the built environment through. Ultimately, this research aims to not only reduce the gap between architectural education and the current health trend in practice, but also to increase opportunities for improved built environments in terms of health and wellness through educating future architects and interior architects.

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Human-Centered Design in Interior Design Education Last 20 Years: A Keyword Network Analysis and Visualization

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ABSTRACT

Abundant research topics have been focused on social and individual needs as well as health and safety issues in the discipline of ID (Bhattacharjee & Lazo-Flores, 2016). Human-Centered Design (HCD) has become a core concept, theory, method, and philosophy in the education of Interior Design (ID). The Council for Interior Design Accreditation (CIDA) stated in the Professional Standard (2020) "Interior Designers apply knowledge of human experience and behavior to designing the built environment." in Standard 7. The standard also uses the terms "user needs,""human experience," and "human factors" in the goals of the standard. Many design scholars and practitioners in ID often use HCD interchangeably with "human factors (HF),""user-centered design (UCD)," and "user experience (UX)." Besides, quantitative keyword network analysis has been less studied in ID education research, although the method provides an explanation of the content and reveals connections between research keywords (Cambrosio and et al., 1993). To fill this gap, this study aims to answer the following questions: (1) What keywords have been studied in ID, HF, HCD, UCD, and UX (2) How ID has been associated with HF, HCD, UCD, and UX? This study used a quantitative research method. The researchers analyzed a total of 605 peer-reviewed journal articles published between 2001 and 2020 and we followed the systematic keyword analysis process. As results, in step 1, the researchers found 605 articles which include the following keywords ID, HF, HCD, UCD, and UX in their abstract via Education Resources Information Center (ERIC) database which is a well-known international digital library for educators, researchers, and policymakers (ERIC, n.d.). In step 2,

the researchers collected 7441 author-chosen descriptors – a word or phrase that represents a subject using in ERIC – from the 605 articles. In this step, the researchers found 461 unique descriptors in ID, 985 descriptors in HF, 177 descriptors in HCD, 357 descriptors in UCD, and 1044 descriptors in UX. In step 3, the researchers sorted the data by year and frequency of descriptors using Excel. Table 1 indicates the top 20 ranks in each keyword, and figure 1 shows how many articles included each keyword were published yearly from 2001 to 2020. The result of step 3 demonstrated the research tendencies of ID, HF, HCD, UCD, and UX. In step 4, the researchers visualized the data to analyze frequencies and relationships among keywords and descriptors via Gephi 0.9.2, an open-source application that provides a real-time network of complex data (Bastian et al., 2009). Figure 2 describes the descriptors' networks of each keyword. The size of circles indicates a total frequency of each descriptor, the thickness of lines represents a direct correlation between the two descriptors, and distance among the circles show relative relation among descriptors. Accordingly, Figure 2 presents frequencies of mentioned descriptors (circle size) and relationships among each descriptor. Figure 3 shows the overall networks of 7441 descriptors from the five keywords search results. Figure 3 indicates that Foreign Countries, Teaching Methods, Student Attitudes, Educational Technology, and College Students are the top five used descriptors. Figure 4 indicates the relationship between ID and each keyword, HF, HCD, UCD, and UX. The four visualized data show descriptors that have been used in both ID and each keyword. All the findings would provide meaningful data in understanding the mainstream and trend of research in ID and HCD associated topics. Moreover, these results would be helpful for educators, researchers, and designers in the ID field who are looking for future interdisciplinary research opportunities and new design approaches.

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Top 20 descriptors from "Interior Design" keyword search results

Top 20 descriptors from

Top 20 descriptors from "Human Factors" keyword search results

Top 20 descriptors from "Human Centered Design" keyword search results

Frequency

8

7

4

3

3

3

3

2

2

2

2

2

2

2

Percent

3.24

2.83

1.62

1.62

1.62

1.62

1.62

1.21

1.21

1.21

1.21

1.21

0.81

0.81

0.81

0.81

0.81

0.81

0.81

0.81

Descriptors

Teaching_Methods

Higher_Education

Problem_Solving

Student_Projects

Case_Studies

Inquiry

Instructional_Design

Interdisciplinary_Approach

Educational_Technology

After_School_Programs

Course_Descriptions

Educational_Change

Electronic_Learning

Decision_Making

Business_Administration_Educatio

Learning_Activities

Thinking_Skills

Active_Learning

Cooperation

Design

					<u> </u>			
Ran		-		Ran				Ran
k	Descriptors	Frequency	Percent	k	Descriptors	Frequency	Percent	k
1	Interior_Design	67	6.68	1	Foreign_Countries	74	3.59	1
2	Student_Attitudes	25	2.49	2	Teaching_Methods	30	1.46	2
3	Teaching_Methods	22	2.19	3	Human_Factors_Engineering	26	1.26	3
4	Foreign_Countries	19	1.89	4	Educational_Technology	23	1.12	4
5	Student_Projects	18	1.79	5	Higher_Education	19	0.92	5
6	College_Students	17	1.69	6	Student_Attitudes	17	0.82	6
7	Undergraduate_Students	16	1.60	7	Electronic_Learning	16	0.78	7
8	Creativity	12	1.20	8	Questionnaires	16	0.78	8
9	Studio_Art	12	1.20	9	Interviews	15	0.73	9
10	Art_Education	11	1.10	10	College_Students	13	0.63	10
11	Design	9	0.90	11	Statistical_Analysis	13	0.63	11
					Technology_Uses_in_Educatio			
12	Experiential_Learning	9	0.90	12	n	13	0.63	12
13	Problem_Solving	9	0.90	13	Case_Studies	12	0.58	13
14	Questionnaires	9	0.90	14	Models	12	0.58	14
15	Architectural_Education	8	0.80	15	Undergraduate_Students	12	0.58	15
16	Case_Studies	8	0.80	16	Design	10	0.49	16
17	Cooperative_Learning	8	0.80	17	Internet	10	0.49	17
	Interdisciplinary_Approac							
18	h	8	0.80	18	Performance_Factors	10	0.49	18
19	Student_Surveys	8	0.80	19	College_Faculty	9	0.44	19
20	Comparative_Analysis	7	0.70	20	Gender_Differences	9	0.44	20

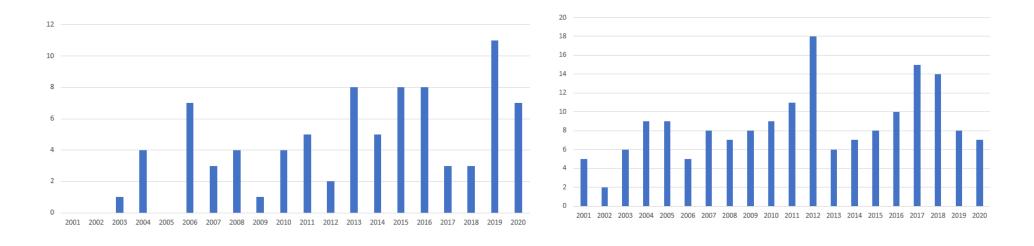
Top 20 descriptors from er Experience'' keyword search results

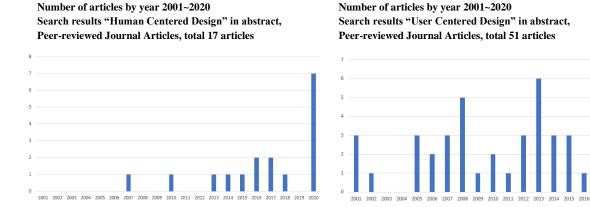
"User Centered Design" keyword search results				"User Experience" keyword search results				
Ran				Ran				
k	Descriptors	Frequency	Percent	k	Descriptors	Frequency	Percent	
1	Design	13	2.16	1	Foreign_Countries	108	3.06	
2	Usability	9	1.50	2	Educational_Technology	50	1.42	
3	Web_Sites	9	1.50	3	Usability	49	1.39	
4	Case_Studies	8	1.33	4	Student_Attitudes	43	1.22	
5	Higher_Education	8	1.33	5	Internet	42	1.19	
6	Instructional_Design	8	1.33	6	College_Students	39	1.11	
7	Internet	8	1.33	7	Questionnaires	39	1.11	
8	Computer_Interfaces	7	1.16	8	Teaching_Methods	38	1.08	
					Technology_Uses_in_Educatio			
9	Student_Attitudes	7	1.16	9	n	38	1.08	
10	User_Needs_(Information)	7	1.16	10	Web_Sites	36	1.02	
11	Graduate_Students	6	1.00	11	Computer_Simulation	33	0.94	
12	Teaching_Methods	6	1.00	12	Computer_Software	32	0.91	
13	College_Students	5	0.83	13	Electronic_Learning	32	0.91	
14	Educational_Technology	5	0.83	14	Academic_Libraries	27	0.77	
15	Feedback_(Response)	5	0.83	15	Design	27	0.77	
16	Foreign_Countries	5	0.83	16	Case_Studies	26	0.74	
17	Undergraduate_Students	5	0.83	17	Handheld_Devices	26	0.74	
18	Users_(Information)	5	0.83	18	Undergraduate_Students	26	0.74	
19	Academic_Libraries	4	0.67	19	Higher_Education	25	0.71	
20	Active_Learning	4	0.67	20	Users_(Information)	25	0.71	

Number of articles by year 2001~2020 Search results "Human Factors" in abstract, Peer-reviewed Journal Articles, total 172 articles

Number of articles by year 2001~2020

Search results "User Experience" in abstract,





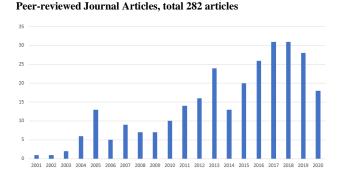
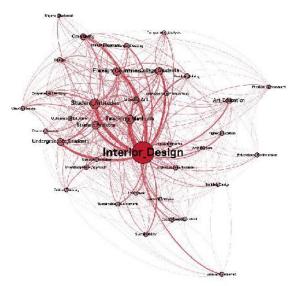
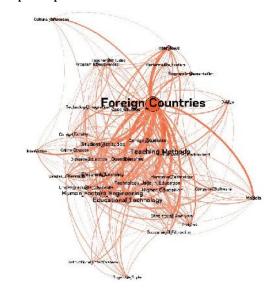


Figure 1. Number of articles by year from the search results

A descriptor network from the 84 peer-reviewed articles that include "Interior Design" in the abstract
Circles = 461 descriptors, lines = 13,264 connections.
Descriptors repeated less than 5 times are removed.

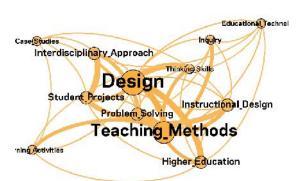


A descriptor network from the 172 peer-reviewed articles that include "Human Factors" in the abstract
Circles = 985 descriptors, lines = 27,848 connections.
Descriptors repeated less than 7 times are removed.



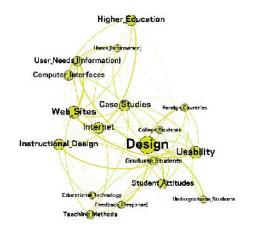
A descriptor network from the 17 peer-reviewed articles that include "Human Centered Design" in the abstract Circles = 177 descriptors, lines = 3,814 connections.

Descriptors repeated less than 3 times are removed.



A descriptor network from the 51 peer-reviewed articles that include "User Centered Design" in the abstract Circles = 358 descriptors, lines = 8,035 connections.

Descriptors repeated less than 5 times are removed.



A descriptor network from the 282 peer-reviewed articles that include "User Experience" in the abstract Circles = 1,044 descriptors, lines = 49,675 connections. Descriptors repeated less than 20 times are removed.



Figure 2. Descriptor networks of each keyword (Interior Design, Human Factors, Human centered Design, User Centered Design, or User Experience)

A descriptor network from the 605 peer-reviewed articles that include Interior Design, Human Factors, Human centered Design, User Centered Design, or User Experience in the abstract Circles = 1698 descriptors, Edges = 95,186 connections.

Descriptors repeated less than 20 times are removed.

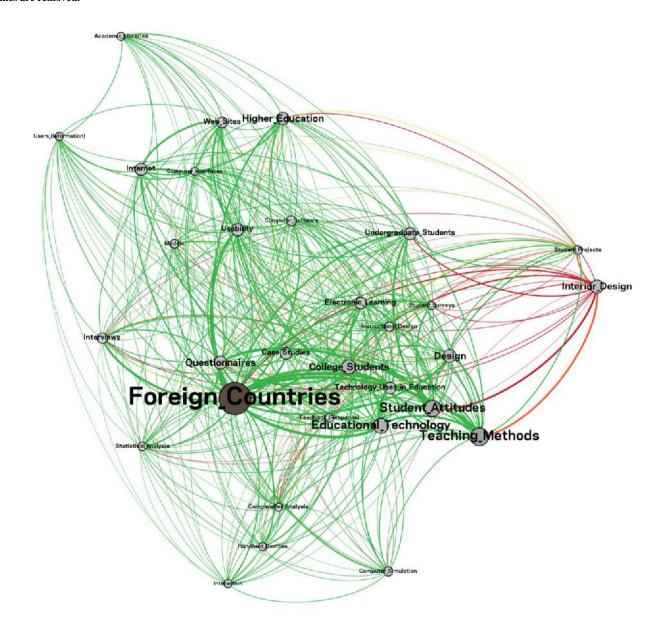
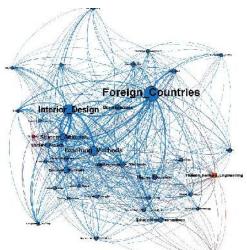
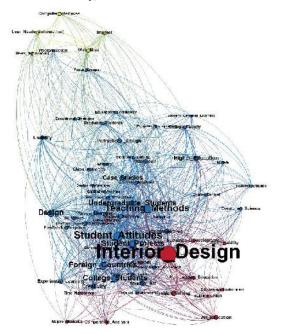


Figure 3. The sum of the descriptor network from the five keyword search results

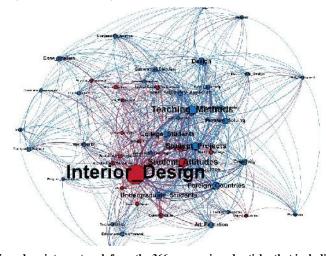
A comparison descriptor network from the 256 peer-reviewed articles that including "Interior Design" or "Human Factors" in the abstract
Circles = 1,178 descriptors, lines = 41,110 connections. Descriptors repeated less than 10 times are removed.
Red = ID only, Orange = HF only, Blue = Both ID and HF



A comparison descriptor network from the 135 peer-reviewed articles that including "Interior Design" or "User Centered Design" in the abstract Circles = 682 descriptors, lines = 21,298 connections. Descriptors repeated less than 5 times are removed. Red = ID only, Light Green = UCD only, Blue = Both ID and UCD



A comparison descriptor network from the 101 peer-reviewed articles that including "Interior Design" or "Human Centered Design" in the abstract Circles = 682 descriptors, lines = 21,298 connections. Descriptors repeated less than 5 times are removed. Red = ID only, Yellow = HCD only, Blue = Both ID and HCD



A comparison descriptor network from the 366 peer-reviewed articles that including "Interior Design" or "User Experience" in the abstract Circles = 1,215 descriptors, lines = 62,938 connections. Descriptors repeated less than 20 times are removed. Red = ID only, Green = UX only, Blue = Both ID and UX

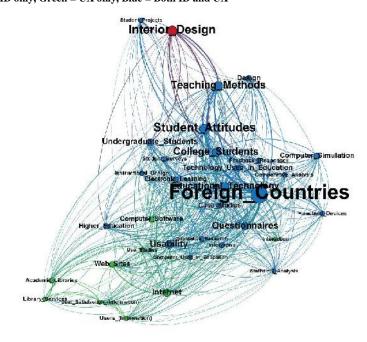


Figure 4. Comparison descriptor networks with "Interior Design" keyword search result and each four keyword search results

Peer Critique and the Affective Domain

Helen Turner, University of Kentucky Joseph Rey-Barreau, University of Kentucky

ABSTRACT

PROBLEM / CONTEXT While critiques provide opportunity for development of critical dialogue, research reveals that the traditional critique may be antithetical to the adaptable, collaborative, and interdisciplinary needs of contemporary practice (Dannels, 2005; CIDA, 2020; Thiessen, 2017). Though disciplinary skills are associated with the cognitive domain, interior design requires an inclusion of the affective domain. Although the term 'affect' is often associated with emotion without reason, Krathwohl (1999) presents it as an integration of cognition and action through receiving (being aware of an experience), responding (participating in that experience), valuing (becoming invested), organizing (internalizing the new value), and characterizing (acting in accordance with the new value). In this regard, integration of peer critique can engage both the cognitive and affective domains, enabling students to think critically about their work as well as the work of their peers (Dannels, 2005; Scagnetti, 2017; Theissen, 2017). The ability to balance cognitive and affective skills also provides a foundation for impactful interpersonal relationships, collaboration, and communication, which can elicit enhanced levels of criticality, engagement, and empathy. METHOD / POSITION / APPROACH On this foundation, two instructors aimed to develop a class of fourth-year students into generators, not just consumers, of intentional and meaningful critique. Merging scholarship on peer review with Krathwohl's (1999) framework for the affective domain, a method for observing the potential impact of affective peer critiques in design studios evolved. Students were organized into groups according to project focus, concept, or theories being explored. The groups met throughout the semester, allowing students to discuss prior feedback and new ideas to further project development. During each meeting, students acted as presenters of their own ideas as well as reviewer of their peers'. They were provided with instruction related to content

as well as prompts for comments, which were recorded then shared as critique during discussions. To encourage equity and engagement, student presenters were asked to rate each peer reviewer in terms of level of engagement, quality and usefulness of feedback, communication skills, overall participation and contribution. Faculty also implemented pre- and post-measurements at varying points throughout the semester to determine levels of affective learning as well as the extent to which students valued the process. At the close of the semester, students completed University administered evaluations which were recorded and analyzed. Faculty utilized a variety of related frameworks to measure affective development in all selfreported responses. CONCLUSIONS Faculty noted progression in affective learning related to engagement of reviewers, increased skills associated with active listening, engaged communication, enhanced self-confidence, emotional maturity, and motivation. In addition to perceived behavioral development, results indicate that, while some students were initially apprehensive and some noted negative feelings about the process, most understood why they were doing it, and recognized the importance of the process. Some even connected peer critiques to enhanced communication skills and the potential for development of new ideas or growth as a designer. Largely positive quantitative and qualitative results in the 4th year studio encouraged additional and more strategic implementation in a subsequent 1st year studio, and later in the third-year studio for this same group. Sharing details and results of the research, this presentation acknowledges the critique as a 'signature pedagogy', and its role in design education, but builds upon scholarship related to the potential of active, student-led approaches and integration of peer critiques as a method for engaging the affective domain.

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Strengthening Creative Confidence for Entrepreneurial Mindsets

Dr. Jae Hwa Lee, Iowa State University

ABSTRACT

A need to develop entrepreneurship education in universities is being recognized by many disciplines to demonstrate students' ability properly for their professional careers. Although entrepreneurs are often characterized as a creative originator in industry, yet, the entrepreneurial potential is less understood from the study of creativity or creative potential. In this regard, the current presentation explores relationships between creative confidence beliefs and entrepreneurial mindsets of college students. This empirical study reveals the specific characteristics of the students with stronger entrepreneurial potential relating to their perception of creative self and domain-specific creativity. As generating creative design ideas is always about producing and marketing the intellectual properties of a viable concept in the field of interior design, it is important to prepare interior design students as entrepreneurs through cultivating their creative potential. Participants in this study were 68 college students who took the introductory interior design class in Fall 2019. An anonymous online survey included three components: 11 items of Short Scale of Creative Self (Karwowski, 2011), 50 items of K-DOCS (Kaufman, 2012), and 50 items of Entrepreneurial Potential Assessment on a 5-point scale (1=strongly disagree to 5=strongly agree). The SSCS measures creative personal identity and creative self-efficacy. The K-DOCS measures self-reported creativity in five domains: self/everyday, scholarly, performance, math/scientific, and artistic creativity. From previous studies, the study adapted seven entrepreneurial potential characteristics: need for achievement/success, self-sufficiency/freedom, ambiguity tolerance/resistance to stress, selfconfidence/enthusiasm, creativity/innovativeness, locus of control, and risk-taking propensity (Bezzina, 2010). The study primarily checked the internal consistency of the measurements. The Cronbach's alpha was relatively high for all three scales (SSCS = .862; K-DOCS = .893; EPA =

.844). From the descriptive statistics, creative personal identity was the highest scale (M = 4.00, SD = .74) and artistic creativity followed (M = 3.70, SD = .82). As single items, the following statements from the entrepreneurial potential scored high: "I shoot for excellence in everything I do (M = 4.19, SD = .83)" and "I always try to learn lessons from my failures (M = 4.18, SD =.60)." The correlation analysis indicated that the overall creative confidence beliefs of the students were highly associated with creativity/innovativeness, risk-taking propensity, need for achievement/success, and locus of control categories of the entrepreneurial potential. Among the domain-specific creativity, everyday creativity, scholarly, and artistic creativity were more strongly related to the entrepreneurial potential. Particularly, the results suggested that the student with strong creative confidence tend to be more curious, imaginative in generating solutions, leading new projects, and accepting challenges. The findings of this study profiled beginning interior design students' internal characteristics regarding creative confidence and entrepreneurial potential. The implications for educators to encourage entrepreneurial mindsets would include providing more careful directions to be resilient to stress during the semester and to fix errors over the design process. Further analysis could reveal a more distinguishable predictor in classifying entrepreneurs who have acquired a high level of confidence in creative initiatives.

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Studio Culture and Effectiveness of Online and Blended Studio Teaching and Learning in the Times of Corona

Dr. Elif Tural, Virginia Tech Lisa Tucker, Virginia Tech Alp Tural, Virginia Tech Brad Whitney, Virginia Tech

ABSTRACT

Studio experience has always been an integral part of design education as a complex social unit and a learning group, with its own rituals (Anthony, 1991). When the coronavirus pandemic unexpectedly required moving studio to an online learning mode in the spring of 2020, many interior design faculty and students had to quickly adapt to the circumstances. With the continuing impact of the pandemic on the higher education institutions, several traditionally inperson interior design programs needed to offer online or blended (a combination of face-to-face classes with online teaching) studio courses in fall 2020. As "the pedagogical heart of design disciplines," studio teaching places a strong emphasis on face-to-face interactions, and dialogue that revolves around the studio critique or "crit" that supports peer learning, and dialogic instant feedback from educators and sometimes design professionals (Fleischmann, 2019; Blythman, Orr, & Blair, 2007). Studio also requires fostering and sustaining a community for active engagement of students and an inclusive and supportive learning environment. Due to the highly socially interactive nature of studio teaching and learning, many even argued that teaching design online is difficult or even impossible (see for example, Fleischmann, 2015; Park, 2011). However, with limited options, design educators are learning new technologies, adapting their projects and critique/pin up/review structures, and undertaking new strategies to build and sustain a studio culture to provide a comparable learning experience to students who never willingly opted in to an online or blended design education. It is also expected that the studio

experience will be different for students who have never been part of an in-person studio culture versus upper-level students who experienced some part of their interior design studios in person and were able to build communities. This study explores the faculty and student perceptions on (1) how and to what extent a design studio culture can be fostered and sustained when teaching studio online or in blended mode, (2) the effectiveness of the teaching and learning strategies interior design faculty members have employed in a virtual studio to manage instructor and professional feedback, peer-to-peer critiques, and required tutorials on software and other technical knowledge, and (3) the coping strategies employed by students for enhancing their learning experiences, and for sustained motivation and peer support. The study also examines the differences among lower- and upper-level students who had varying in-person studio experiences. Quantitative and qualitative data from sophomore, junior and senior interior design students (n = 109) are collected through an online survey questionnaire. Semi-structured interviews with four design faculty provide qualitative data on studio teaching and learning strategies and tools, and their perceptions on the effectiveness of the adopted approaches. A focused coding of the qualitative data from student and faculty responses, complemented with the statistical analyses of the likert-scale survey questions illustrate the successes and challenges faced by the two stakeholder groups. The findings are discussed with respect to the use of digital teaching/learning platforms (such as Canvas, Zoom, Whiteboard, Morpholio Trace, and Padlet), and to what extent they support peer and educator feedback through dialogue; the challenges of building a studio culture among various levels of studios; limited interactions with other cohorts; and success strategies from students to stay motivated, focused and mutually supportive to peers. While this study has limitations in its scope, with its comparative analyses among various levels, it provides useful suggestions and lessons learned to interior designer educators who will be employing digital platforms and online teaching strategies for the foreseeable future.

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Appendix A: Excerpt of Studio Culture Policy

STUDIO CULTURE

Studio courses are unique. This course will simulate the experience and culture of working in a design firm. Professional practice demands respectful and responsible employees and employers. As you prepare for a career in design, practicing consideration for your colleagues now develops your interpersonal skills and ultimately creates a dynamic and productive studio-working environment. Our studio culture is expected to be diligent, respectful, and committed to producing professional presentations [verbal and visual].

With the unique characteristic of this being an online course, studio culture will look a bit different but we will aim to incorporate these practices virtually as well. I encourage you to talk with classmates during work time, engage in discussion groups and chats outside of class, and approach problem solving collectively.

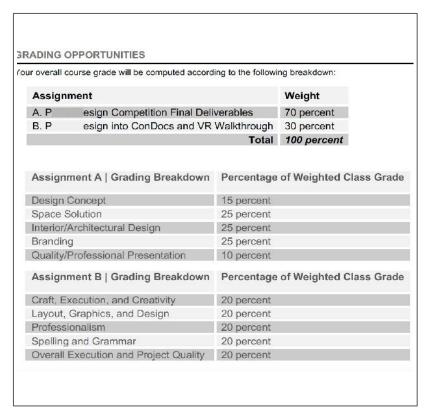
Advanced Interior Design studio

Appendix B: Excerpts of Course Schedules from both Courses

Day/Date	Group	Content	Assignments
Tue Sept 8	A (In Person)	WHAT IS DIGITAL PHOTOGRAPHY? RULES OF COMPOSITION The Digital Camera Composition of a choto Examples of photographs with a clear concept Examples of digital art photography	A1- CONCEPT STATEMENTS IS DUE Digital Photography Composition Tips: https://digital.photography-school-com/digital-photography-composition-tips/
	B (Online Asynchronous)	Discussion Board response to video The Case for copying https://www. youtlike.com/watch?v=6diQW4DRrpR	
Thu Sept 10	B (In Person)	WHAT IS DIGITAL PHOTOGRAPHY? RULES OF COMPOSITION The Digital Camera Composition of a choto Examples of photographs with a clear concept Examples of digital art photography	Digital Photography Composition Tips: https://digital photography school com/digital-photography- composition-tips/
	A (Online Asynchronous)	Discussion Board response to video The Case for copying https://www. youtube.com/watch?v=6dI0W4DRp8	
	Tue Sept 8	Tue Sept 8 A (In Person) B (Online Asynchronous) Thu Sept 10 B (In Person)	Tue Sept 8 A (In Person) WHAT IS DIGITAL PHOTOGRAPHY? RULES OF COMPOSITION The Digital Camera Composition of a choto Examples of photographs with a clear occupent Examples of digital art photography B (Online Asynchronious) Discussion Board response to video The Case for copying https://www.youtube.com/watch?v=6d/QW4DRrp8 Thu Sept 10 B (In Person) WHAT IS DIGITAL PHOTOGRAPHY? RULES OF COMPOSITION The Digital Camera Composition of a choto Examples of photographs with a clear concept Examples of digital art photography A (Online Asynchronious) Discussion Board response to video The Case for copying https://www.

WEEK	DATE	TOPIC	RESOURCES TO REVIEW	DUE DATES/DEADLINES
1	8/18	Course Introduction Introduction to PAVE	Brief HW: Research Read: The Designer's Guide to Doing Research Watch: Diversity in Design Webinar 8/19 2-3 pm	
	8/20	Research	Work Day + Individual Meetings on Zoom HW: Research + Develop Presentations	
2	8/25	Research Presentations	Presentations via Zoom HW: PAVE Exemplar Analysis	Research Presentations Due
	8/27	Research	Presentations via Zoom HW: In-depth user research	PAVE Exemplar Analysis Presentations
3	9/1	Retail Strategy	Retail Lecture (Zoom) - Strategy Workshop - Retail Experience	

Appendix C: Excerpts of Course Assessment from both Courses



ssignments and Projects	Project Percentages
A1: Concept Statements	10%
A2: Photographs and Design Principles	15%
A3: Photo Collage	15%
A4 Soon: Narrative	15%
A5: Final Project	25%
Participation	20%
Total	100%
310000000000000000000000000000000000000	20 30
CRITICAL THINKING	20
	1,17
GRAMMAR, STYLE)	
ICIAL	100
A2 - PHOTOGRAPHS A PRINCIPLES PROPER SUBMISSION COMPOSITIONAL	
A2 - PHOTOGRAPHS A PRINCIPLES PROPER SUBMISSION COMPOSITIONAL ELEMENTS	AND DESIGN 20 40
A2 - PHOTOGRAPHS A PRINCIPLES PROPER SUBMISSION COMPOSITIONAL ELEMENTS TECHNICAL SKILL	20 40
A2 - PHOTOGRAPHS A PRINCIPLES PROPER SUBMISSION COMPOSITIONAL ELEMENTS TECHNICAL SKILL	AND DESIGN 20 40
A2 - PHOTOGRAPHS A PRINCIPLES PROPER SUBMISSION COMPOSITIONAL ELEMENTS TECHNICAL SKILL CREATMITY IN INTERPRETATION	20 40

GE Visual Literacy course

Advanced Interior Design studio

Teaching for the Intrinsic Motivations of the Gen Z Design Student: Strategies for a Remote Future

Dr. Erin Hamilton, Texas Tech University Michelle Pearson, Texas Tech University

ABSTRACT

The majority of students in CIDA-accredited programs today belong to Gen Z. As "digital natives" the experiences of this generation are unique in that they are the first generation to never have experienced life without the internet (Turner, 2015). Thus, one might assume that this generation of college students would be particularly well-equipped to transition to online education, as was necessary with the onset of the COVID-19 pandemic in the U.S. in March 2020. However, successful remote teaching and learning require more than technological competence. This presentation examines the challenges and opportunities afforded by remote modes of instruction through the lens of student motivations, specifically among Gen Z college students. A literature review of intrinsic motivations, learning styles, and cultural differences in the workplace among the generations reveal that Gen Z, as a cohort, demonstrates characteristics similar to, though more extreme than, their Millennial predecessors. Gen Z students are strongly motivated by situations characterized by strong relational support, and they are highly motivated by opportunities to excel, particularly in highly structured and stable circumstances (e.g., Ben-Hur & Ringwood, 2017). Over the course of a typical semester, in which day-to-day experiences reflect expectations outlined in a course syllabus and peer and professor interaction occur regularly in face-to-face settings, meeting the Gen Z student's needs for supportive relationships and stable, structured educational experiences is more attainable. In this presentation, we suggest that despite this generation's overall technological proficiency, the quick transition to remote learning posed a challenge to the valued relationships, stability, and structure that support effective learning. We will present the results of a content analysis conducted on a compilation

of voluntary anonymous student comments from across the university that was published by the Teaching, Learning, and Professional Development Center in April 2020. Students submitted comments in response to the prompt to provide a "shout-out" to faculty standing out as positive examples during the Spring 2020 transition to remote learning. An open-coding procedure was used to identify common themes expressed in students' comments. The most frequently identified themes included professors demonstrating care for students, providing additional structural support for learning (e.g., email reminders of deadlines, annotations on lecture slides, links to helpful YouTube videos), and professor flexibility to accommodate to student needs. Among these themes, the most frequently cited attribute in praise of professors during the COVID transition related to caring. One student reported that their professor made them feel "seen, known, loved, and like part of her family." Particularly for Gen Z students who are motivated by relational attributes like belonging and receiving care, students' perception of professors as caring actually increases their motivation to work and engage in the course (Miller & Mills, 2019). Finally, we will conclude with a discussion of strategies to support the intrinsic motivations of the Gen Z student, particularly as we continue onward with various forms of remote instruction. We will present several suggestions for how to express care to our students, including Zoom poll check-ins and communicating the importance of self-care through stress management techniques. Additionally, we will discuss methods to foster a sense of stability and structure in virtual teaching environments, which is especially critical as we face continued uncertainty in the outside world.

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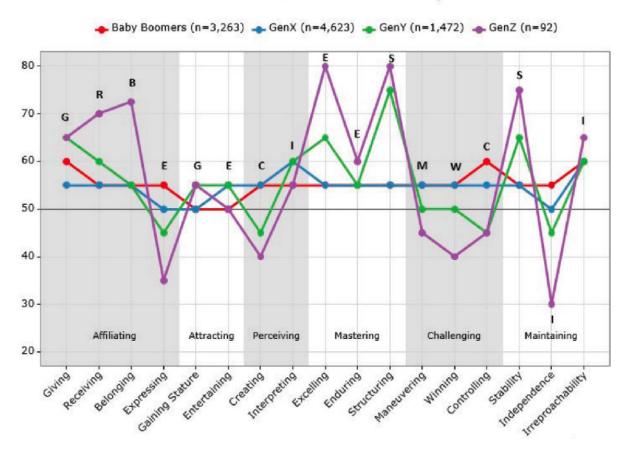
Ben-Hur, S., & Ringwood, D. (2017). Making generational differences work: What empirical research reveals about leading millennials. International Institute for Management Development, 1–4.

Miller, A. C., & Mills, B. (2019). 'If they don't care, I don't care': Millennial and Generation Z students and the impact of faculty caring. Journal of the Scholarship of Teaching and Learning, 19(4), 78–89. https://doi.org/10.14434/josotl.v19i4.24167

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APPENDIX A – INTRINSIC MOTIVATIONS OF GENERATIONS

Individual Directions Inventory



Ben-Hur, S., & Ringwood, D. (2017). Making generational differences work: What empirical research reveals about leading millennials. *International Institute for Management Development*, 1–4.

The Use of Collaborative Virtual Environments in Online Design Education

Luis Mejia-Puig, Oklahoma State University
Tilanka Chandrasekera, Oklahoma State University
Hugo Arango, Universidad Icesi
Doris James Arnot, Universidad Icesi

ABSTRACT

Interior Design is a human-centered discipline that supports the human experience through the development of interior environments. It is the interior designer's task to manipulate multiple environmental factors such as lighting, color, ergonomics, and spatial features to enhance human behavior. Previous research on the effect of color on interior environments has shown it can affect individuals in many ways (De Korte, Kuijt, & Van Der Kleij, 2011). Furthermore, research has shown that the "openness" or "closedness" of an environment may affect creativity (Minas, Dennis, & Massey, 2016). Additional factors such as visual saturation has also been shown to effect human behavior (Ceylan, Dul, & Aytac, 2008). Therefore, different spatial attributes can affect creativity and human behavior within that specific environment (McCoy, & Evans, 2002). The COVID-19 pandemic has changed the way interior design is taught. Social distancing has changed human interaction and educational institutions have been forced to move their instruction online. Team collaboration and physical exchange are critical components of design education (Tucker, 2017). Even though these challenges affect all disciplines, new opportunities arise for improvement and change. This study explored multiple factors affecting creativity in Collaborative Virtual Environments (CVE). Virtual environments can move in a continuum between hyper-reality and hyper-virtuality, where the former behaves similarly to the real world and the latter dismisses the restraining laws of physics (Kalay, 2004). Seven CVE's were designed and used for online design education. Forty-eight design students from two different universities in two countries teamed-up to solve social distancing issues related to the COVID

pandemic through environmental design. Student teams engaged through the CVE's created using Mozilla Hubs. This platform allows participants to use avatars and behave similarly to a real environment. However, participants can engage in activities such as flying or sharing information in midair as well. Three main variables: color, openness, and visual saturation, were used in developing different CVE's. A pre-test questionnaire, including demographic and learning preference questions, was administered to gather information about the learning characteristics of participants. Afterward, a post-test questionnaire, including visual preference and cognitive load questions, was administered to register aesthetic preferences and cognitive demand from the virtual environment. The outcomes of this study provide information on how CVE's can be designed to better cater to the needs of team members. Moreover, it suggests how color attributes, openness, and visual saturation in virtual environments affect the creative processes in design education. Keywords: Virtual Reality, design education, teamwork, remote collaboration. Collaborative Virtual Environments

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Top 20 descriptors from "Interior Design" keyword search results

Top 20 descriptors from

Top 20 descriptors from "Human Factors" keyword search results

Top 20 descriptors from "Human Centered Design" keyword search results

Frequency

8

7

4

3

3

3

3

2

2

2

2

2

2

2

Percent

3.24

2.83

1.62

1.62

1.62

1.62

1.62

1.21

1.21

1.21

1.21

1.21

0.81

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Descriptors

Teaching_Methods

Higher_Education

Problem_Solving

Student_Projects

Case_Studies

Inquiry

Instructional_Design

Interdisciplinary_Approach

Educational_Technology

After_School_Programs

Course_Descriptions

Educational_Change

Electronic_Learning

Decision_Making

Business_Administration_Educatio

Learning_Activities

Thinking_Skills

Active_Learning

Cooperation

Design

					<u> </u>			
Ran		-		Ran				Ran
k	Descriptors	Frequency	Percent	k	Descriptors	Frequency	Percent	k
1	Interior_Design	67	6.68	1	Foreign_Countries	74	3.59	1
2	Student_Attitudes	25	2.49	2	Teaching_Methods	30	1.46	2
3	Teaching_Methods	22	2.19	3	Human_Factors_Engineering	26	1.26	3
4	Foreign_Countries	19	1.89	4	Educational_Technology	23	1.12	4
5	Student_Projects	18	1.79	5	Higher_Education	19	0.92	5
6	College_Students	17	1.69	6	Student_Attitudes	17	0.82	6
7	Undergraduate_Students	16	1.60	7	Electronic_Learning	16	0.78	7
8	Creativity	12	1.20	8	Questionnaires	16	0.78	8
9	Studio_Art	12	1.20	9	Interviews	15	0.73	9
10	Art_Education	11	1.10	10	College_Students	13	0.63	10
11	Design	9	0.90	11	Statistical_Analysis	13	0.63	11
					Technology_Uses_in_Educatio			
12	Experiential_Learning	9	0.90	12	n	13	0.63	12
13	Problem_Solving	9	0.90	13	Case_Studies	12	0.58	13
14	Questionnaires	9	0.90	14	Models	12	0.58	14
15	Architectural_Education	8	0.80	15	Undergraduate_Students	12	0.58	15
16	Case_Studies	8	0.80	16	Design	10	0.49	16
17	Cooperative_Learning	8	0.80	17	Internet	10	0.49	17
	Interdisciplinary_Approac							
18	h	8	0.80	18	Performance_Factors	10	0.49	18
19	Student_Surveys	8	0.80	19	College_Faculty	9	0.44	19
20	Comparative_Analysis	7	0.70	20	Gender_Differences	9	0.44	20

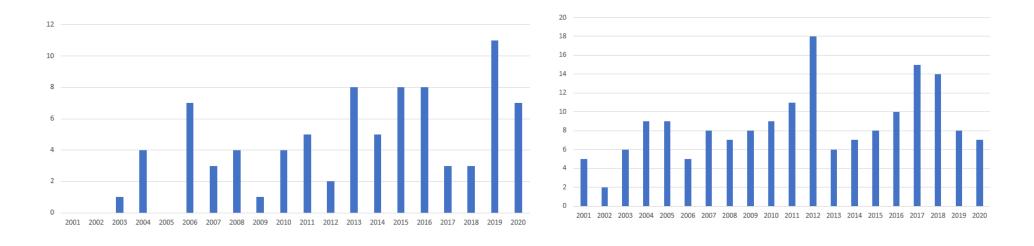
Top 20 descriptors from er Experience'' keyword search results

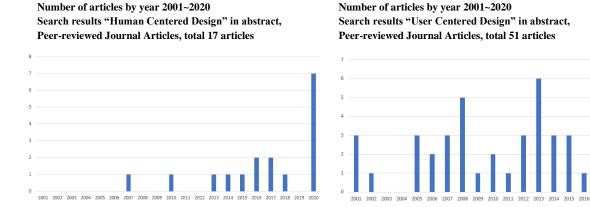
"User Centered Design" keyword search results				"User Experience" keyword search results				
Ran				Ran				
k	Descriptors	Frequency	Percent	k	Descriptors	Frequency	Percent	
1	Design	13	2.16	1	Foreign_Countries	108	3.06	
2	Usability	9	1.50	2	Educational_Technology	50	1.42	
3	Web_Sites	9	1.50	3	Usability	49	1.39	
4	Case_Studies	8	1.33	4	Student_Attitudes	43	1.22	
5	Higher_Education	8	1.33	5	Internet	42	1.19	
6	Instructional_Design	8	1.33	6	College_Students	39	1.11	
7	Internet	8	1.33	7	Questionnaires	39	1.11	
8	Computer_Interfaces	7	1.16	8	Teaching_Methods	38	1.08	
					Technology_Uses_in_Educatio			
9	Student_Attitudes	7	1.16	9	n	38	1.08	
10	User_Needs_(Information)	7	1.16	10	Web_Sites	36	1.02	
11	Graduate_Students	6	1.00	11	Computer_Simulation	33	0.94	
12	Teaching_Methods	6	1.00	12	Computer_Software	32	0.91	
13	College_Students	5	0.83	13	Electronic_Learning	32	0.91	
14	Educational_Technology	5	0.83	14	Academic_Libraries	27	0.77	
15	Feedback_(Response)	5	0.83	15	Design	27	0.77	
16	Foreign_Countries	5	0.83	16	Case_Studies	26	0.74	
17	Undergraduate_Students	5	0.83	17	Handheld_Devices	26	0.74	
18	Users_(Information)	5	0.83	18	Undergraduate_Students	26	0.74	
19	Academic_Libraries	4	0.67	19	Higher_Education	25	0.71	
20	Active_Learning	4	0.67	20	Users_(Information)	25	0.71	

Number of articles by year 2001~2020 Search results "Human Factors" in abstract, Peer-reviewed Journal Articles, total 172 articles

Number of articles by year 2001~2020

Search results "User Experience" in abstract,





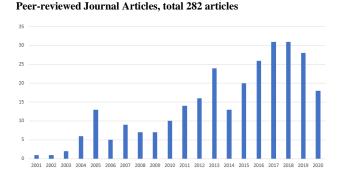
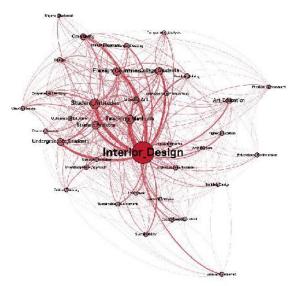
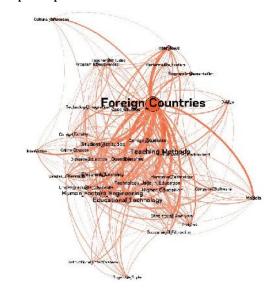


Figure 1. Number of articles by year from the search results

A descriptor network from the 84 peer-reviewed articles that include "Interior Design" in the abstract
Circles = 461 descriptors, lines = 13,264 connections.
Descriptors repeated less than 5 times are removed.

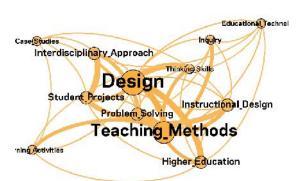


A descriptor network from the 172 peer-reviewed articles that include "Human Factors" in the abstract
Circles = 985 descriptors, lines = 27,848 connections.
Descriptors repeated less than 7 times are removed.



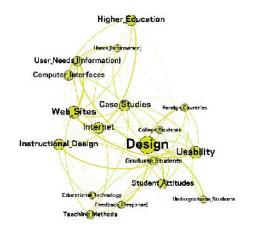
A descriptor network from the 17 peer-reviewed articles that include "Human Centered Design" in the abstract Circles = 177 descriptors, lines = 3,814 connections.

Descriptors repeated less than 3 times are removed.



A descriptor network from the 51 peer-reviewed articles that include "User Centered Design" in the abstract Circles = 358 descriptors, lines = 8,035 connections.

Descriptors repeated less than 5 times are removed.



A descriptor network from the 282 peer-reviewed articles that include "User Experience" in the abstract Circles = 1,044 descriptors, lines = 49,675 connections. Descriptors repeated less than 20 times are removed.



Figure 2. Descriptor networks of each keyword (Interior Design, Human Factors, Human centered Design, User Centered Design, or User Experience)

A descriptor network from the 605 peer-reviewed articles that include Interior Design, Human Factors, Human centered Design, User Centered Design, or User Experience in the abstract Circles = 1698 descriptors, Edges = 95,186 connections.

Descriptors repeated less than 20 times are removed.

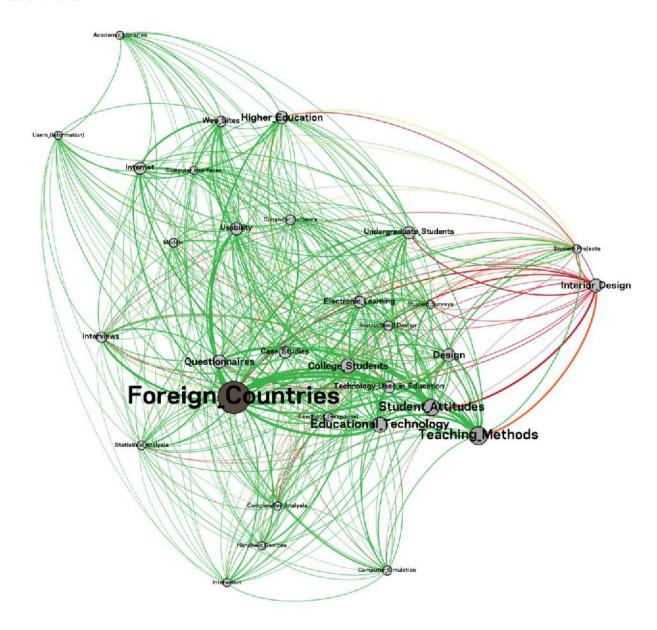
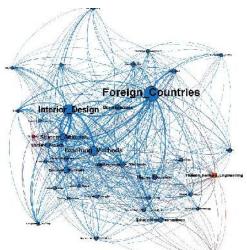
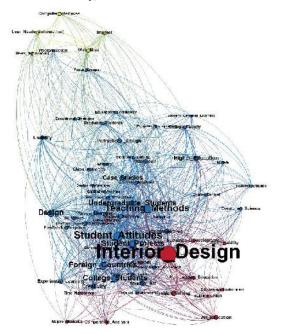


Figure 3. The sum of the descriptor network from the five keyword search results

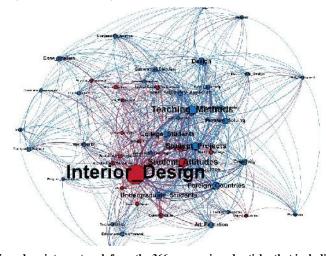
A comparison descriptor network from the 256 peer-reviewed articles that including "Interior Design" or "Human Factors" in the abstract
Circles = 1,178 descriptors, lines = 41,110 connections. Descriptors repeated less than 10 times are removed.
Red = ID only, Orange = HF only, Blue = Both ID and HF



A comparison descriptor network from the 135 peer-reviewed articles that including "Interior Design" or "User Centered Design" in the abstract Circles = 682 descriptors, lines = 21,298 connections. Descriptors repeated less than 5 times are removed. Red = ID only, Light Green = UCD only, Blue = Both ID and UCD



A comparison descriptor network from the 101 peer-reviewed articles that including "Interior Design" or "Human Centered Design" in the abstract Circles = 682 descriptors, lines = 21,298 connections. Descriptors repeated less than 5 times are removed. Red = ID only, Yellow = HCD only, Blue = Both ID and HCD



A comparison descriptor network from the 366 peer-reviewed articles that including "Interior Design" or "User Experience" in the abstract Circles = 1,215 descriptors, lines = 62,938 connections. Descriptors repeated less than 20 times are removed. Red = ID only, Green = UX only, Blue = Both ID and UX

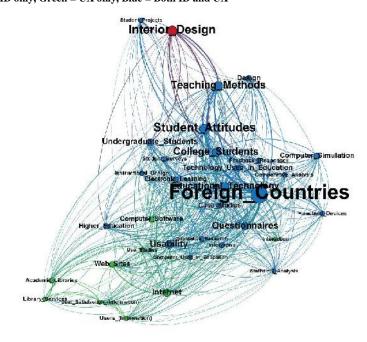


Figure 4. Comparison descriptor networks with "Interior Design" keyword search result and each four keyword search results

Scholarship of Design Research | Pedagogy | Presentation

Toward an Inclusive Curriculum and Pedagogy: Student Perspectives on Identity, Diversity & Interior Design Education

Dr. Elif Tural, Virginia Tech

ABSTRACT

While the lack of diversity in the design industry and education in the areas of race and gender is not a new issue, in the light of the recent protests and cries for racial justice that have swept the country, many in the field of interior design are reflecting on the ways the lack of diversity, and implicit or explicit biases have shaped the profession and its education (Sitz, 2020, Nieminen, 2020). The professional and educational organizations of interior design have also issued statements of solidarity in the past months, while also acknowledging the need for fostering inclusion in the contexts of interior design practice and education, as exemplified by the IDEC's Black Lives Matter Statement (IDEC, 2020). While the systematic research on racial and cultural diversity issues of interior design curriculum and pedagogy is limited, literature emphasizes the necessity to revisit the Eurocentric focus on interior design curricula (Hadjiyanni, 2020; Sohoni, 2009). As Daas, the president of the BAC, underscored, diversity and inclusion are inseparable, and requires intentionally challenging the status quo that has been traditionally set up for the privileged (Nieminen, 2020). The issue encompasses the institutions of design education: While it begins with access to design education, as IIDA President Durst stated, it is also about "culture and making everyone feel welcome" (Nieminen, 2020). This closely relates to acknowledging identities, backgrounds, and lived experiences of students in classroom and studio through course content, pedagogical approaches, and faculty-student communications. With the aim of achieving a more inclusive interior design curriculum and pedagogy, this study explored interior design students' current and past experiences and perspectives regarding their learning, interactions with instructors and peers, and perceptions of diversity and inclusiveness, and solicited their input on how the curriculum can be more inclusive and the interior design teaching can become anti-racist. This qualitative research relied on focus group interviews with students (n=9). The participants were recruited from sophomore, junior and senior levels via email. The purposeful sampling strategy allowed representation of students from diverse backgrounds, also including non-minority students in the conversations. The focus group lasted for an hour, and the recording was transcribed. The data were analyzed using systematic text condensation (STC) method (Malterud, 2012). The findings highlighted the significance of acknowledging the contributions and achievements of designers from diverse backgrounds, as well as the need to critically assess how instructors, textbooks, professional magazines and social media label or identify "good design." The participants also shared anecdotes on professional networking, faculty interactions, teamwork and studio project selections. The educational experiences that made students feel marginalized or excluded in the classroom/studio and study abroad experiences, or, conversely, made them feel that their identities, backgrounds and experiences have been acknowledged are discussed. The study has implications for design educators by providing insights on how to address diversity and inclusion in teaching strategies, as well as discussing strategies on how different stakeholders can participate in this effort.

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Scholarship of Design Research | Practice | Presentation

Defining the Post-COVID Restaurant Interior With an Adaptable Design Mindset

Jacquelynn Ruwwe, Kansas State University Kutay Guler, Kansas State University

ABSTRACT

Restaurants are a key part of modern life, more than a place simply dedicated to the preparation and sale of food, they provide a safe and familiar atmosphere for people to celebrate, socialize, share, and experience. However, shortly after the declaration of national emergency on March 13th on account of the COVID-19 outbreak, a significant number of local restaurants shut down for extended periods due to the rapid spread of the pandemic, attempting to curb the infection rates. By mid-July of 2020, thousands of restaurant owners closed their doors for good due to financial limitations (Severson & Yaffe-Bellany, 2020). Restaurants across the nation that have not gone out of business have adopted new precautions and protocols of social distancing, contactless payments, frequent sanitization, spatial reconfiguration, and physical barriers such as screens and acrylic partitions (National Restaurant Association, 2020). Restaurant owners have exhibited ingenuity regarding the implementation of these precautions such as self-serving curbside pickup and ghost kitchens (Hand & Reinstein, 2020), and many other solutions are waiting to be uncovered, organized, and documented. On the other hand, a paradigm shift is imminent regarding the design of restaurant spaces, as it is widely acknowledged that another virus outbreak might happen anytime. This will require a rapid response and adaptation to the changing conditions as quickly as possible. The implementation of adaptable design principles might provide a viable answer. In the context of interior design, adaptable design can be defined as certain designed components being changeable/modifiable as a response to external events or people, with the addition of products having the adaptability of different spatial functions (Lelieveld et al., 2007). This concept of adaptable design can be implemented into restaurant interiors in a way that the space can be modified to accommodate restrictions regarding social

distancing and occupancy limitations without creating financial stress on restaurant owners. With a specific focus on the principles of adaptable design, this study addresses the following research question "How can post-COVID restaurant interiors be redefined to address emerging safety concerns, satisfy shifting user expectations, and minimize negative impact on business." The data was collected through a series of semi-structured interviews conducted with 16 restaurant managers/owners of local (-redacted-), regional (-redacted-), and metropolitan (New York, NY) businesses. The interviews were conducted over Zoom. The resulting recordings were orthographically transcribed and non-verbal behavior indicators such as engagement, agreement, or disinterest and notes of the interviewer were also added. Transcriptions were interpreted in accordance with the iterative thematic analysis method outlined by Braun & Clarke (2006). Based on the findings, a design guideline for post-COVID restaurant interiors was developed. The guideline aims to improve occupant safety, user experience/satisfaction, and business profitability. It is expected that the proposed guideline will help businesses prepare for the inevitable next pandemic, react and adapt quickly so that the overall negative impact can be minimized.

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Scholarship of Design Research | Practice | Presentation

Design Mentorship: The Mentors' Perspective

Amy Huber, Florida State University

ABSTRACT

Literature suggests that mentorship may be an effective tool in mitigating workplace attrition by offering social support mechanisms and enhancing employee wellbeing (Kutsyuruba, Godden, & Bosica, 2019). Moreover, mentors play a central role in transferring institutional knowledge, in turn, helping to prepare junior staff (Allen, 2003). While research suggests a range of benefits from the perspective of the protégé, fewer inquiries have examined mentorship dynamics from the standpoint of the mentor (Allen, 2007). Moreover, Wanberg, Welsh, and Hezlett (2003) noted that the relationship between organizational culture and mentorship dynamics needs further inquiry. In her seminal book, Kram (1985) identified three organizational conditions that foster mentorship (i.e., free and open communication, a mentor's interpersonal prowess, and an organizational reward system that prioritizes long-term outcomes). Such that, reward systems prioritizing short-term and bottom-line results over human capital development can stymie mentorship culture (p. 161). This study aimed to harness the mentors' perspective to better understand the situational contexts within design firms that support or hinder the provision of both formal and informal mentorship to junior employees. Methods The study employed a convergent-mixed methods design. As indicated in Table 1, eight interviews and 63 surveys were collected from a sample of senior-level interior designers across the United States during the initial COVID-19 outbreak (March & April 2020). All interviewees were working in firms with formal mentor programs, as were over half of the survey respondents. Findings The most commonly cited firm culture-orientations would be considered as fostering the provision of mentorship, according to Kram's framework. These include being driven by a common purpose (denoted on the survey as socially responsible, tolerant, and compassionate), and a culture of caring, which was described as relationship-oriented, welcoming, and supportive. Conversely, less frequently cited were orientations of being ordered (i.e., structured, ordered, and

methodical), and results-driven (Table 2). Formal Mentorship Interviewees generally characterized their firms' formal programs positively, with terms such as collaborative, interdisciplinary, future-focused, organic, and entrepreneurial. Yet, the reported success of these codified programs was mixed, with some characterizing the programs as contrived or forced, or noted poor alignment between themselves and their designated protégés. Informal Mentorship Participants described a wide array of features and initiatives aimed at creating informal mentorship experiences (see Table 3). These included project-based, vertical teams, and an organizational value system that prioritizes leadership, learning, inquiry, and sharing. That said, participants pointed out shortcomings, and described a range of barriers that limited their ability to maintain mentor- protégé relationships, including time pressures and mentee-related issues (see Table 4). Taken together, this study offers preliminary, but potentially important insights into the theoretical and pragmatic dynamics of design mentorship. The implications of which can be used to guide design firms' mentorship programs and incentives in the future.

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Table 1. Participant Characteristics

T .	•	D .		
Inter	view	Part	1C1	pants

66-70

Interview Participants		
Category	Frequency	Percentage
Gender Identity (n=8)		
Female	5	62.5
Male	3	37.5
Title (n=8)		
Senior Designer, Interior Designer, or Architect	1	12.5
Design Director	1	12.5
Associate Principal	1	12.5
Vice President	1	12.5
Principal/Owner	4	50%
Years of Experience (n=8)		
11-20	3	37.5
21-30	4	50
More than 30	1	12.5
Firm Size (n=8)	-	
More than 100 designers	8	100
11010 than 100 designers	J	100
Survey participant characteristics		
Category	Frequency	Percentage
Gender Identity (n=63)	1 requeriey	1 creeninge
Female	49	77.8
Male	11	17.5
Non-binary	1	1.6
Prefer not to Answer	2	3.2
Title (n=63)	<u> </u>	J.L
Designer, Interior Designer, or Architect	15	23.8
Senior Designer, Interior Designer, or Architect	13	20.6
Design Director	13 9	14.3
	9	14.3
Project Manager Principal/Owner	9 14	14.3 22.2
Other	3	4.8
*Other included: Combination of Project Manager and Senior Designer, Studio	Leaaer, & Vic	e r resiaent
Years of Experience (n=63)	2	4.0
Less than 5	3	4.8
6-10	16	25.3
11-20	24	38.1
21-30 Manual and 20	9	14.2
More than 30	11	17.4
Firm Size (n=63)	_	= 0
Less than 20 designers	5	7.9
21-50 designers	16	25.4
51-100 designers	15	23.8
More than 100 designers	27	42.9
Average Work Week (n=63)		
Less than 35	1	1.6
36-40	14	22.2
41-45	24	38.0
46-50	17	26.9
51-55	0	0
56-60	4	6.3
61-65	1	1.6
(6.70)	2	2.1

3.1

Table 2. Firm culture-orientation scores

Firm Culture-orientation	α	Min.	Max.	Mean	Std. Dev.	
Purpose	.59	4.33	7.00	5.95	.71	
Caring	.74*	3.00	7.00	5.83	.92	
Safety	.61	3.00	7.00	5.13	.84	
Learning	.75*	2.00	7.00	4.79	1.15	
Enjoyment	.66	1.67	6.67	4.30	.98	
Results	.62	1.33	6.33	4.30	1.12	
Order	.81*	1.33	5.67	3.47	1.03	
*Indicates acceptable internal consistency						

Table 3. Most commonly cited informal mentorship initiatives or incentives

Organizational features	Description and Subthemes
Opportunities for knowledge exchange embedded within	Vertical project teams
work processes and structures	Physical Proximity
	Project-related charrettes
	Post-mortem quality assurance reviews of projects
Organizational culture characteristics	Enculturating a value system that prioritizes leadership, learning, inquiry, and sharing
Top-down encouragement or mandates aimed at mentorship	Firm leadership encouraging, or mandating, either senior- staff to share down, or junior staff to seek out mentorship
Scheduled Performance Reviews (annually, semi- annually, or monthly)	Offering transparent goal-orientated reviews of staff
Creating opportunities for exposure, learning, an	nd socialization
Creating Exposure Opportunities	Organizing affinity-based groups or special interest initiatives, wherein junior staff can share their skills and talents
Facilitating learning and expertise initiatives	Providing continuing education and focused initiatives, employee led activities, or establishing content area expert to share knowledge
Facilitating internal informal social events	Hosting events such as happy hours, lunches, and coffee breaks to facilitate conversations
Facilitating outside collaborations and community engagements	Pairing with outside businesses, non-profits, and schools to share knowledge, as well as host events and burgeoning designers.
Facilitating Mentor-focused Events	Events associated with pairing senior and junior staff in mentor relationships, such as "Mentoring in May", or "Mentoring Minglers"
Facilitating open forums on special topics	Hosting discussion forums on topics such women in design leadership
Financial incentives	
Funding Small-Scale Financial Incentives	Paying for lunches, coffee, and other small tokens to facilitate engagements between senior and junior staff.

Table 4.

Mentorship barriers as reported on free-response items

Theme	Quantitative			
	Responses	from survey free responses & interviews		
Time & Work Pressures	95.2%	Time limitations		
Work Life Balance	48.4%	Productivity pressures (i.e., billable time)		
		Project deadlines & client priorities		
		Balancing firm responsibilities		
		Distractions		
		Multiple mentees		
		Work-life balance		
Mentee-related Issues	58.1%	Lack of:		
		Gratitude		
		Desire		
		Initiative		
		Self-Awareness or perceived need		
		Resourcefulness		
		Respect for time limitations		
		Fear of exposure (i.e., vulnerability)		
Mentor Preparedness	43.5%	Lack of engagement		
		Fatigue and Lack of energy		
		Lack of teaching skills		
		Knowledge of whom might benefit		
Organizational Issues	30.6%	Lack of structured mentorship program		
Lack of Incentives	20.9%	Unclear expectations		
Leadership Support	11.2%	Misalignment of organizational values		
		Too few senior staff to serve as mentors		
		Lack of resources		
Comm. & Relationship	18.7%	Physical Distance		
Dynamics		Confidentiality		
		Relationship Quality		
		Issues of Trust		
		Personality		
		Navigating relational boundaries		
		Tacit knowledge transfer		
		Physical disabilities		
		Open Climate		
		Goal misalignment		

Scholarship of Design Research | Practice | Presentation

The Role of Interior Design in Promoting Health, Safety, and Well-being in a Pandemic Era

Dr. Abimbola Asojo, Interior Design, College of Design Thomas Fisher, University of Minnesota, College of Design Virajita Singh, University of Minnesota, College of Design Hoa Vo, University of Minnesota, College of Design, Interior Design

Jamie Piatt, University of Minnesota, College of Design, Interior Design

Jianzhuo Dong, University of Minnesota, College of Design, Interior Design

ABSTRACT

COVID-19's devastating impact globally and in the United States with over 200,000 deaths as of September 2020 and the limited studies about the virus spread in interior spaces, highlights the need for more research about the interior built environment. Current research shows a minimal focus on how COVID-19 spread inside buildings where in-person interactions between occupants take place (Prussin et al., 2020). For instance, airborne transmission of viruses in indoor environments is significant yet neglected by many authorities in their guidelines for health, safety, well-being during the pandemic (Morawska & Milton, 2020). Zuo and MaloneBeach (2017) study of assisted living facilities emphasize that indoor air quality significantly impacts occupants in the built environment and design strategies should aim to improve ventilation. The current global pandemic is an opportunity for the interior design discipline to play an important role in addressing this limitation in literature and provide recommendations for limiting airborne transmissions together with sanitizing common surfaces, reconfiguring space planning, and improving ventilation (University of California - Davis, 2020). Our interdisciplinary research team at a land-grant University collaborated with a local County to co-envision interior design strategies for three libraries and two government buildings in

response to the pandemic. An internal grant from the University supported this participatory design process. An extensive literature review process and multiple meetings with County staff over a five month period resulted in both short- and long-term interior design recommendations to mitigate the risk of COVID-19 spread in indoor environments. The short-term recommendations focused on service redesigns that can be implemented as the County shifted out of the stay at home order and the community returns to the public-facing buildings. The longterm recommendations focused on interior design strategies that can be implemented to futureproof buildings in a post-COVID era and provide models for other Counties. Overall, in terms of the interior space planning, physical barriers formed by furniture pieces and systems were used to maintain the required 6-feet separation (Figure 1 and 2). For indoor circulation, one-way traffic flows formed by stanchions and floor decals were used to minimize congestions and reduce person to person contact. Artificial lighting and daylighting strategies enhanced users' visual and spatial experience (wayfinding) as well as the safety and cleanliness of spaces (UV lighting for germicidal disinfection). Easily cleanable furnishing without seams, cracks and materials that inhibit the spread of germs with antibacterial and antimicrobial properties were recommended. Touchless door handles and restroom faucets were recommended to mitigate the spread of diseases (Figure 3). Easy to clean seamless flooring, plexiglass dividers to provide safe spaces (Figure 4), increasing outdoor and indoor ventilation, improved air filtration and signage to help wayfinding and shape behavior were other interior design recommendations. This presentation will highlight our collaborative participatory design efforts that resulted in shortterm and long-term recommendations focused on public health and interior space planning considerations to promote health, safety, and well-being for the County's diverse user groups of young children, adults, elderly and vulnerable populations in a pandemic era (Figure 5).

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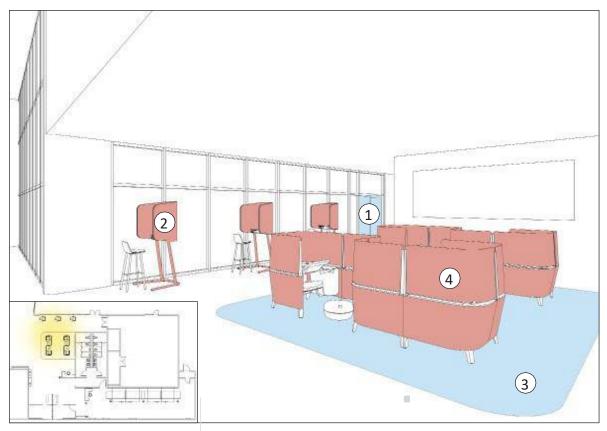
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FIGURE 1: SEATING AREA SOLUTIONS



- 1. Place seating areas near natural light and access to outdoor spaces to provide users with outdoor seating options and the ability to bring in outside air when possible.
- 2. Utilize physical barriers between seating in the form of furniture pieces and systems.
- 3. Flooring patterns and material changes can indicate user traffic and space usage. A different flooring in seating areas provides differentiation of space and separates traffic flow from seated users.
- 4. Space users at least 6 feet, preferably more, from one another.

FF&E AND LIGHTING

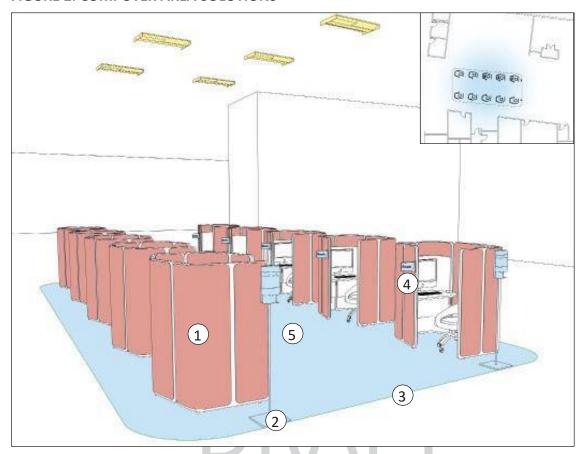


Steelcase | Brody WorkLounge Brody Work Lounge (Source: Steelcase.com)



Peter Pepper | iBooth iBooth (Source: PeterPepper.com)

FIGURE 2: COMPUTER AREA SOLUTIONS



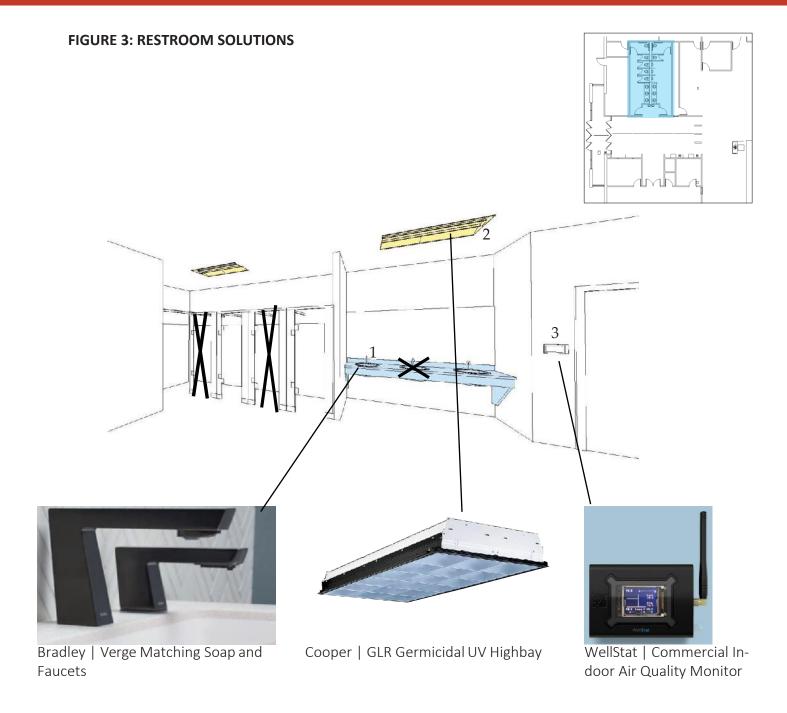
- 1. Utilize physical barriers between computer stations in the form of furniture pieces and systems.
- 2. Install hand sanitizing stations throughout computer area.
- 3. Flooring patterns and material changes can indicate user traffic and space usage. A different flooring in the computer area provides differentiation of space and separates traffic flow from other library users.
- 4. Install numbered signage on computer stations. This signage could include cues for the pod's occupancy so users know which pods are available for use.
- 5. Between lines of computer stations include wide travel path and indicate a one-way traffic pattern.

FF&E AND LIGHTING





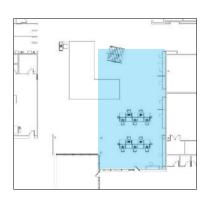
Orangebox | Coppice Work Pod Coppice (Source: Orangebox.com)



ADDITIONAL INFORMATION

- Provide automatic door openers, hands-free door hardware, or proximity sensors.
- Install touchless operators for faucets, soap dispensers, and paper towel dispensers.
- Use alternating stalls to limit the number of users and support social distance.
- Replace or modify stalls and partitions extending to the floor to mitigate transmission.
- Advance HVAC system and increase the frequency of air flushing to dilute indoor air.
- Place signage/posters reminding people to wash their hands.
- Provide hands-free trash receptacles.
- 1 (left). Verge Soap and Faucet. Source: ©2018 Bradley.
- 2 (middle). GLR Germicidal UV Louvered Recessed. Source: ©2020, Butler Supply, Inc.
- 3 (right). WellStat Commercial Indoor Air Quality. Source: ©2020 iESMach, LLC.

FIGURE 4: PC LAB SOLUTIONS



Stand Up Stations |

Customizable Hand Sanitizer Stations



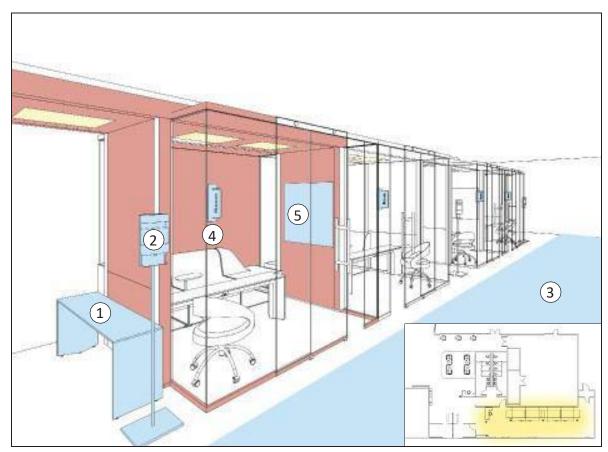
Branch | Bench Panels

ADDITIONAL INFORMATION

Moss | Transparent separate barriers

- Replace shared equipment, such as headphones.
- Mitigate desks that would allow people to face to face.
- Maintain physical distancing guidelines between individual desks.
- 1 (left). Transparent Separation Barriers. Source: ©2020 MOSS HOLDING COMPANY. Figure
- 2 (middle). Bench Panels. Source: ©2020 Branch.
- 3 (right). Customizable Hand Sanitizer Stations. Source: ©2020 Stand Up Stations.

FIGURE 5: SERVICE CENTER SOLUTIONS



- 1. Include spaces to provide young visitors with activities that will occupy them and avoid unnecessary surface contact.
- 2. Install hand sanitizing stations throughout service center.
- 3. Utilize out-of-building queuing systems (text alerts, No Wait Inside app, etc.) in order to maintain wide open walkways for proper social distancing.
- 4. Install numbered signage on meeting pods. This number can be indicated in text alerts so visitors can report directly to the proper meeting pod and avoid waiting in line or asking for further directions.
- 5. Include telecommunication capabilities within meeting pods to allow for video meetings when in-person meetings are not necessary.

FF&E AND LIGHTING



Cooper | GUC Germicidal UV Undercabinet GUC (Source: CooperIndustries.com)



Steelcase | IRYS Meeting Pod IRYS Meeting Pod (Source: Steelcase.com)

Scholarship of Design Research | Practice | Presentation

Uncovering Hidden Dimensions of Lighting Assessment Through a Computer Simulation

Daejin Kim, Cho Yongyeon, Iowa State University

ABSTRACT

Many older adults want to remain in their homes and community independently and safely as long as possible (Keenan, 2010). However, as people experience physical and psychological difficulties over time, the residential environment may fail to support older adults' changing needs (Golant, 2011). Especially, reduced vision negatively affects many tasks of everyday life, which cause limited activities, falling, depression, anxiety, and losing a sense of control. Much research emphasized that interior space should provide more bright light to achieve the same level of visual as young people, and to safely perform routine daily activities (Boyce, 2014). However, many older residents are not exposed to appropriate lighting levels due to poor lighting system (McMurdo et al., 2000). Also, most previous studies measured the lighting condition of older adults' homes during the daytime, but this assessment has a critical limitation to fully understand a full spectrum of the lighting condition due to ever-changing daylighting. Thus, the main purpose of this research is to explore lighting conditions in senior housings as well as analyze different illuminance levels throughout the day using a computer simulation. The research team visited senior housings in two large retirement communities in the Midwest and examined older residents' perceptions and behaviors related to lighting in their homes. The types of lighting features and illuminance of the lighting systems were also measured in two different lighting conditions: normal condition (i.e., the typical setting/use pattern of the resident) and full capacity condition (i.e., all lighting possible was utilized). As shown in Appendix Figure 1, the lighting simulation was conducted in order to examine various issues related to lighting in various conditions (i.e., day vs. night, winter vs. summer, and low Visible Lighting Transmittance (VLT) of window screen vs. high VLT of window screen). 3Ds Max and Vray

were used for modeling and rendering. The number of research participants was 58 senior residents (average age = 83.74), and more than 68% of the research participants were female. Thirty-three residents were living alone, and thirty-two residents have at least one vision impairment. The lighting assessment showed that the lighting levels measured under these two conditions significantly differed. The lighting levels in a normal condition were significantly lower than the recommended levels, while lighting levels in the full capacity condition provided appropriate illuminance levels. The qualitative analysis showed that one-third of residents were dissatisfied with the lighting system in their home. For example, 23 residents described that there is not enough lighting to read a book or newspaper and a lack of natural lighting in their living room. The lighting simulation analysis (see Appendix Table 1) showed that there is a significant difference in the lighting levels depending on the time of day and VLT level. For example, a room that has a window(s) showed a significantly low level of lighting illuminance during night time, even though the lighting levels were satisfied in the daytime. However, there is no significant difference in the lighting levels in different seasons. Through the lighting simulation, the researcher could identify a level of brightness and number of lighting sources for each room to support senior's daily activities in various conditions. The research findings provide empirical evidence regarding lighting preferences, needs, and challenges in senior housing. Through this methodology, this research will answer the question of how to address these lighting problems (e.g., inconsistent illuminance level).

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APPENDIX

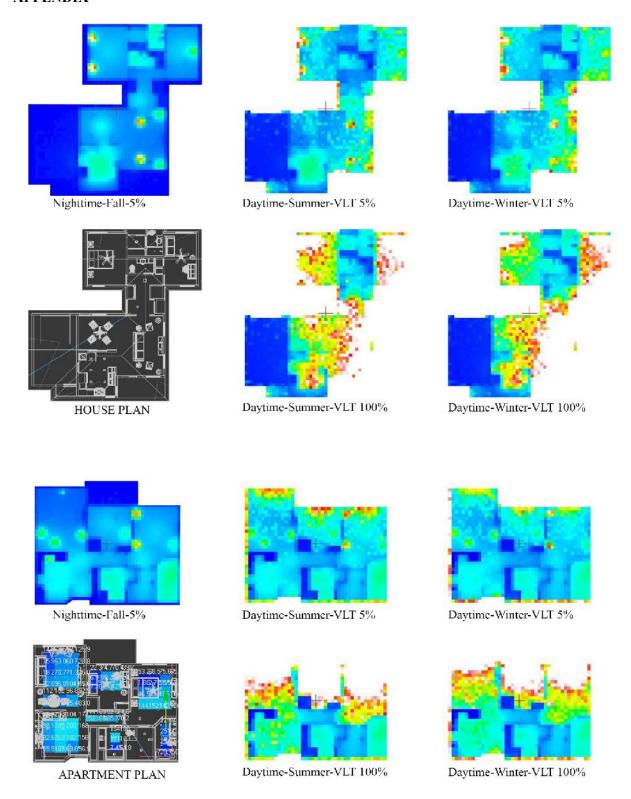


Figure 1. Visual results of lighting simulation for a house plan and an apartment plan

Table 1. Lighting simulation results in numeric values for a house plan and an apartment plan

		Но	use Plan					
Test Default (Daytime - Fall - VLT 5%)								
	Living	Kitchen	Dining	Master	Bathroom	Hallway	Office	
Test Default mean (Lux)	230.97	345.33	237.44	150.33	304.17	109.60	209.75	
Assessment mean (Lux)	242.55	330.91	233.60	153.48	298.83	114.10	205.13	
Percent Error (%)	-4.78	4.36	1.65	-2.06	1.79	-3.94	2.25	
Nighttime - Fall - VLT 5%								
Test mean (Lux)	83.04	139.61	217.78	64.06	304.00	82.83	60.07	
Test Default mean (Lux)	230.97	345.33	237.44	150.33	304.17	109.60	209.75	
Percent Error (%)	-64.05	-59.57	-8.28	-57.39	-0.05	-24.42	-71.36	
		Daytime - I	Fall - VLT 1	00%				
Test mean (Lux)	2858.83	1502.67	1252.00	1605.67	304.17	570.17	2653.42	
Test Default mean (Lux)	230.97	345.33	237.44	150.33	304.17	109.60	209.75	
Percent Error (%)	1137.77	335.14	427.28	968.13	0.00	420.23	1165.04	
	I	Daytime - Su	ımmer - VL	Т 5%				
Test mean (Lux)	168.08	264.91	236.22	124.13	304.17	93.98	200.84	
Test Default mean (Lux)	230.97	345.33	237.44	150.33	304.17	109.60	209.75	
Percent Error (%)	-27.23	-23.29	-0.51	-17.42	0.00	-14.25	-4.25	
		Daytime - V	Vinter - VL	Γ 5%				
Test mean (Lux)	219.28	257.68	233.00	98.40	304.33	92.37	151.58	
Test Default mean (Lux)	230.97	345.33	237.44	150.33	304.17	109.60	209.75	
Percent Error (%)	-5.06	-25.38	-1.87	-34.54	0.05	-15.72	-27.73	
		Apart	ment Plan					
	Test I	Default (Day	time - Fall -	VLT 5%)				
	Living	Kitchen	Dining	Master	Bathroom	Hallway	Office	
			244 45					
Test Default mean (Lux)	245.31	319.17	241.17	158.58	288.50	117.80	202.17	
Test Default mean (Lux) Assessment mean (Lux)		319.17 330.91	233.60	158.58 153.48	288.50 298.83	117.80 114.10		
	245.31						202.17	
Assessment mean (Lux)	245.31 242.55	330.91 -3.55	233.60	153.48 3.33	298.83	114.10	202.17 205.13	
Assessment mean (Lux)	245.31 242.55	330.91 -3.55	233.60 3.24	153.48 3.33	298.83	114.10	202.17 205.13	
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Assessment mean (Lux) Percent Error (%) Test mean (Lux) Test Default mean (Lux) Percent Error (%) Test mean (Lux) Test Default mean (Lux)	245.31 242.55 1.14 85.82 245.31 -65.02 2995.06 245.31 1120.92	330.91 -3.55 Nighttime 310.83 319.17 -2.61 Daytime - I 586.00 319.17 83.60	233.60 3.24 - Fall - VLT 232.83 241.17 -3.46 Fall - VLT 1 826.50 241.17	153.48 3.33 5% 95.28 158.58 -39.92 00% 1796.58 158.58 1032.90	298.83 -3.46 286.83 288.50 -0.58 322.67 288.50	114.10 3.24 117.22 117.80 -0.50 189.32 117.80	202.17 205.13 -1.44 68.59 202.17 -66.07	
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Scholarship of Design Research | Practice | Presentation

Value of Pre- and Post-Occupancy Evaluations for Measurable Changes in Workplace Satisfaction and Importance of IEQ

Dr. Suyeon Bae, University of Missouri - Columbia Caren Martin, Martin & Guerin Design Research, LLC.

ABSTRACT

Introduction Post-occupancy evaluations (POEs) are considered essential to understand the influence of interior space on workers' satisfaction, productivity, health, and retention. However, without data from a pre-design occupancy evaluation (PDOE), those POE influences cannot be quantified, leaving the design team without the evidence necessary to justify future design decisions. This study consisted of both a PDOE and POE to examine occupants' well-being and responses to indoor environmental quality (IEQ) factors such as acoustic, thermal, and lighting conditions. IEQ criteria importance was also investigated to determine what features of the interior environment should be studied to improve employees' satisfaction, work performance, and health. Methodology The online self-administrated survey was provided to employees before and after renovation of their corporate work environment. The PDOE (n = 56) was conducted in March 2018 followed by a POE (n = 64) in February 2020, one year after moving into their renovated space. Occupants' demographics (see Table 1) indicate that the physical environment changes of the workspace between the PDOE and POE were significant. The majority of occupants (78.1%) in workspaces with high partitions at the time of the PDOE, were in workspaces with low partitions (78.6%) post-renovation. Also, the POE findings indicate that more occupants had a window nearby their workspace. Occupants also rated their satisfaction with 26 IEQ factors within 12 IEQ overall categories on a Likert-type scale from 1 (very dissatisfied) to 7 (very satisfied) and the importance of each IEQ factor. Findings and Discussion To compare PDOE and POE IEQ satisfaction, t-tests were conducted. POE scores (see Figure 1) indicated occupants were more satisfied with all IEQ factors, except for overall privacy (sound

and visual). While the satisfaction score about their ability to hear desired sound remained the same (M=4.41), the satisfaction scores about the overall acoustic quality and their ability to limit undesired sound slightly dropped from the PDOE (M=3.36 and M=3.07). Overall privacy satisfaction may be hindered by the lowering of workspace partition height and space planning. Significant improvements were found in overall appearance ($\Delta M=2.65$), followed by overall daylighting conditions ($\Delta M=1.99$), and amount of daylighting ($\Delta M=1.97$). Lowering partitions that increased exposure to daylight and proximity to a window may explain these improvements. Regarding the importance of IEQ factors, overall acoustic quality and overall privacy were the most important IEQ factors for both PDOE and POE (see Figure 2). It was also found that the more important occupants ranked IEQ criteria, the more likely they were to be critical about how they ranked them. For instance, occupants' responses to the POE survey indicated that they were more satisfied with thermal conditions and also ranked them as of greater importance then they had previously (i.e., PDOE). On the other hand, occupants were more satisfied with overall electric lighting ($\Delta M=1.80$) and overall indoor air quality ($\Delta M=1.68$), though the importance of those IEQ factors decreased. This presentation will outline in greater detail these relationships and the outcomes of design decisions and their influence on specific IEQ factors including knowledge gained from responses to open-ended questions. Conclusion Understanding both the influence of IEQ factors and the impact of their importance on occupants is critical. This study's results are being used by the corporation and design team as benchmarks to improve IEQ conditions for occupants in the continuing renovation of the remainder of this corporate headquarters campus.

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Appendix
Table 1. Occupants' demographic information

		PDOE	PDOE		POE	
		N	%	N	%	
Gender	Male	55	90.2	47	87.0	
	Female	5	8.2	4	7.4	
	Prefer not to disclose	1	1.6	3	5.6	
Age	Under 30	11	18.0	8	15.1	
	31-40	13	21.3	16	30.2	
	41-50	16	26.2	10	18.9	
	Over 51	21	34.4	19	35.9	
Workgroup	Less than 5 years	16	26.2	11	20.4	
tenure	6-10 years	15	24.6	15	27.8	
	11-20 years	18	29.5	19	35.2	
	Over 21 years	12	19.6	9	16.7	
Average	Less than 29 hours	1	1.6	1	1.8	
weekly	30-40 hours	12	19.7	12	21.8	
workhours	More than 40 hours	48	78.7	42	76.4	
Workspace	Enclosed private office	10	15.6	9	16.1	
types	Workstation with low partitions	1	1.6	44	78.6	
	Workstation with high partitions	50	78.1	0	0	
	Workstation with both low and high			3	5.4	
	partitions	2	3.1			
	Other	1	1.6	0	0	
Near a	Yes	25	41.0	36	65.5	
window (~15	No	34	55.7	18	32.7	
ft.)	I don't know	2	3.3	1	1.8	
	Total	64	100	56	100	

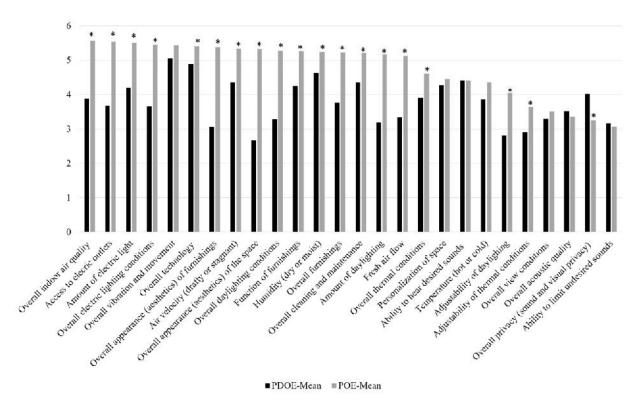


Figure 1. Comparison of PDOE and POE IEQ satisfaction *Note*. * indicates statistical differences (p<0.05).

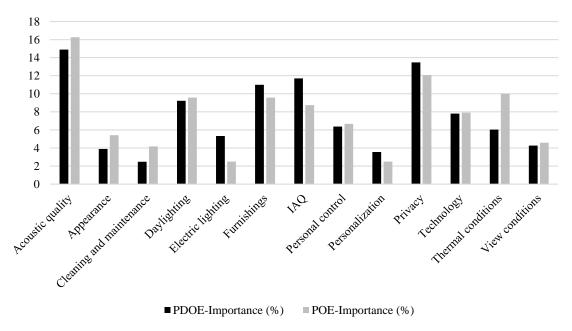


Figure 2. Comparison of PDOE and POE IEQ importance

Scholarship of Design Research | Social and Environmental | Presentation

An Analysis of Interior Design Features of WELL-Certified Workplace Projects

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Sabeen Durrani, Interior Architecture and Built Environment,

Yonsei University
Cherry Kim, Interior Architecture and Built Environment, Yonsei
University

ABSTRACT

Various assessments and certifications to evaluate building design and performances exist in the 21st century. A few years ago, a new building certification program was launched by the International WELL Building Institute (IWBI) called WELL certification (IWBI, 2020). Prior to this program, many building certifications focused on the building itself and its functions (Kim et al, 2015). The WELL certification is known to add more emphasis on building users and their wellbeing compared to other building certifications (Kim & Kim, 2019). This study aimed to characterize interior design features of WELL certified projects and identify common design elements in those projects. Due to the COVID 19, many people began to pay attention to the health and wellbeing in workplaces. This study targeted WELL-certified workplace design projects and explored the characteristics of interior design including space planning features, the use of natural ventilation and windows, and access to nature through biophilic design. The study also looked at any interior design considerations featured in those projects for promoting health and wellbeing of the space users. The research targeted WELL platinum certified projects in the United States and Europe as of June 2020. Although the design projects that this research targeted vary in terms of their size and location, the common design features could be characterized into three main groups: floor plan features, biophilic design features, and design for encouraging space users' to move and exercise. The result highlights the open floor plan of the certified workplace. This floor plan type is expected to utilize natural ventilation within the

spaces. WELL-certified workplace designs also show active use of daylight in their interior spaces. Floor-to-ceiling windows were found in most projects. Their active adaptation of biophilic design was one of the major highlights in WELL-certified workplace design projects. Various biophilic design solutions were presented in the certified projects. It would thus be very useful for interior designers to look at the WELL-certified workplace projects to explore diverse biophilic design solutions. Many certified workplaces offer opportunities for body movement within the workplace. Some projects offer adjustable tables for workers, so they could adjust the table and seating height depending on the users' needs. Some projects offer exercise spaces near the workplace. Many projects highlighted that the stairs are open and closed to the workplace, which encourage space users to use stairs rather than elevators. Under the COVID 19, more attentions have been paid to the promotion of the health in workplace. We expect various examples to show how each project achieved the assessment category would provide practical solutions for interior designers who may be involved in this type of projects in the future.

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2021 IDEC Conference - Presentation

An Analysis of Interior Design Features of WELL-Certified Workplace Projects

Various assessments and certifications to evaluate building design and performances exist in the 21st century. A few years ago, a new building certification program was launched by the International WELL Building Institute (IWBI) called WELL certification (IWBI, 2020). Prior to this program, many building certifications focused on the building itself and its functions (Kim et al, 2015). The WELL certification is known to add more emphasis on building users and their wellbeing compared to other building certifications (Kim & Kim, 2019).

This study aimed to characterize interior design features of WELL certified projects and identify common design elements in those projects. Due to the COVID 19, many people began to pay attention to the health and wellbeing in workplaces. This study targeted WELL-certified workplace design projects and explored the characteristics of interior design including space planning features, the use of natural ventilation and windows, and access to nature through biophilic design. The study also looked at any interior design considerations featured in those projects for promoting health and wellbeing of the space users. The research targeted WELL platinum certified projects in the United States and Europe as of June 2020.

Although the design projects that this research targeted vary in terms of their size and location, the common design features could be characterized into three main groups: floor plan features, biophilic design features, and design for encouraging space users' to move and exercise.

The result highlights the open floor plan of the certified workplace. This floor plan type is expected to utilize natural ventilation within the spaces. WELL-certified workplace designs also show active use of daylight in their interior spaces. Floor-to-ceiling windows were found in most projects.

Their active adaptation of biophilic design was one of the major highlights in WELL-certified workplace design projects. Various biophilic design solutions were presented in the certified projects. It would thus be very useful for interior designers to look at the WELL-certified workplace projects to explore diverse nature-motivated design solutions.

Many certified workplaces offer opportunities for body movement within the workplace. Some projects offer adjustable tables for workers, so they could adjust the table and seating height depending on the users' needs. Some projects offer excercise spaces near the workplace. Many projects highlighted that the stairs are open and closed to the workplace, which encourage space users to use stairs rather than elevators.

Under the COVID 19, more attentions have been paid to the promotion of the health in workplace. We expect various examples to show how each project achieved the assessment category would provide practical solutions for interior designers who may be involved in this type of projects in the future.

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Contrast in the Virtual Environment: Inclusive Design for All Visual Acuity Levels

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ABSTRACT

When the term "inclusive design" is used in the design community, many professionals equate the term to mean that they are designing a project that is compliant with the Americans with Disabilities Act. Interior designers follow these requirements to ensure access to those with physical and cognitive limitations, but the requirements favor those with mobility limitations and only address protruding objects and signage contrast for those with vision limitations (Sokol, 2007). The purpose of this research is to contribute to the body of knowledge for the interior design profession by developing recommendations for designers to use to advance visual inclusion. As the number of people with visual limitations increases rapidly due to the aging population of baby boomers (Akpek & Smith, 2013) it is time to recognize the shortcomings of the ADA 30 years after it was passed into legislation. This two-phase study used quantitative methods to investigate the following research questions: What is the preferred level of contrast in the interior environment for the low-vision and normal-sighted populations? Do contrast levels between wall and floor surfaces correlate with behaviors exhibited within the environment? Does a person with low-vision perceive the interior environment differently than a person who is normal-sighted? Phase I utilized an online survey accessed through Qualtrics. The survey response consisted of low-vision (n=100) and normal-sighted participants (n=100). The survey instrument included 32 questions, with six questions addressing demographics and visual acuity similar to a study by Barstow, Bennett and Vogtle (2011). A five point Likert scale was used for

participants to rank the importance of contrast in the interior environment, with photographs that illustrated the principle in question. Participants were also asked to identify behaviors they exhibited in environments with high or low contrast levels. Phase II's observation study utilized a 3D virtual reality environment with nine different finish combinations categorized by low, medium and high contrast levels. The participants reported preferred contrast levels between floor and wall materials, and the researcher documented exhibited behaviors within each environment through behavior frequency recordings. The behaviors studied included: eye blinking, slowed walking pace, balancing movements, stopping to ask for assistance, refusing to participate, and eye pressing. A total of 34 participants completed the observation, with lowvision (n=17) and normal-sighted (n=17). Results from Phase I and Phase II of the study were consistent and showed that low-vision participants ranked the importance of contrast in the interior environment higher than normal-sighted participants. High contrast environments were preferred by both vision populations. Participants ranked environments with dark walls and floors as the hardest to see in, while environments with dark walls and light floors were ranked easiest to see in. Low-vision participants preferred light floor coverings, and reported discomfort when walking on dark floors. The results also indicate that visually impaired respondents exhibited the highest number of behavioral reactions in low-contrast environments. The results of this study are important because it provides guidance to designers on the appropriate contrast level needed to be inclusive of both normal-sighted and low-vision building occupants. The presentation will define the key issues resulting in the need for this study and provide graphic representations of the data collected and analyzed on this major issue that is facing the interior design profession today. Photos of the study sites and virtual reality environments as well as graphs depicting the behaviors observed will be included in the presentation. Risk factors will be addressed, and design guidelines developed as a result of the study will be shared with attendees for discussion.

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Demographic Information

1. What is your age?

- o 18-25
- o 26-35
- o 36-45
- o 46-55
- o 56-65
- o 66-75
- o 76 or older
- o Prefer not to answer

2. What is your gender?

- o Male
- o Female
- o Prefer not to answer

3. What race do you most closely identify yourself with?

- o Caucasian/White
- o African American
- o American Indian
- o Hispanic
- o Other
- o Prefer not to answer

4. How would you identify your level of visual impairment?

- o Normal (20/20-20/25)
- o Near normal (20/30-20/70)
- o Moderate (20/80-20/160)
- o Severe (20/160-20/400)
- o Profound (20/400-20/1000)

5. What is your low-vision diagnosis?

- o Age-related macular degeneration
- o Diabetic retinopathy
- o Temporal arteritis
- o Corneal transplant
- o Optic Neuritis
- o Optic Nerve Hypoplasia or Nystagmus
- o Central areolar choroidal dystrophy
- o Coloboma or glaucoma
- o Myopic macular degeneration
- o Unknown
- o None
- o Other

Example Survey Instrument Questions- Phase I

6. Please evaluate the importance of these aspects of the interior environment for people with your level of vision.

a. Contrast levels within the interior environment is an important issue for people with your level of vision.

Strongly	Somewhat	Neither agree	Somewhat	Strongly
Disagree	Disagree	nor disagree	Agree	Agree
1	2	3	4	5

b. Contrast levels between wall and floor finishes is an important issue for people with your level of vision.

Strongly	Somewhat	Neither agree	Somewhat	Strongly
Disagree	Disagree	nor disagree	Agree	Agree
1	2	3	4	5



c. High contrast between wall and floor finishes is helpful in aiding a person with your level of vision to accurately perceive the interior environment.

Strongly	Somewhat	Neither agree	Somewhat	Strongly
Disagree	Disagree	nor disagree	Agree	Agree
1	2	3	4	5



d. Medium contrast between wall and floor finishes is helpful in aiding a person with your level of vision to accurately perceive the interior environment.

Strongly	Somewhat	Neither agree	Somewhat	Strongly
Disagree	Disagree	nor disagree	Agree	Agree
1	2	3	4	5

Example Behavior Frequency Instrument for Virtual Reality Observation- Phase II

Participant #:		Observer:	,
Behaviors Observed:			
A- Blinking Eyes	B- Slow down	C- Reaching for/touching the wall	
D- Stopping to ask for a	assistance	E- Avoid/leave the space F	

Behavior Observed	Environment/ Level of	Number of Occurrences	Totals
	Contrast		
A – Blinking Eyes	1. High Contrast	1. High Contrast	1. High
	C. Light Wall/Dark	C	C
	Floor	G	G
	G. Dark Wall/Light Floor		
	2. Medium Contrast	2. Medium Contrast	2. Medium
	B. Light Wall/ Medium Floor	В	В
	D. Medium Wall/Light Floor	D	D
	E. Medium Wall/Dark Floor	E	E
	H. Dark Wall/ Medium Floor	H	H
	3. Low Contrast	A	A
	A. Light Wall/ Light Floor		
	E. Medium Wall/ Medium Floor	E	E
	I. Dark Wall/ Dark Floor	l	1

Note: This is an abbreviated form due to page limitations. All observed behaviors are included on the final behavioral frequency form that will be used during the virtual reality study.

Example Study Environments Ranking form for Virtual Reality Observation- Phase II

Participant #:	 Observer:	

Preferred Contrast Levels:	Wall/Floor Conditions	Participant Comments	Preference Rankings
Rank each study environment in order of preference with 1 being the most preferred and 4 being the least preferred.	1. Light Wall A. Light Wall/ Light Floor B. Light Wall/ Medium Floor C. Light Wall/Dark Floor 2. Medium Wall	1. Light Wall- Comments A B C	1. Light A B C
	D. Medium Wall/Light Floor E. Medium Wall/ Medium Floor F. Medium Wall/Dark Floor	2. Medium Wall D. E. F.	2. Medium D E F
	3. Dark Wall G. Dark Wall/Light Floor H. Dark Wall/ Medium Floor	3. Dark Wall G. H.	3. Dark G
	I. Dark Wall/ Dark Floor	l	l

Example of Study Environments Finishes for Virtual Reality Observation- Phase II

1. Study Environment A (Low-contrast study environment/Lightest wall & lightest floor)

Finish Location	Manufacturer/Style	Color
Wall Finish	Sherwin Williams	SW 7064 Passive
Base Finish	Johnsonite/Tarkett	28 Medium Gray
Floor Finish	Shaw/Minimal	Limit 64515



2. Study Environment B (Medium-contrast study environment/Lightest wall & medium floor)

Finish Location	Manufacturer/Style	Color
Wall Finish	Sherwin Williams	SW 7064 Passive
Base Finish	Johnsonite/Tarkett	28 Medium Gray
Floor Finish	Shaw/Minimal	Verge 64555



3. Study Environment C (High-contrast study environment/Lightest wall & darkest floor)

Finish Location	Manufacturer/Style	Color
Wall Finish	Sherwin Williams	SW 7064 Passive
Base Finish	Johnsonite/Tarkett	28 Medium Gray
Floor Finish	Shaw/Minimal	Fringe 64585



Note: There are nine separate study environments being investigated within the same identical virtual reality room. The environments depicted on this form show the lightest of three wall colors. A medium gray and dark gray wall color are also used along with these same three carpets to create 9 separate study environments.



Virtual Reality Backpack computer and goggle set used during Phase II Observational studies.

Exploration of Human Perceptions to Interiors of a Coffee Shop for Enhancing Social Interactions Using Virtual Reality

Kyoungmee Kate Byun, Northern Arizona University Madison McNeal, Northern Arizona University

ABSTRACT

Background Many researchers have addressed the importance of the community to the human social, emotional, and cognitive experiences (Waxman 2006; Oldenburg1999; Campbell 2014). Socializing in space affects the lives of people positively by creating a sense of community, belonging, and attachment. Thus, environmental psychologists and interior designers have proposed social and physical factors to enhance social interaction in gathering places. However, it does not indicate detailed applications such as what degree and/or level of interior physical factors could have an influence on social interactions. Additionally, present studies have explored participants' perceptions of 2D images of proposed spaces for data collection which is less credible than 3D virtual experiences. In this study, participants will be exposed to 3D virtual coffee shops and their emotional responses to the proposed physical settings will be measured. In order to measure emotional responses, Mehrabian and Russell's model on approach and avoidance behavior is applied (Mehrabian & Russell 1974). According to Mehrabian and Russell, approach and avoidance forces are present in every interpersonal encounter and socialization is derived from approach behavior (Mehrabian & Russell 1974). Emotional dimensions of pleasure and dominance are positive mechanisms for approach behavior; thus, those dimensions are evaluated in this study. Appendix 1: Figure 1. Mehrabian-Russell Model Purpose The purpose of this study is to explore human perceptions towards physical settings and how this can enhance social interactions in gathering spaces. In this study, coffee shops are chosen because of the main activity that occurs within these settings: socialization. Physical

factors of interiors in gathering places for enhancing social interactions have been proposed by many studies, however, it is still unclear as to what degree and/or level of physical factors can be applied in gathering spaces to encourage social interaction. The top three physical factors (e.g., light, furniture, and view to the outside) contributing to active socializing will be generated into 3D virtual coffee shops for participants to experience and answer a questionnaire. As participants experience the 3D virtual coffee shops, they can use their spatial and visual senses to evaluate their emotional dimensions of pleasure and dominance (Likert scale surveys). As a result, the findings will help identify the most pleasurable and dominant settings of interiors with regards to social interaction in coffee shops. Additionally, the validity of VR methodology in measuring emotional responses to interior environments will be proven. Methods A within-subject design using Virtual Reality Six settings of 3D virtual coffee shops are designed for the study. Controlled empirical experiments of 3D virtual coffee shops are conducted in a VR lab at the University. The top three physical factors of interiors are chosen as independent variables from Waxman's suggested top five physical settings for the coffee shop (Waxman 2006). Appendix 2: Table 1: Independent variables and Dependent variables Data collection and analysis Voluntary university student subjects (a defined group of 30 students) of 3 groups are selected to participate in an anonymous experiment and answer 7 point Likert scale survey questions in terms of the feeling of pleasure and feeling of dominance. Likert scale scores will be analyzed for each setting and a repeated-measures ANOVA will be used to evaluate the data to find significant differences for each setting. Implementation As a result, this study will address the design of gathering spaces, especially coffee shops, to enhance social interaction for creating a sense of community, demonstrate 3D virtual reality as a valid means of conducting research of environmental perceptions, and contribute future research in interdisciplinary approach between interiors and environmental psychology.

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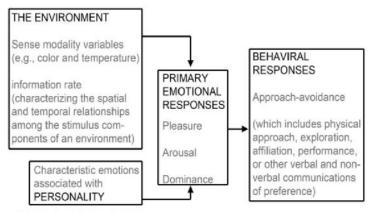
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Source: Mehrabian and Russell 1974.

Figure 1. Mehrabian-Russell Model

Independent	Light		View to outside		Furniture	
variables in 3D	Setting 1.	Setting 2.	Setting 3.	Setting 4.	Setting 5.	Setting 6.
virtual coffee	Natural light	Artificial light	Nature	Artifact	Volumetric	Slim chair
shops					chair	
Dependent	Feeling of pleasure					
variables:						
emotional	Feeling of dominance					
responses						

Table 1: independent variables and dependent variables

Is It Clean? How Do I Know? Exploring Sensory Design in a Post-COVID-19 World

Dr. Jennifer Webb, University of Arkansas Allison Preston, CESO, Inc.

ABSTRACT

As people emerge from various COVID-19 lockdown scenarios and venture into public and semi-public spaces, evaluating the relative safety of these spaces is paramount. Cleanliness, as a determinant of perceived safety, is central to these evaluations and our senses are critical tools used both consciously and unconsciously. Juhani Pallasmaa, in his groundbreaking treatise The Eyes of the Skin (2005), confronts the erroneous supremacy of vision. Pallasmaa states that architecture is "measured equally by the eye, ear, nose, skin, tongue.... Instead of mere vision, or the five classical senses, architecture involves several realms of sensory experience which interact and fuse into each other" (p. 41). Thus, the interior designer can communicate cleanliness and, therefore, safety through sensory cues. This investigation describes the relationship between tactile, olfactory, and aural sensory cues and perceived cleanliness. Howe (2015) explores the role of sensory data in the evaluation of materials, describing the efforts to generalize subjective experiences for the purpose of generalizability, and highlighting the difficulty of these research efforts both in data collection and interpretation. This work highlights both the importance of sensory data as well as its challenges as a design tool. Through a critical literature review, relevant theoretical frameworks are identified, and research findings are synthesized to provide a meta-analysis and highlight future research opportunities. In an ongoing study, more than thirty empirical research studies reveal that sensory factors do impact evaluations of interior environments. Researchers operationalize sensory conditions as the ambient environment, and, in addition to visual aspects such as color and light, include aural, olfactory, tactile, and temperature conditions. A preponderance of studies examines visual

aspects in retail and hospitality settings. A select number of studies include the presence of other people as part of the ambient environment. These findings are relevant in the context of social distancing and COVID-19. Only eight studies identified to date have explored the relationship between sensory factors and cleanliness, and the majority of these studies address healthcare settings. The findings collectively indicate that unpleasant smells (including heavy perfumes) are associated with unclean spaces while light, fresh scents make positive contributions to overall. One study culminated in the perceived cleanliness scale (PCS) for service environments, and the researchers identified positive contributing conditions such as olfactory (e.g., fresh, sterile) and tactile (e.g., warm, smooth) qualities (Vos, et. al., 2019). While the analysis in this literature review is not yet complete, the results highlight the need for additional sensory research in interior environments. The studies identified do not address purposeful use of sensory mechanisms by design professionals. These important characteristics can help to invite and reassure patrons and shoppers that the spaces are clean. In the foreseeable future, interior designers must understand how occupants, or potential occupants, determine the relative safety of public and semi-public destinations.

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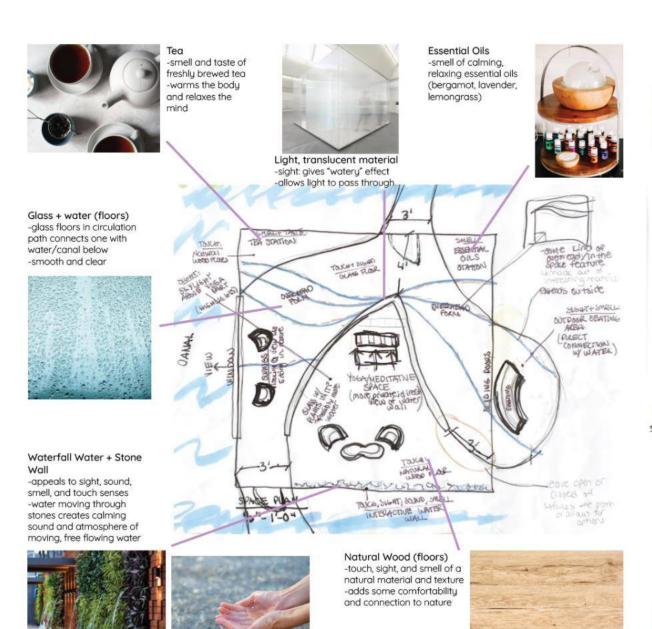
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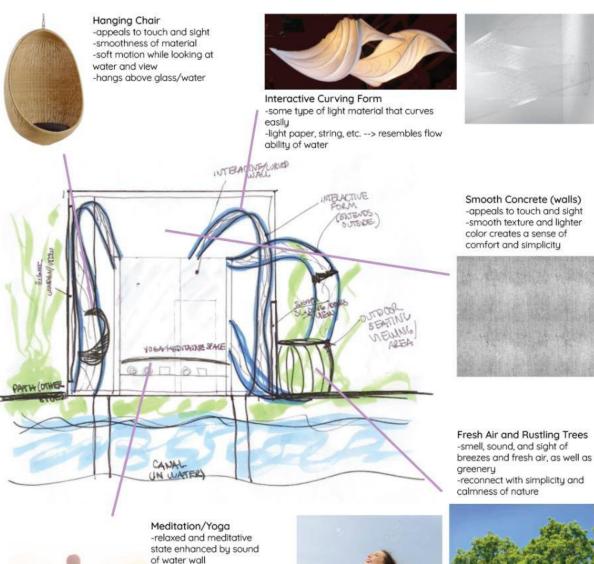
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IPEAS FOR SENSORY INTERACTIONS







Sensory Interaction Ideas

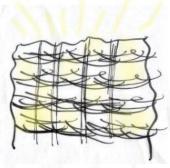
- To communicate water:
 - Sensory bottle
 - Basic snow globe
 - Small tubes that have water in them
- To communicate terracotta:
 - Sand to play with/touch
 - Terracotta pots
- Use of a wicker basket → lets light in through cracks
 - Small water tubes flow throughout basket → give sense of water without making things wet
 - Use of sensory bottle or snow globe to portray water - pick up and shake
 - Terracotta placed near/interacts with resin to highlight contrast
 - Cartridges that record sounds?
- Use of small instruction tags to direct user with how to interact with the materials

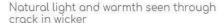


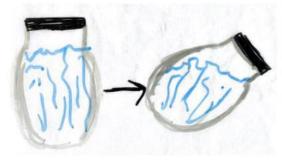




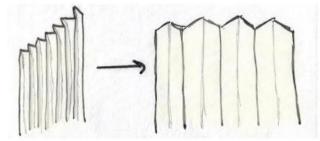
Sensory Interaction Ideas



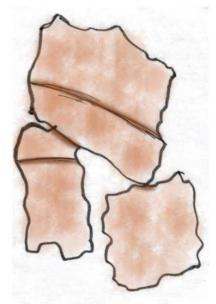




Shake to hear and see tranquil movement of water



Pick up and play with folded paper → lightness (weight) and with natural light



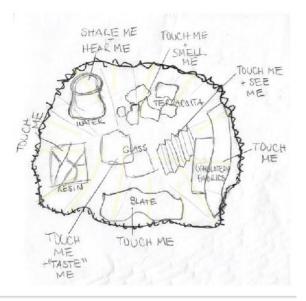
Touch undulating curves of terracotta; smell earthiness of terracotta

Sensory Interaction Ideas

- Light coming in through crocks in wicker
- Involves all sense (louch, smell, sight, hearing, and abstract taste
- Use of instruction tags to indicate what senses are engaged with each material
- Instead of wicker possibly a curvy terracotta pot to hold materials







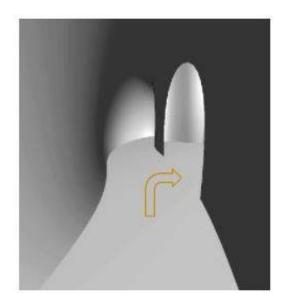
UTILIZING THE SENSES

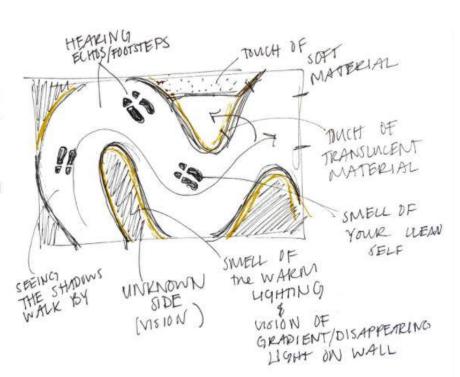
-jurors acting as the unknown side (dark in the room)
-see the shadows cast on the walls with light being the
source of them

-smell of the lighting on the wall material
-echo/footsteps sound through the use of floor material
(have jurors tap the material as they walk)
-use of a soap bar as a way to smell your own self
-touch the transparent material around the light
(smooth surface)

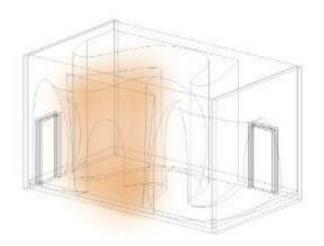
-touch of the soft materials in the sitting area (maybe the jurors are standing then sitting when it comes to this point)

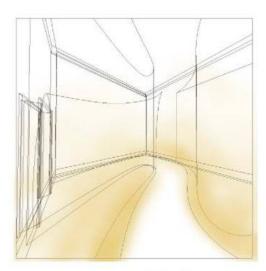
-vision of shifting movement and focus throughout (how to represent shifting in sensory box?)





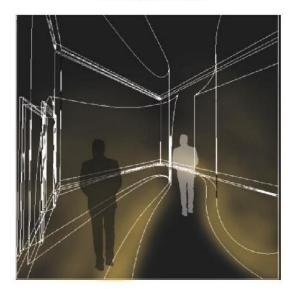
VIEW OF THE OPENING/VOID IN MASS





Light vs. Dark (wireframe perspective view)

Most of the lighting is being seen on the other side of the edges and having a gradient effect on the wall through frosted glass. This warm lighting gives guidance to the experience and a more intimate feeling.



Perceived Building Performance of Ed Roberts Campus vs. Public Building Based on Disability Profiles

Kyuho Ahn, Linda Zimmer, University of Oregon Olivia Asuncion, Shah Kawasaki Architects

ABSTRACT

This paper compares performance of the Ed Robert Campus (ERC) building design located in Berkeley, CA to other public building based on findings from an online post occupancy evaluation (POE) survey. Designed by Leddy Maytum Stacy (LMS) Architects, ERC is a civic center that offers various and one-stop services for people with disabilities in support of the independent living movement. ERC building design showcases inclusive design features that can be replicable in public buildings, and responds to the argument that general public/civic buildings that comply with Americans with Disabilities Act (ADA) regulations fall short of supporting the independent living movement that is the foundation of ADA (Ostroff and Hunter, 2003; Sherman and Sherman, 2012). This study focuses on how the ERC design performs better than public buildings and unveils the differences as perceived by varying disability user groups. The online user survey instrument was designed to be accessible to the user groups with various disabilities, and the questionnaires were organized based on the building performance (BP) criteria suggested by Presser (1983). It includes Health, Safety and Security (safety, barrier-free, and emergency evacuation); Effectiveness (task attainment, independence, and wayfinding); and Socio-Psychological Aspect (aesthetic appeal, friendliness, and socialization). The survey is administrated via Qualtrics that is linked in recruitment methods that include the listserv emails, ERC website and social networking sites. Two secured digital tablets were installed in the public lobby of the ERC for visitors and users. 5 Likert scale was used to check overall perceived ERC

and public building design qualities (1-strongly agree, 2-agree, 3-neutral, 4-disagree, and 5strongly disagree). Lower scores meant better perceived building performance evaluated. Additional questions about the ERC design features were asked by using 4 different scales (1excellent, 2-good, 3-fair, 4-poor). A total of 62 samples were identified as valid entries for data analysis. 41 participants self-identified with disabilities and 21 self-identified as with nondisability. Within the disability group, there are 18 with visual impairment, 10 with mobility impairment, 4 with hearing impairment, 2 with olfactory impairment, one with cognitive impairment and 6 with multiple impairments. For statistical analysis, this study uses three disability profiles only: non-disability, vision, and mobility. A pared-samples t test was calculated to compare the mean scores of perceived BP. One-way ANOVA was used to identify different opinions among the users. Significant perceived BP improvements of the ERC in all three criteria have been achieved among all user groups. Barrier-free quality is the most improved ERC BP followed by friendliness, aesthetic quality, socialization, emergency evaluation, independence, task attainment, and safety, respectively. For public buildings, users in the vision group evaluate wayfinding and independence quality less preferably than mobility and non-disability groups. There are non-significant different opinions on public BP found for all other criteria. ERC, users in the vision group evaluate emergency evacuation quality less preferably than mobility and non-disability groups. Wayfinding and flexibility of the space were evaluated less preferably by vision group than mobility group. There are no significant different opinions on ERC BP between mobility and non-disability groups. Design implications and discussion will follow.

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The Influence of Individual and Cultural Differences on Patients' Experiences with Biophilic Design

Jisun Lee, University of Arkansas So-Yeon Yoon, Cornell University

ABSTRACT

Biophilic design has become increasingly popular as an option for patient care because of its healing and restorative benefits. Connection to nature in environmental conditions can offer positive distractions, shifts in physical, psychological, and social functioning, as well as contribute to emotional well-being (Totaforti, 2018). In hospital waiting areas, patients experience anxiety, stress, fear, and pain as emotions, and these are often accompanied by an increased degree of pain as well as a loss of autonomy and independence and the feeling of being cared for (Gordon, Sheppard, and Anaf, 2010). There have been substantial studies that have indicated that contact with nature in the healthcare environment positively impacts patients' psychological and emotional well-being. Despite its positive impacts, the effects of individuals' characteristics on their responses to biophilic design have not been investigated. The objective of this study is to explore how people's cultural and individual differences affect their responses to biophilic design in hospital waiting areas and to search for an effective and efficient approach to biophilic design applications in healthcare settings. Two virtual hospital waiting areas were created and used to test how subjects responded to different environmental conditions: biophilic and conventional conditions. This study seeks to fill a research gap in holistic patient experience with biophilic design as an approach to improving the quality of a patient's experience so that they envision healthcare settings as healing environments. Two high-fidelity virtual stimuli were built in biophilic and conventional conditions using Revit and Enscape. The biophilic condition was designed using Kellert's (2008) elements and attributes of biophilic design. A withinsubjects design was conducted (N=180), and participants were recruited via Amazon MTurk. Subjects were assigned to two environmental settings in random order. The affection levels of participants towards nature and information processing styles were collected to assess their individual and cultural differences. Connectedness to Nature (CNS) measures individuals' trait levels of feeling connected to the natural world (Mayer and Frantz, 2004). Analysis-Holism Scale (AHS) helps to identify cultural differences in information processing styles and analyze cultural differences between ethnic groups (Nisbett and Miyamoto, 2005). Scales on the state of anxiety, negative emotions, perceived service quality, perceived wait time, and behavioral intentions were collected to measure patient experience. The findings from this study's data analysis demonstrated significant differences in how subjects responded to biophilic design depending on ethnicity and gender. CTN and AHS presented significant differences amongst ethnic groups, and the CTN and AHS values displayed a significant correlation. We found a trend that higher CTN values correlated to higher AHS values, and biophilic design intervention was more effective in groups with higher AHS values than lower value groups. Participants reported less negative emotions and were more comfortable with longer wait times in the biophilic condition. Higher behavioral intention values were observed in the biophilic design compared to conventional design. The threshold of biophilic design application for positive patient experience needs to be further searched for a practical approach to biophilic design in healthcare settings. The findings of this study should provide useful information for design practitioners and decision-makers to apply biophilic design elements more effectively with an understanding of the differences of users.

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APPENDIX



Figure 1. Biophilic condition of hospital waiting area



Figure 2. Conventional condition of hospital waiting area

The Mindfulness Model for Green Building Communication: An Evidence-Based Approach to Crafting Engaging Interior Signage

Dr. Laura Cole, University of Missouri Erin Hamilton, Texas Tech University Hamed Yekita, Texas Tech University Emily Gaul, University of Missouri

ABSTRACT

The increasingly urgent challenges of global climate change demand holistic responses that bridge the gap between technology and humanity. Green buildings – with overarching goals to promote resource conservation – are venues where technology and human action intertwine. In the architecture and design industry, it is widely acknowledged that effective solutions should harness human behavioral responses, as fluctuations in human behavior can account for up to 50% of a building's total energy consumption (e.g., Janda, 2011). Recent scholarship frames green buildings as informal teaching tools and has examined the capacity for green buildings to support environmental knowledge acquisition and promote environmentally responsible behaviors (ERBs) (e.g., Wu et al., 2017). Social research to date suggests some potential to promote ERBs through strategies such as signage, behavioral prompts, environmental feedback, and amplifying communications around social norms within the building (Abrahamse, Steg, Vlek, & Rothengatter, 2007). Yet, most green buildings rely on static displays that employ unisensory media and likely fail to engage building occupants (e.g., Cranz, Lindsay, Morhayim, & Lin, 2014). Given the myriad ways green buildings may cue ERB, engaging building occupants with these features may seem a matter of capturing their attention. As a scarce mental resource, the attention of human beings in the 21st century is a prized commodity. However, the solution lies not in features that briefly attract the attention of building occupants, but in

supporting people to develop the capacity to be actively aware of their surroundings. Mindfulness, or the practice of being aware in the present moment, originated in Buddhist philosophy and has been incorporated into Western medical and therapeutic practices over the last 40 years. The current project crosses green building communication practices with research on mindfulness-based practices to explore new avenues to engage building occupants with the "teaching moments" a green building might offer. In this presentation, we share a theoretical framework adapted from the Woods and Moscardo (2003) Eco-tourism "Mindfulness model for communicating with visitors." The adapted model targets outcomes of: 1) heightened awareness of green building features, and 2) prompting eco-behaviors using insights from conservation psychology. Second, to support the model, we conducted a literature review of best practices for informational signage and summarized the literature into three domains of evidence-based guidelines (signage perceptibility, mindful engagement, and behavioral prompting) to amplify the educational potential of green building interiors. Finally, using the theoretical model together with our evidence-based signage guidelines, we designed a communication plan for one LEED Gold residence hall on a Midwestern college campus. By presenting a framework and sample application, this presentation makes novel theoretical and practical contributions to green building communication research. Previous research has examined the effectiveness of informational signage and behavioral prompts; however, very few studies acknowledge the attentional demands on building occupants. Integrating the perspective of "mindfulness" presents a compelling new direction in conservation psychology research within the green building interior. The work presented here lays the foundation for post-COVID empirical work where the research team has a planned project to install the residence hall exhibition and collect efficacy data when students have returned to campus.

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Working From Home (WFH): The Relationship of the Built and Ambient Environments on Worker Satisfaction and Productivity

Dr. Lori Brunner, Arizona State University Rawan Naseef, Arizona State University

ABSTRACT

The Covid-19 pandemic uprooted working routines in a matter of a few weeks in spring 2020. From universities to public companies, the new workplace existed within the confines of the worker's home. This period presents an opportunity to study work from home (WFH) circumstances organization-wide. The purpose of this presentation is to examine the relationship between the workers' WFH built and ambient environment, and its relationship to the worker's satisfaction and productivity. The two main research questions are: 1) What is the relationship between worker satisfaction and self-reported productivity with the WFH built and ambient environments? and 2) What are the differences between groups (gender, family structure, dwelling type and size, income, job type, and geographic location of WFH) concerning satisfaction and productivity WFH, as well as satisfaction with the WFH built and ambient work environments? Research on working from home or teleworking has grown over the past three decades, addressing the challenges for organizations and employees in several disciplines such as business, economics, and psychology. Some studies have compared the benefits and costs of working from home (Baily & Kurland, 2002; Gajendran & Harrison, 2007). Others have focused on the work-family balance (Golden et al, 2006). Gurstein (1995) found that work-related functions so dominated (both spatially and temporally) the home life, that workers could not easily stop working. A lack of space put the greatest strain on families. In addition, the most effective home offices were those that were highly zoned and had strong spatial and temporal boundaries. Some WFH studies investigating the relationship of working from home and

productivity found that employees' self-reported productivity had increased while working from home (Belanger, 1999). Greater autonomy at home and increased intrinsic motivation accounted for the increase, according to the studies. These studies examined employees who self-selected to work from home. Moreover, Belanger (1999) found that employees are differentiated in their characteristics, and these differences influenced their preference of working from home or not. Not surprisingly, a gap in the literature is highlighted when company mandates are placed on all employees to work from home. What are the unintended consequences for all employees and which groups may be more productive and satisfied working from home? This quantitative research is a non-experimental study, using cross-sectional, survey data measuring attitudes and rating behaviors (using a 7-pt Likert type scale) about working from home. An online questionnaire was developed and data collection was conducted from June to July 2020. 636 employees from a global, software development company participated in the study. ANOVA and linear regression were used to analyze the whole group and compare means between groups, in providing explanations of response variables—satisfaction and productivity (as definitions of wellbeing) WFH. Significant results and relationships were found in satisfaction levels for air quality and temperature, desk/worksurface, overall appearance, and office type (closed versus other) for the whole group as well as between groups, by dwelling type (owners versus renters) and size (3,500 sf and over versus not), income, marital status (married versus not), and gender. In particular, women liked working from home and were productive there. Women were more satisfied and productive working from home than men. Interestingly, men noted that they were more satisfied with the individual built and ambient environment elements (such as chair, storage) than women. Thus, one may infer that there are other aspects of working from home that a future qualitative study will explore in more depth in terms of gender differences.

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Food Systems Module for Interior Design Education: The Case Study of a Design Charette

Mia Kile, University of Oklahoma

ABSTRACT

Relevance: Hunger is a condition experienced by many Americans and is particularly alarming for vulnerable populations in rural areas to include children and the elderly (Lloyd Jean, 2019). Rural, minority, and low-income areas are often the sites of food deserts because they lack large, retail food markets and have a higher number of convenience stores where healthy foods are less available (Berkowitz et al., 2018). Studies indicate that food deserts can negatively affect health outcomes, but more research must be done to show how that influence occurs. There appears to be a link between access to affordable nutritious foods and the eating of these foods, meaning less access may lead to less incorporation of healthy foods into the populations' diets. Problem: Interior design educators, providing opportunities for students to address important topics such as this may also offer a holistic understanding across the context of geographic, social, environmental, cultural, and economic conditions as well as addressing issues centered around diversity and inclusion. The guiding philosophies that health, safety, and welfare are at the forefront of design practice are best exemplified when research is integral. Implementing research which considers the best possible solution is known as evidence based design (EBD) (Hamilton, 2018). Interior design education is challenged to provide students with the tools to best learn and implement EBD principles through meaningful curricular activities. Projects which engage students centered around relevant topics which have direct application make meaningful and memorable experiences for students. The field of interior design is innately interdisciplinary given the broad spectrum of projects and people involved. As a project which considers the community, the goal of efforts should be to improve the community health status (Burdine, Felix, & Wendel, 2007). Methods/Process of Development: With these considerations

in mind, a design charette was implemented in which students participated in a three-week module on the application of food systems planning in a design studio focused on the development of a design intervention in a food insecure community. This presentation will provide insight in the collaborative studio's intent to increase student understanding of how design interventions are used to improve community health. Given an overview of existing knowledge about the social, economic, and environmental conditions that create food insecurity, students were guided through design charettes that focused on precedents from existing food systems projects. As part of the module, students engaged in a design charette in which teams comprised of four students were challenged to develop a design intervention to address hunger in communities located in food deserts. Based on their research, each team developed an intervention addressing a specific community which qualified as a food desert. The requirement for the location was that it was within the state their school is located. This intervention required teams to research which areas have the most need and select one to be the location for their intervention. Because this is a global challenge facing many communities, students were asked that their solutions be easily replicated to fit in other areas. Conclusions/ Outcomes: Upon completion of the design charette, student work reflected a higher level of understanding of how design can positively impact vulnerable populations who may be experiencing food insecurities. The exposure of this module and design studio increased knowledge of food systems planning and increased the likelihood that students will apply the knowledge in other courses and professionally. Outcomes from this project provided insight which will be used to develop future studio experiences which delve into this important topic as a community engaged intervention.

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Design Charette: Food Deserts/ Access to Healthy Food

When:			
Location:			

Project Framework:

One in six adults and one in four children have inconsistent access to healthy food.



The Regional Food Bank of , a member of the Feeding America network of Food Banks, is the largest hunger-relief charity in the state - providing enough food to feed more than 136,000 hungry every week, 37 percent of whom are children. consistently ranks among the hungriest states in the nation. While the Food Bank of provides great resources and food pantries help feed many, there are still others who do not have access to healthy food because they reside in a food desert.

Food deserts are areas that lack access to affordable fruits, vegetables, whole grains, low-fat milk, and other foods that make up the full range of a healthy diet. Many Americans living in rural, minority, or low-income areas are subjected to food

deserts and may be unable to access affordable, healthy foods, leaving their diets lacking essential nutrients.

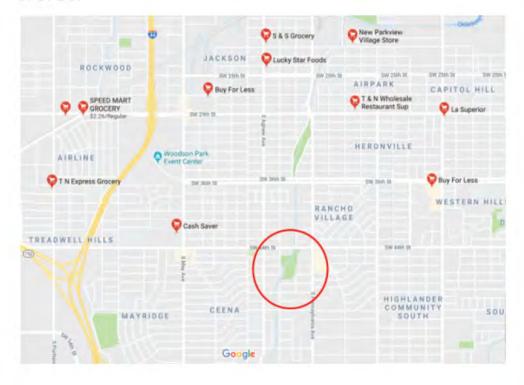
Rural, minority, and low-income areas are often the sites of food deserts because they lack large, retail food markets and have a higher number of convenience stores, where healthy foods are less available. Studies have shown that food deserts can negatively affect health outcomes, but more research must be done to show how that influence occurs. There appears to be a link between access to affordable nutritious foods and the eating of these foods, meaning less access may lead to less incorporation of healthy foods into the populations' diets.

Project Two is a design charette in which each team is challenged to develop a design intervention to address hunger in communities located in food deserts. Each team will develop an intervention which address a specific community within . This will require teams to research which areas have the most need and select one to be the location for this project. This is a global challenge facing many communities beyond and as such the design intervention solution should be easily replicated to fit in other areas.

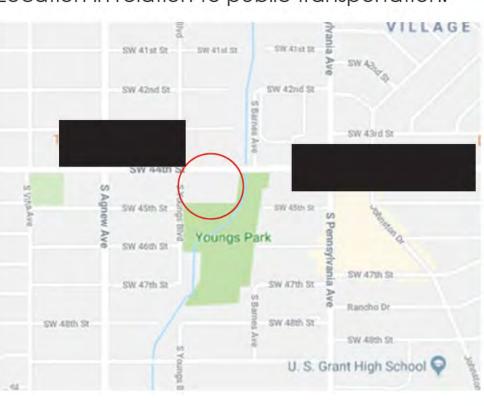
THE BOX BANK

SITE LOCATION

Location in relation to grocery and convenient stores:



Location in relation to public transportation:

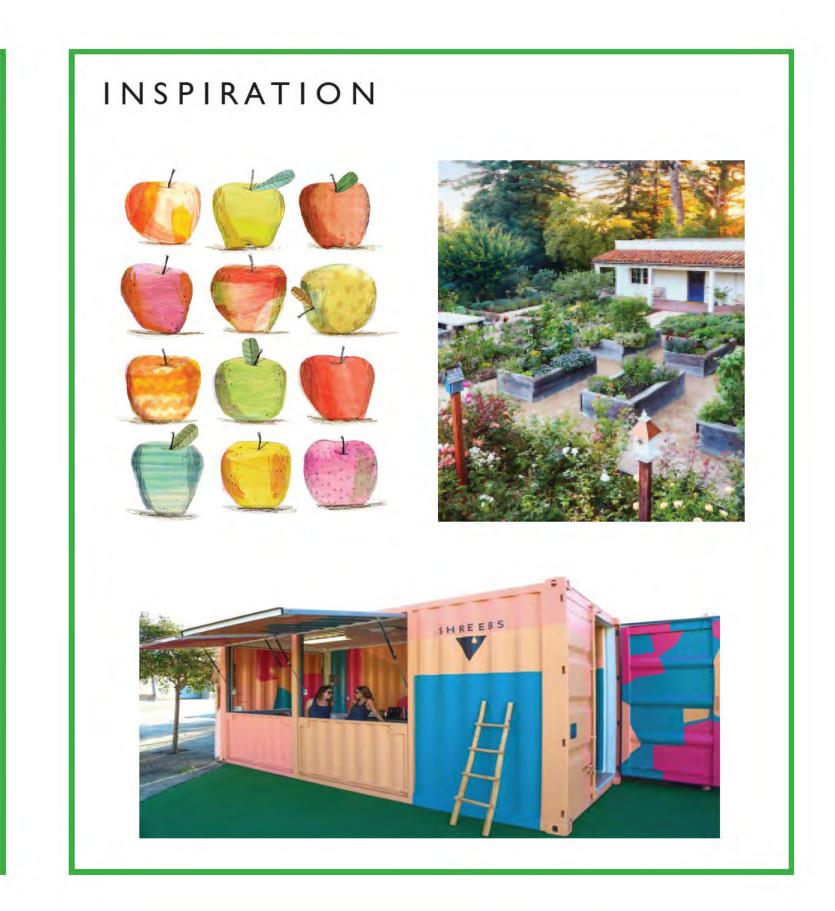


RESEARCH

is one of the hungriest states in the nation, where one in six struggle with hunger. Out of 77 counties, 54 contain food deserts. Out of those 77 counties, 76 contain areas of low access to large grocery stores. From these 76 low access counties, 45 have 50% or more of their population living in areas with low access to grocery stores.

Food deserts can develop in a few different ways. In high density urban areas, limited access to land and high construction costs can push supermarkets to the suburbs or to the fringe urban areas. This means limited access for those who live in the inner city, especially when they don't have reliable transportations. This can be alleviated by a dispersant of smaller grocery stores which face fewer barriers to development. However, supermarkets tend to provide more high-quality food options at lowers costs than other kinds of grocery stores.

is ranked 10th in difficulty accessing affordable fresh fruit and vegetables. This is a huge reason behind poor health. Residents with less access to healthy food often turn to "empty calorie" foods with high sugar and fat content. Reliance on this kind of food can result in obesity and diabetes, health problems that are already at a dramatically high rates in our state. The low access to fruits and vegetables can be combatted with the use of a community gardens. Community gardens provide many benefits, including increased physical and mental health, social inclusiveness, and an increased connection between individuals and their environment. They provide community and individual food security by providing fresh food to those who struggle to feed themselves and their families.





THE BOX BANK

PROJECT PROPOSAL

The Box Bank is a proposed branch of
the Regional Food Bank of
The projected site for The Box Bank is in
south
near

This location is currently in any direction more than a mile from a grocery or convenient store which constitutes this area as a food desert. The goal of this project is to provide food security in this area by creating an additional place for those unable to access healthy food easily to order or pick up fresh groceries. The Box Bank will also have a community garden on site which provides several benefits including increased physical and mental health, social inclusiveness, and increased connection between individuals and their environment.

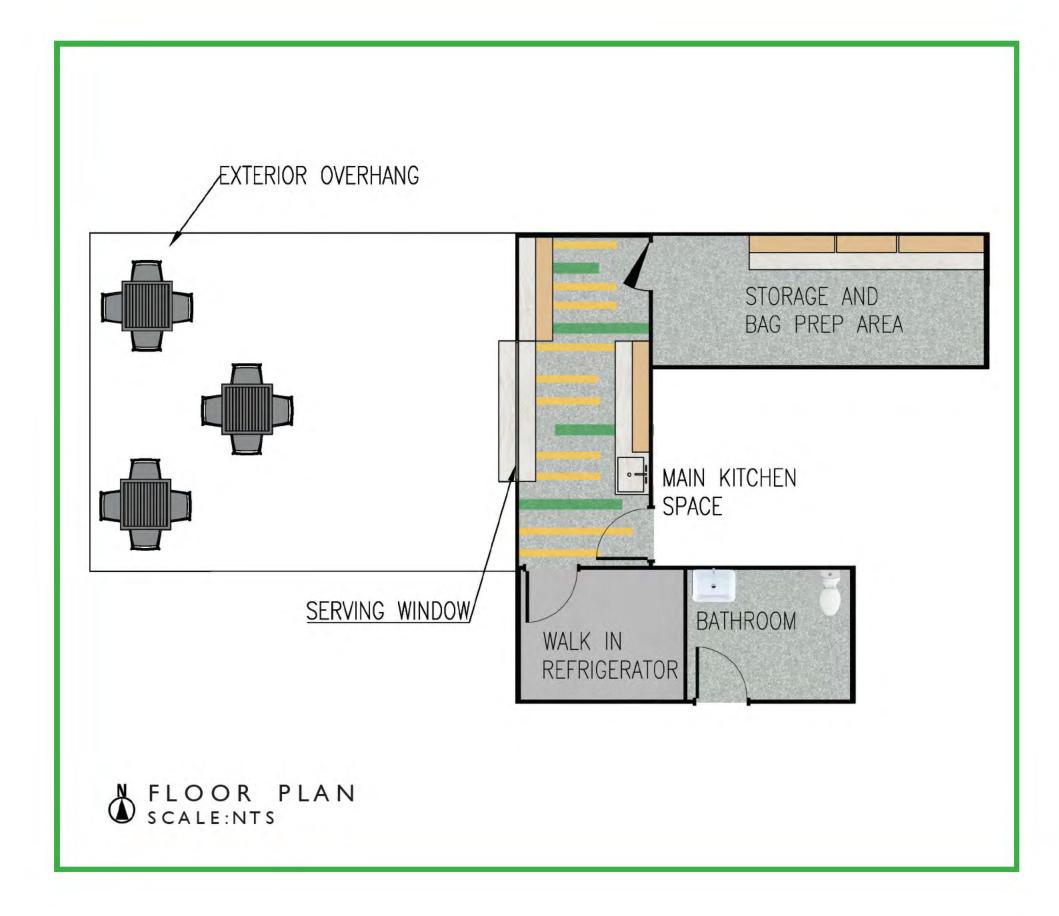
PRECEDENT STUDY

Peapod is a grocery delivery organization that started in 1989. This organization is very successful nation wide. They offer personal delivery, as well as, stations for organized pickup. This precedent lead us to create the Box Bank pick up station.





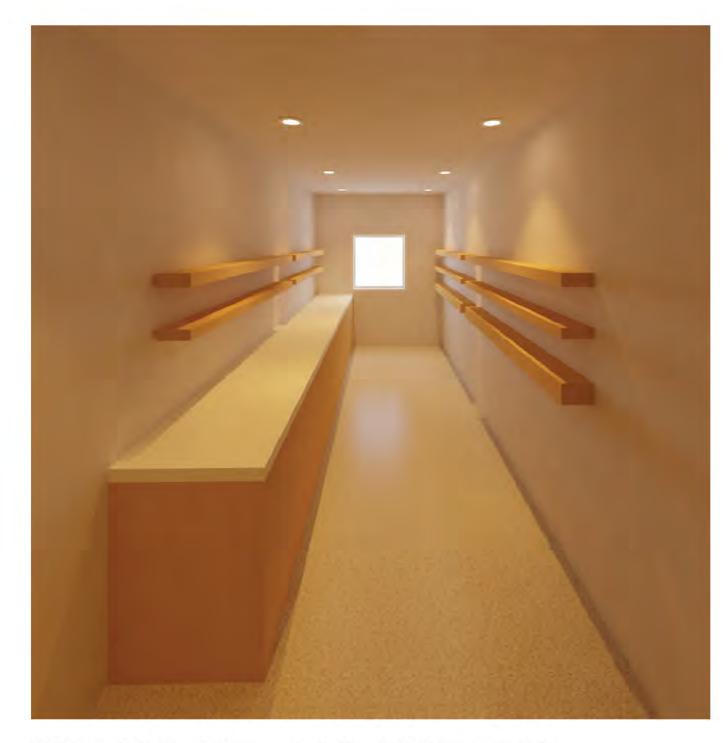




INTERIOR PERSPECTIVES



MAIN KITCHEN SPACE



STORAGE AND BAG PREP AREA

Reviewer:

Group Presentation	0	1- 2 Beginning	3- Developing	4- Proficient	5- Distinguished
	nothing provided	Student work shows little evidence of understanding	Student work shows some understanding but could be developed further	Student work demonstrates a clear understanding and application	Student work demonstrates high level of accomplishment
Global Context: Did the design solution address global views and consider social, cultural, economic, and ecological contexts?					
Human-Centered Design: Did the student apply knowledge of human experience and behavior to the design of the interior environment of the hotel?					
Design Process: Employed all aspects of the design process to creatively solve the design challenge.					
Communication: Effective communication both visually and verbally through project presentation and documentation.					
Light and Color: Applied the principles and theories of light and color effectively in relation to environmental impact and human wellbeing.					
Products and Materials: Design solutions integrate furnishings, products, materials, and finishes. Appropriately selected and applied manufactured products and custom design elements to a design solution. Considered the multiple properties of products and materials as well as their aesthetic contribution.					

Group Project Contributions	1	2	3	4
Contribution to Group Goals	Works toward group goals only when prompted	goals with occasional prompting	Works toward group goals without occasional prompting; accepts and fulfills individual role within group	Consistently and actively works toward group goals; willingly accepts and fulfills individual role within group
Consideration of others	Needs occasional reminders to be sensitive to the feelings of others	0	· ·	Shows sensitivity to the feelings and learning needs of others; values the knowledge, opinion, and skills of all group members and encourages their contribution
Contribution of knowledge	group only when prompted		Contributes knowledge, opinions, and skills without prompting or reminding	Consistently and actively contributes knowledge, opinions, and skills without prompting or reminding
Working and sharing with others	always or often relies on others to do the work	changes with occasional prompting;	Willingly participates in needed changes; usually does the assigned work and rarely needs reminding	Helps the group identify necessary changes and encourages group action for change; always does the assigned work without having to be reminded

Scholarship of Teaching and Learning | Open Track | Presentation

Creating Curiosity for the Elusive Plane in the Built Environment: A Ceiling Design Competition

Lynette Panarelli, Wentworth Institute of Technology Nancy Harrod, Harrod Design Research

ABSTRACT

The ceiling plane to many young design students is the elusive plane. It can be an intimidating workhorse in the project where all the "stuff" goes, and yet by creating an intricate or simple ceiling design one can make or break the overall design aesthetic of the space. In class, it is often an afterthought unless specifically assigned points in the project rubric. What if the students were assigned to only design the ceiling or to develop a new ceiling product that would capture the market? This abstract provides outcomes for an industry-partner collaborative ceiling design competition that challenged the idea of the modular ceiling. The competition was based on the premise that students have not yet been encumbered by real-world parameters and therefore might explore standard industry products from a different point of view. This challenge was proposed by a leading ceiling manufacturer to a university interior design program to help visualize and prototype a new modular ceiling solution from panel aesthetic to connections and hardware that integrate current or new ceiling solutions. The competition bordered on being just outside of the students' comfort zone because it not only explored aesthetics but also key elements in the connective hardware that would create a new ceiling. The competition was integrated into the first five weeks of a senior interior design studio. Each entry was required to research existing products and either improve them, integrate them, or design their own. Many students admitted they will spend weeks working on the plan and only a few days designing the ceiling. This intense focus on the ceiling allowed for creative concepts to evolve. During each class, students lead faculty in the why's and how's of their design and shared their meticulous model building and drawing techniques to express the exact execution of their new product. The ceiling industry partner lead a kickoff lunch for the students explaining the project and then flew

in for multiple design critiques over the course of five weeks before the final presentation. The final presentation consisted of a panel of local design and construction professionals who in the end voted and awarded a monetary prize. Entries were judged on innovation, constructability, and value-added solution to the industry partner's portfolio. Outcomes presented will be based on sketches, renderings, and formal presentations that students produced. The iterative process of research, ideation, prototyping, evaluation, and design development will be demonstrated through digital and physical presentations. A closeout survey was issued 14 out of 23 students responded. Most were positive. A few felt it was more of an industrial design project than an interior project. For the professors, the real moments of the project were witnessing the students who had historically been less engaged in other studios, lead the way in design execution and presentation. The competition created an unexpected space in the studio that allowed students to shine that are many times lost in the moment or overwhelmed. (Laurel 2018), wrote when addressing design research, "that the pleasure of inventing something evokes greater energy and engagement from design students, and by the time our work becomes formative, we have completely embraced the entire process." It was in these moments that teams or individuals had to commit to their ideas and express leadership in design and strength in verbal and graphic skills. In the end, the elusive plane was embraced and became not only a plane of obligation and function but of awe and beauty.

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Competition Scope and Deliverables: Ceiling Design Competition

Students can work in groups or independently to create a new product or new product solution. Teams will present their product, solution to a panel of judges at the end of contest.

Scope:

Develop a product or a ceiling solution that brings value to a contractor (saves them time and money) or creates a new "must have" look to an architect and designer.

- A new ceiling solution with a grid, drywall grid, transition, extruded aluminum or brake formed product.
- A new integrated product/solution with lighting, hvac, plumbing, etc

Format:

Idea or product will be presented via a mix of Revit, Enscape, and VR headsets.

Deliverables:

Typical drawings to support a design: Plans, sections, renderings, details. This is a presentation to sell a product. The presentation should be well-crafted graphically. This is not a construction set of drawings or a typical pin-up.

Design Project plan:

Students/teams to provide the following criterial as part of their presentation.

- Overview of Product or Solution
- How it fits into the company portfolio/brand
- How the product or solution provides value to customers

Measures of success:

Contestants will be judged on the following factors:

- Value of the solution to company
- Value of the solution to the customer (Architects and Contractors)
- Creativity/Uniqueness/Wow Factor
- Overall Presentation

Schedule:

Kickoff – Wednesday January 8th Mid crit – Friday January 24th

Final Presentation: Wednesday February 5th

Appendix: Creating Curiosity for the Elusive Plane in the Built Environment: A Ceiling Design Competition

Survey Questions: Used a Likert Scale through Survey Monkey

Did the project challenge you?

Were you surprised by the challenge?

Did you use a similar design method as a typical studio project?

Did the financial incentive change your design methodology?

Did the financial incentive make the project more interesting?

Did you prefer to work in teams for the competition?

Did the competition increase your understanding of lighting and Reflected Ceiling plans?

Did the competition improve your presentation skills (verbal and graphic)?

If you participate again would you chose to do it alone

Was enough time allotted for the completion of the competition?

Would you participate in a similar competition again?

What would you do differently in terms of process and competition rules?

What is the key memorable learning moment from the experience?

Excerpt from a presentation: Student 1 of 23

Each student created a presentation that expressed concept, process, and final installation.

CONCEPT

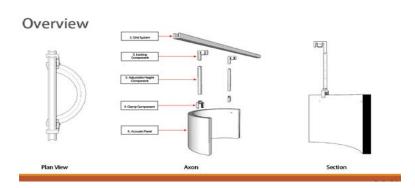
KIT OF PARTS

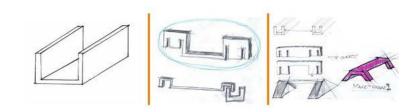
SKETCHES

3D Printed Model



- To have the capability to make the ceiling adaptable to the space and its surroundings.
- To design a system that was not only 100% recycled/biodegradable, but a system that is easily manufactured.
- To have a system that is functional yet simple for quick installation.





Original Sketch Process for Grid



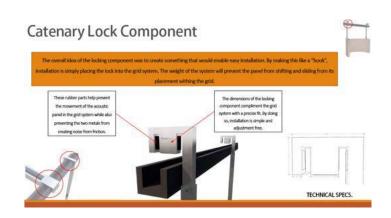
Excerpt from a presentation: Student 1 of 23

Each student created a presentation that expressed concept, process, and final installation.

KIT OF PARTS CONNECTING

MATERIALS

RENDERINGS OF INSTALLATIONS









Scholarship of Teaching and Learning | Pedagogy | Presentation

A Mathematic Primer: Connecting Mathematic Geometry With Interior Design Coursework

Laura Kimball, Radford University

ABSTRACT

Say the word MATH in design classes and common student reactions include declarations of "I'm not good at math" then fear and panic typically ensue, yet unbeknownst to them, math is fully embedded in design. Math is found in measurement, scale, proportion, balance, spatial awareness, visualization, space planning, and construction. Math is in calculations for area, quantity, estimation, pricing, and purchasing. Math is problem solving, accuracy, logic, inferences, reasoning, deduction, and rationale. Design and math, especially geometry, have a lot in common. Mathematician Dr. Yana Mohanty states "Geometry is all around us. It is a part of our daily lives... [It] gives us the tools to engage analytically with our everyday surroundings. Not only are geometry and geometrical thinking crucial components of mathematics, but they may also provide an excellent entry point to the subject for those students who think they are not interested or not good at math" (Mohanty 2017). In instructing lower level design courses, particularly manual drafting and SketchUp software, observations were made that students struggled with the basic rules of geometry as a foundation to the new language of technical drawing that they were learning. These observations lead to address the following questions: Would students benefit from understanding foundational mathematic geometry principles as a primer to and as ongoing discussion in design classes? Would showing mathematical principles and terminology alongside the design skills and terminology decrease student anxieties associated with math? What geometry skills do they come to college with and where do we begin the geometry refresher? Unfortunately, geometry skills are not emphasized as they once were, Dr. Mohanty also mentions "geometry teaching in the US tends to be week, even in high achieving schools" and the de-emphasis of geometry was noted in the 2016 changes to the College Board SAT exam with a 50-60% reduction in questions about geometric principles in the

math section (Mohanty 2017; Recine 2016). Incorporating geometry into design lessons: Discussions begin with math and geometry being positive, valuable inclusions to their design education and life. Introductory lessons incorporate short geometry lessons, using mathematical terms to establish the base understanding and bridge cognitive connections to the applied mathematics found in the design concepts. Discussions include definitions and visual diagrams of parallel lines, perpendicular lines, bisecting, intersecting, angles, degrees, planes, shapes, and axis. Worksheets offer ways to work through the geometry with their design tools. Further discussions and problems that could include finding the length of an attic's sloping wall using geometry's Pythagorean theorem and design's drawn to scale measurement. For most students this is a review of their, forgotten and undervalued, K-12 geometry lessons. Students engage in the review, identifying the concepts as a refresher and primer to the subject at hand. The mathdesign connection is made. Results included students feel smarter, more capable, excited about what they remembered, and more so excited that math is relevant has a practical use. Continued refences to the math terminology are used throughout the courses alongside the design common terms. Technical drawing errors are often addressed by citing something is wrong with the geometry and identifying the design omission. Utilizing geometry words in critiques also encouraged exactness and promoted self verification. Incorporating geometry lessons into design coursework did add to student success and understanding in the course concepts.

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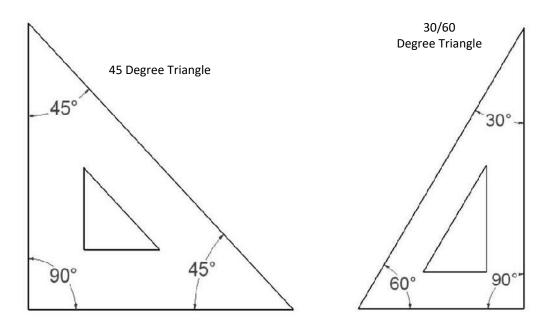
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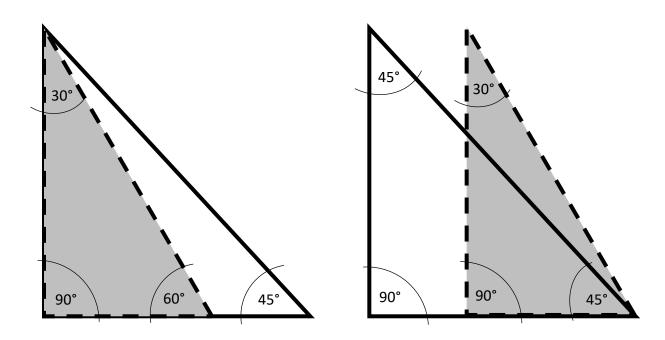
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Drafting Triangles

Drafting Triangles, like the ones shown below, provide drafters with angles commonly used in technical drawings 30°, 45°, 60°, and 90°. Triangles are typically made of transparent acrylic plastic and are available in a variety of sizes. Drafters refer to these as a forty-five and a thirty-sixty.



In the images below, compare the 45° Triangle and the 30°/60° to see where they differ.



Exercise 21: Drafting Parallel Lines

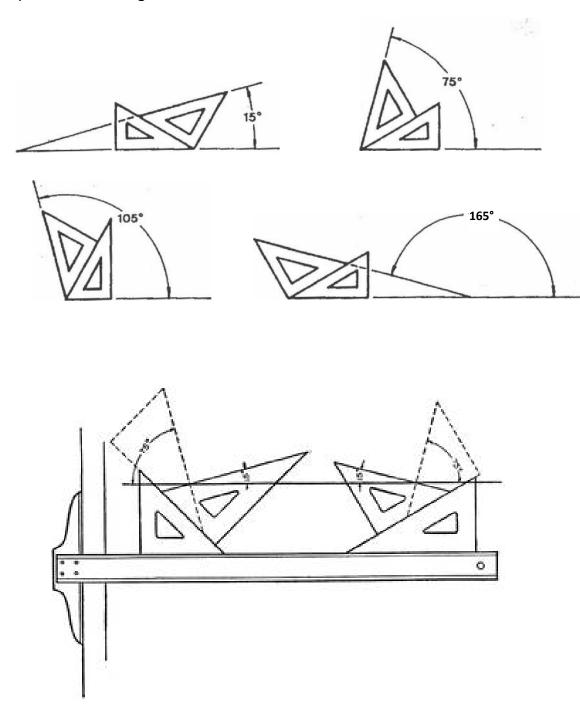
Complete each box with a series of **parallel** lines. Measure lines at the given distance apart. Use your triangles and parallel bar (or T-square) to draw the lines. Experiment with lead softness and line weights (thin lines, medium lines, thick lines, and dashed lines, etc.)

1/8" Apart			
	HORIZONTAL	VERTICAL	
	60°	30°	45°
1/4" Apart			
	HORIZONTAL	VERTICAL	
	60°	20°	45°

Combining Drafting Triangles to create additional Angles

By combining the two standard triangles. 30/60 and 45, drafters are able to draw angles in 15° increments from 0° to 360° , without the necessity of an adjustable triangle, or protractor. Add or subtract the degrees at the combined point along the plane.

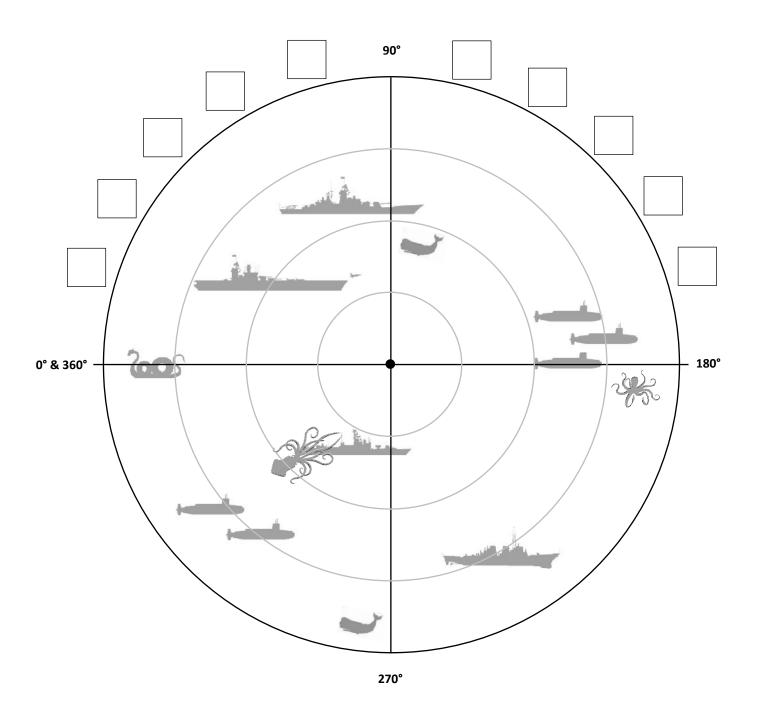
Example: **To find 75° angle** both work: $45^{\circ} + 30^{\circ} = 75^{\circ}$ **or** $45^{\circ} + 60^{\circ} = 105^{\circ} - 180^{\circ} = 75^{\circ}$



Exercise 22: Using Triangles to find Angles

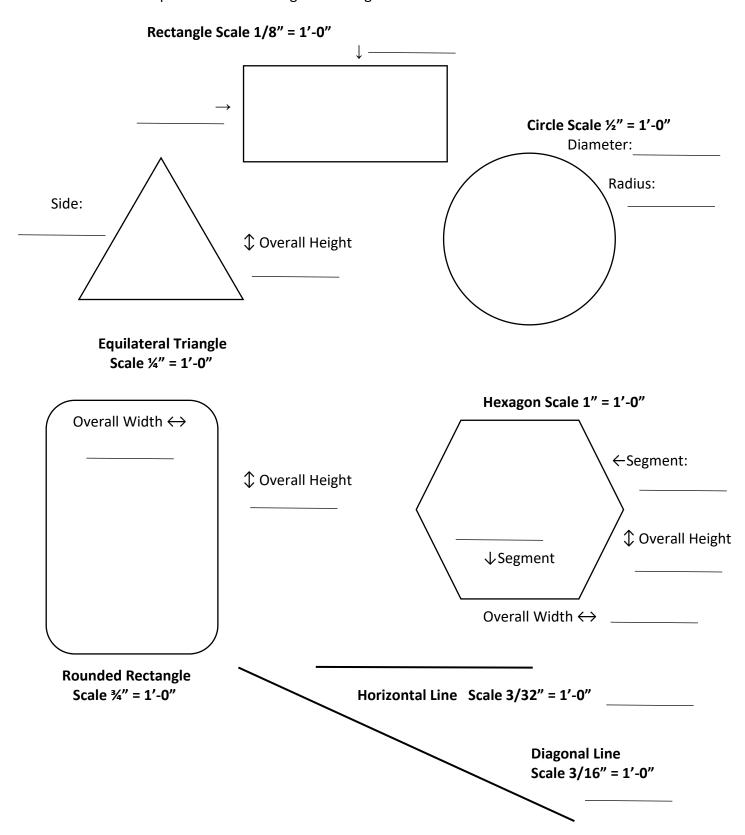
Using your triangles, 30/60 and 45, and combining the two standard triangles. Start 0° and draw line to the circle from the center point at 15° increments from 0° to 180° . Write the corresponding degree in the box.

Extra Credit: draw a line and label degrees from 180° to 360°



Exercise 25: Measuring Shapes and Lines Various Scales

Measure the shapes and lines at the given scale given. Answer in feet and inches.



Scholarship of Teaching and Learning | Pedagogy | Presentation

A Model for Cultivating Student Creativity in Design

Marsha Cuddeback, Louisiana State University, College of Art + Design

ABSTRACT

Problem: Creativity is the foundation for design thinking, and has been identified as critical to meet contemporary society's challenges, "characterized by rapid and complex change processes that encompass all spheres of life" (EUA 2007, 10). Cultivating students' creativity and preparing graduates to serve as change agents in their approach to design is essential. However, finding adequate time for investigations that advance creativity in upper division design studios in a 4-year Bachelor of Interior Design curriculum are often in conflict with the demands of professional standards for accreditation. To address this problem, creativity is nurtured in the design studio environment during a 2-4 week segment of faculty directed incubation exercises which precede or are introduced in the early stages of the traditional design process "allowing conscious attention to be diverted away from the task" at hand (Ritter and Dijksterhuis, par. 2). Method: Three incubation exercises, implemented in upper division design studios over a period of 2 years, are presented as examples of a pedagogical approach to developing students' creativity as an aspirational student learning outcome to invigorate the traditional design process. While professionally the "Interior Design Process is a five-step journey that progresses from the identification of an interior design problem through a complex series of steps that end in an implemented interior design solution" (Robinson and Parman 2014, 7), from programming to contract administration, the design studio process typically begins with a concept development and concludes in early design development. Students are presented with incubation exercises, unconstrained or atypical, as a precursor to, or early in this process. Three paradigms, Biophilia, Phenomenology, and Metamorphosis, were employed as studies or processes to form an overarching yet open-ended structure for the exercises. Students work independently and are

encouraged to assume an introspective approach that is both iterative, noncritical, and reflective. Concurrently, students are presented with the requirements for the primary design project to follow, but the work associated with this project during the incubation exercise is refrained from task related conscious thought (Ritter and Dijksterhuis 2014, par.4). These exercises include faculty and student informal conversation, written reflections, and opportunities to celebrate new ideas and nontraditional representation. Analysis of Outcomes: The analysis from student reflections, faculty and student conversations, peer to peer discussions of their work and personal development, and student dialog during the representation of the design project suggests that students felt better prepared to focus their attention on the project, more confident in their ability to develop innovative solutions, and were inspired to find new methods for representing their ideas. "As designers, we tend to get stuck in our way of thinking," but "this project (exercise) helped me understand alternative ways to work through a problem and find solutions" (student). Students had greater dexterity with the project objectives and requirements, generated different types of questions, and informally examined their approach to the design process. One student wrote, "I have learned to be less critical of myself during the process and allow creativity to flow." At the same time, and contrary to the positive outcomes, students also wrestled with the purpose of the incubation exercises and, in thinking about their future careers, were unsure how these exercises would contribute to their portfolio. "The most challenging aspect of this project was the pause in the process, but I believe I benefited from the pause and reflection" (student). This suggests a need to ensure the value and purpose of incubation exercises are understood and the role they play in developing creativity as a critical skill for graduates.

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Biophilia Phenomenology Metamorphosis

- Engage in non-traditional exercises to develop creative potential,
- Engage in reflective practices to strengthen design process and subsequent solutions,
- Explore alternate methods of representation to become aware of the value of diverse modes of representation to express ideas, concepts, and design solutions,
- Hone sensory skills to increase awareness of the human experience in the interior environment,
- Understand the inextricable connection between human experience and place to strengthen an approach to solving problems,
- Develop writing proficiency as a complementary tool for describing experiences and reflecting on those experiences, and
- Strengthen ability to evaluate and assess the condition of human behavior and perception in the interior environment.







Biophilic Pattern Book

 $\mathbf{4}^{\text{th}}$ year undergraduate design studio | exploratory investigation prior to capstone project

















Phenomenological Event Map

4th year undergraduate design studio | exploratory investigation prior to capstone design project















"Ambiguous growth -Wispy details dance freely no surface alike." ~ 4th year Interior Design Student

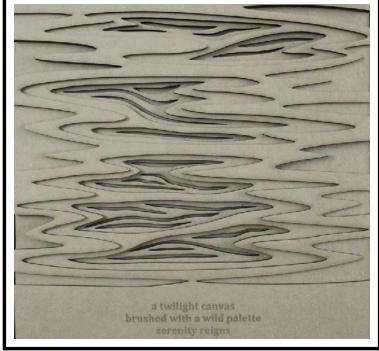
Metamorphosis

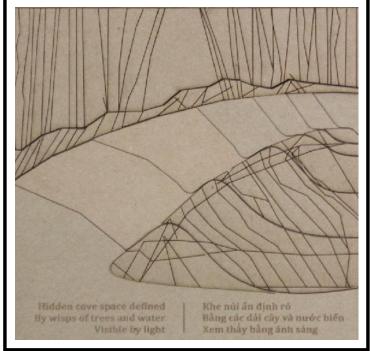
 $\mathbf{4}^{\text{th}}$ year undergraduate design studio | exploratory investigation prior to 8-week design project titled "Art Box"











Design Without the Dedicated Desk: Studio Pedagogy in the Active Learning Classroom

Dr. Laura Cole, University of Missouri Mohammad Dastmalchi, University of Missouri Bimal Balakrishnan, University of Missouri

ABSTRACT

Design programs often focus on the development of individual designers rooted in stationary studio desks and surrounded by the tools and artifacts that support their unique growth. Design educators are increasingly adopting practices that align with the collaborative nature of professional practice and the development of soft skills for emerging designers (Gale et al., 2017). Introducing higher levels of teamwork in the studio contributes to CIDA Standards 5 and 6 for collaboration and professionalism. These trends also align with the broader movement in education toward active learning, which discourages traditional passive instruction methods, and instead promotes elevated student engagement and interaction (Bonwell and Eison, 1991; Talbert and Mor Avi, 2019). This method of teaching was inspired by studio education, which has always been "active" (Beichner, 2014). However, most physical studio environments have not evolved – with either the furniture or the technology -- to afford collaborative spaces for design students. Our design program pitched a design studio environment that reflects a collaborative, contemporary design practice integrating technology for the Steelcase Active Learning Center grant. Our successful pitch and the extraordinary gift from Steelcase to create an Active Learning Classroom (ALC) allowed us to experiment with studio pedagogy in a new collaborative environment. We will share the results of a year-long, mixed-method research study guided by the question: How does the ALC support student learning outcomes on collaborative studio projects? Methods: Over one academic year, the ALC was used by two junior-level studios (engaged in 8-16 week team projects), two lecture courses, and an experimental design thinking seminar. The research team conducted semi-structured interviews with faculty (n=5) and students (n=14), with a mix of interior deisgn (n=9) and architectural studies (n=5) students. Interviews were recorded, transcribed, and imported into qualitative analysis software. Interview data was approached in a grounded way with line-by-line coding, which allowed themes to emerge organically. The "in vivo" codes were solidified into focused codes through a collaborative process and then organized into broader themes. While this presentation centers on interview data, results were triangulated with information obtained from structured classroom observations and a pre/post student questionnaire. Results: Our results fell into three major themes: 1) Ambiance: Students were excited to use the room and saw the ALC as an environment imbued with positive energy. The literal kinetic potential of the setting translated into perceptions of the space as a hustling den of creativity. The presence of the room itself made some students feel like the program cares about their success. 2) Interaction: Physical proximity to peers and screensharing were top themes. Students mentioned high levels of interaction both within teams and across teams and felt the ALC is an excellent fit for collaboration and interactive design thinking processes. However, students were not ready to fully embrace the classroom as a replacement for studios with dedicated desks. Students struggled to unlock the collaborative potential of the space and quickly fell into conventional use patterns. 3) Patterns of Furniture Use: interview and observation data together illuminate how students and faculty occupied the ALC and their assessments of the new furniture's novel capabilities. Overall, data reveal the ways in which the ALC was supportive, and also the reasons students were eager to return to "normal studio desks" when they were done. The results of this study contribute to the growing body of pre/postoccupancy studies of ALC environments and adds new knowledge about the use of ALC furniture in undergraduate studios. Results inform design programs seeking to renovate facilities to prepare students for 21st Century design practice.

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Figure 1. Active Learning Classroom 3D

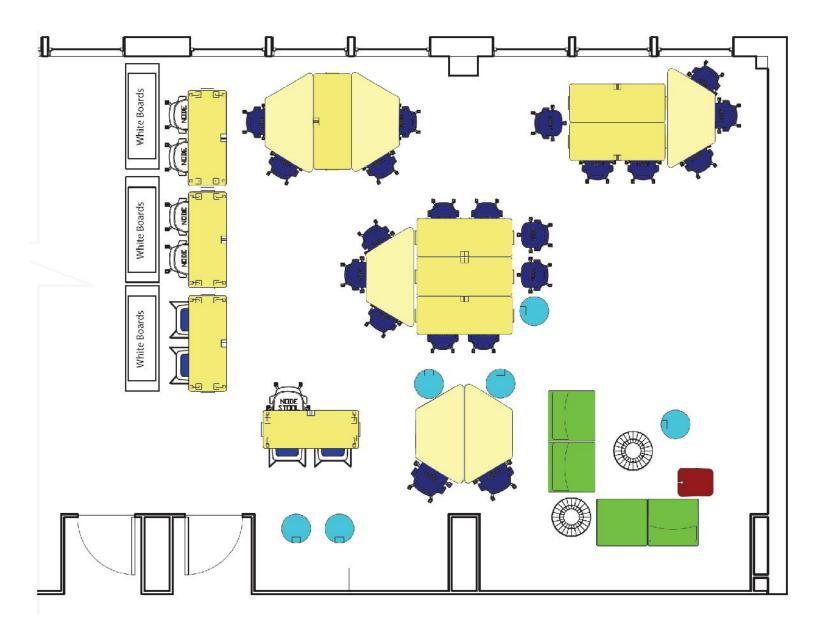


Figure 2. Active Learning Classroom 2D

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Developing and Teaching a Quick Presentation Technique to Visualize Design Concept: A Multimedia Approach

Dr. Suining Ding, Purdue University Fort Wayne

ABSTRACT

Digital models serve as a vital aid for designers in the design process to help clients envision their proposed design work. The designers could use one single software to generate digital 3D models. However, it usually takes a lot of time to create a realistic 3D model with appropriate lighting effects by using one single software. What techniques can be used to present the design concept quickly? How to teach these techniques in a hybrid interior design studio course? These two questions have been explored and answered through a study that combines research/creative endeavor and innovative teaching. This presentation demonstrates the quick presentation techniques and shares how to teach these techniques in an interior design studio course. A course map that includes course modules and learning activities and students' projects will be also presented. This study aims to contribute to the interior design education and practice so that designers can use a better method to convey their design concept. Thus, the goal of this project is to explore and introduce an innovative technique that is quick and easy to use by taking advantage of multiple software. This study uses a combined software approach with the emphasis on using AutoCAD, SketchUp and Photoshop. This multi-media approach for creating 3D models frees up one of the designer's most cherished commodities: time. The significance of the study is that designer does not need to spend a lot of time generating 3D models, a more mechanical part of the job. This allows the designer to do what he or she does the best – design. During the process of building digital models, it appeared that each software has its beauty. The best approach is to take advantage of each software and cohesively combine them so that the model building process can be more efficient. The first step is to create 3D digital models starting in AutoCAD because using AutoCAD can create accurate floor plans. The second step is

to import the floor plan in AutoCAD drawings to Sketchup software to create a rough raw 3D model, which serves as a basic framework. Then Photoshop is used to add materials and lighting effects to enhance the space and environment in the digital models. The unique feature of this technique that distinguishes it from others is that it uses multiple software to create digital models instead of focusing on a single specific computer program. Each software program has specialized functions in which it excels. Using them in combination ensures the most polished final product made most quickly and efficiently. The framework used to develop the course is "Backward Design" (Wiggins & McTighe, 1998; McTighe & Wiggins, 2004). This framework starts with Stage 1- Desired Results, which refers to how students will transfer the course's knowledge and apply it outside of the course context. Stage 2 – Evidence and Assessment refers to the authentic performance task(s) that students will complete to demonstrate the desired understandings or demonstrate they have attained the goals. Stage 3 – Learning Plan. This stage encompasses the individual learning activities and instructional strategies that will be employed. The learning plan includes lectures, demonstrations, and project assignments. Based on this framework, a course map was created (Appendix 1). Learning objectives are created based on Bloom's Revised Taxonomy: Cognitive, Affective, and Psychomotor as a framework. According to Anderson (2001), Bloom's revised taxonomy draws attention away from the somewhat static notion of "educational objectives" and points to a more dynamic conception of classification. The revised taxonomy underscores this dynamism, using verbs and gerunds to label the categories and subcategories rather than the original taxonomy (Anderson, 2001). Course modules, learning activities and studio assignments in the course map are linked to the learning outcomes.

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Developing and Teaching a Quick Presentation Technique to Visualize Design Concept through a Multimedia Approach (Appendix 1: Course Map)

Course Description and Course WHY:

This course introduces skills to create drawings that communicate design concepts and solutions in interior design. First, this course will orient students to produce two-dimensional drawings by using AutoCAD. The two-dimensional drawings convey the designers' intent as two-dimensional drawings are used in schematic design, design development, and construction documents phases. Second, a multi-media approach for creating 3D models is introduced. Digital models serve as a vital aid for designers in the design process to help clients envision the proposed work. The designers could use one single software to generate digital 3D models. However, it usually takes a lot of time to create a realistic 3D model with appropriate lighting effects by using one single software. Thus, this course aims to introduce a multi-media approach that is quick and easy to use by taking advantage of multiple software, including AutoCAD, Photoshop, and SketchUp. This multi-media approach for creating 3D models frees up one of the designer's most cherished commodities: time. The multi-media approach allows the designers to do what they do the best – design. Third, students will also learn how to create a professional presentation board that visually communicates the design concept and intent.

After taking this course, I hope you enter your interior design careers with skills to produce drawings that follow professional standards. You will also have the skills to quickly create 3D models and communicate your design concept and ideas through professional presentations.

After completing the course, students will be able to: (LO = Learning Objectives)

- LO 1.1 Demonstrate competence with basic AutoCAD software commands and drawing set up procedures.
- LO 1.2 Display proficiency in two-dimensional drawings with dimensions, including floor plans, sections, and elevations by using AutoCAD.
- LO 1.3 Produce accurate scale drawings by using paper space and model space concepts in AutoCAD.
- LO 1.4 Create 3-D models with materials and lightings by using a multi-media approach using Photoshop and Sketchup software.
- LO 1.5 Compose a presentation board with a multi-media approach to communicate design concept and intent.

Module 1: Introduction to AutoCAD, Basic Commands and Starting Drawings with AutoCAD (LO 1.1)	Approximate Time on Module: 1 week
Learning Activity: Introduction to AutoCAD Activity Type: Demonstrations (In class demonstrations and demonstration videos in Brightspace) and Studio Projects	
Learning Activity 1: Overview AutoCAD command through demonstrations (In	

class demonstrations and demonstration videos in Brightspace) Learning Activity 2: Basic concepts for drawing sheet set up: Limits and Units through demonstrations (In class demonstrations and demonstration videos in Brightspace) and discussions.	
through demonstrations (In class demonstrations and demonstration videos in	
2.13.11.p.11.27, 1.11.11.11.11.11.11.11.11.11.11.11.11.1	
Learning Activity 3: Layer concept demonstrations (In class demonstrations and demonstration videos in Brightspace) and discussions.	
Learning Activity 4: The first project assigned. Students start working on studio projects.	
	Approximate Time on Module: 3 weeks
Learning Activity: Drawing Floor Plan and Elevations in AutoCAD Activity Type: Demonstrations (In class demonstrations and demonstration videos in Brightspace) and Studio Project.	
Learning Activity 1: Demonstration for starting a floor plan (In class demonstrations and demonstration videos in Brightspace) 1. Line, Trim, Extend, Chamfer, Fillet, Offset, etc. commands	
Learning Activity 2: Demonstrations for starting an interior elevation (In class demonstrations and demonstration videos in Brightspace)	
Learning Activity 3: Demonstrations for Hatch and Gradient Fill (In class demonstrations and demonstration videos in Brightspace)	
Learning Activity 4: Demonstrations how to put text on drawing (In class demonstrations and demonstration videos in Brightspace)	
	Approximate Time on Module: 3 weeks
Learning Activity: Bringing a Titleblock to Drawing using Paper Space and Model Space. Setting up Different Scales Activity Type: Demonstrations (In class demonstrations and demonstration videos in Brightspace) and Studio Project.	
Learning Activity 1: Demonstrations and discussions for Paper Space and Model Space concepts. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 2: Demonstrations of how to bring the titleblock to drawing. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 3: Demonstrations of how to create multiple scales on one	

Module 4: Dimension and Productive Drafting (LO 1.1, LO 1.2, LO 1.3)	Approximate Time on Module: 3 weeks
Learning Activity: Putting Dimensions on Drawings, Wblock and Design Center Activity Type: Demonstrations (In class demonstrations and demonstration videos in Brightspace) and Studio Project.	
Learning Activity 1: Demonstrations of how to change the parameters of dimension settings. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 2: Demonstrations of how to add dimensions on floor plan, interior elevation and section. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 3: Demonstrations of how to create a WBLOCK. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 4: Demonstrations of how to use the Design Center to insert pre-made blocks. In class demonstrations and demonstration videos in Brightspace.	
Module 5: SketchUp (LO 1.4)	Approximate Time on Module: 1 week
Learning Activity: Using SketchUP to create a 3D model Activity Type: Demonstration (In class demonstrations and demonstration videos in Brightspace) and Studio Project.	
Learning Activity 1: Demonstrations of how to start in SketchUp, SketchUp menu and command overview. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 2: Demonstrations of how to create walls, windows and doors. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 3: Demonstrations of how to create objects with dimensions. In class demonstrations and demonstration videos in Brightspace.	
Learning Activity 4: Demonstrations of how to import drawings from AutoCAD. In class demonstrations and demonstration videos in Brightspace.	
Module 6: SketchUp Materials, Colors applications, 3D Warehouse (LO 1.4)	Approximate Time on Module: 1 week
Learning Activity: Using SketchUP to create a 3D model Activity Type: Demonstration (In class demonstrations and demonstration videos in Brightspace) and Studio Project.	

Learning Activity 1: Demonstrations of how to add materials in SketchUp. In class demonstrations and demonstration videos in Brightspace. Learning Activity 2: Demonstrations of how to change colors in SketchUp. In class demonstrations and demonstration videos in Brightspace. Module 7: PhotoShop (LO 1.5) Approximate Time
class demonstrations and demonstration videos in Brightspace.
Module 7: PhotoShop (LO 1.5)
on Module: 2 wee
Learning Activity: Using Photoshop to add materials and colors Activity Type: Demonstration (In class demonstrations and demonstration videos in Brightspace) and Studio Project.
Learning Activity 1: Demonstrations of how to start in Photoshop, menu and command overview in Photoshop. In class demonstrations and demonstration videos in Brightspace.
Learning Activity 2: Demonstrations of how to add materials and colors on floor plan. In class demonstrations and demonstration videos in Brightspace.
Learning Activity 3: Demonstrations of how to add materials and colors on interior elevation. In class demonstrations and demonstration videos in Brightspace.
Learning Activity 4: Demonstrations of how to add lighting in Sketchup models. In class demonstrations and demonstration videos in Brightspace.
Module 8: Photoshop for Presentation Board (LO 1.5) Approximate Time on Module: 2 wee
Learning Activity: Using Photoshop to compose a presentation board Activity Type: Demonstration (In class demonstrations and demonstration videos in Brightspace) and Studio Project.
Learning Activity 1: Demonstrations of how to compose a presentation board in Photoshop. In class demonstrations and demonstration videos in Brightspace.
in Photoshop. In class demonstrations and demonstration videos in
in Photoshop. In class demonstrations and demonstration videos in Brightspace. Learning Activity 2: Demonstrations of how to use exported images from

Effect of Remote Synchronous Delivery on the Future of Interior Design Pedagogy

Dr. Maha Salman, Yorkville University
Penny Fobler-Cressy, Yorkville University
Reem Habib, Yorkville University
Dina Elkady, Yorkville University
Gamal Mohammed, Yorkville University

ABSTRACT

In the uncertain situation of COVID-19, professionals working in the education development and learning strategies start to wonder why the situation seems very weird and tough although, a lot of institutions were involved, somehow, in what we called on-line teaching process. Most postsecondary institutions worldwide started to use virtual learning or remote synchronous delivery as the most applicable method to keep connection with students in a social-distancing situation. In this context, it might be too early to rush to drive solutions or summarize conclusions. The key point is to reach to an expressive question that describes and evaluates the situation in interior design education as an advanced step of the diagnosis process of the current situation that can be, then, seen, as stepping stone in the right direction toward future solution. Therefore, the analysis of the current problem by articulating its impacting parameters can be considered as the right strategy for any future treatment and stable foundation for this uncertain situation. As a response to crisis situation, we need to answer an urgent a question, how will remote synchronous delivery affect interior design pedagogy? How can we be prepared for innovative teaching approaches to shift to new learning methods and novel alternatives? To understand the current remote synchronous delivery of Bachelor of Interior Design (BID) courses at University X, the research focus is on four streams that include theory, studio, technical, and software (computer based) where multiple methodologies have been conducted. Data is collected through students' survey, literature review, and observations. The main areas that were explored: productivity and peers

interaction, class engagement and accessibility, effects on mental health, and learning challenges and obstacles. Mental health has been at the epic center and discussed widely as one of the most anticipated effect of the pandemic. Several researches addressed the expected deep effects on individuals' anxiety and stress levels and consequently productivity. Some students' responses indicated that when they are attending physical on campus class sessions, the experience prepares them mentally to engage in a focused environment, while the synchronous online delivery experience can summon lethargy and entice laziness syndrome. Others may have found that the balance between education and the part time job they held during the pandemic was achieved by learning and working from their residence. It's also noted that mental health and family support are important key points to explore especially with international students who were either isolated away from family while attending full time interior design program or prevented from attending the program even virtually because of local time differences and poor internet connections at country of residence. It was noted that technology issues such as lack of access to reliable WIFI, printers and/or software that were made available to students on campus, might be another key factor that instigate anxiety and deprive students from a stable and constant course stream The research findings provided recommendations towards improvements and modifications of online education delivery methods. It was noted that the adaptation and support processes were reciprocal between professors and students as if the sudden shift towards remote synchronous delivery also shifted and developed a sense of connection and communication between peers and faculty. Students and professors are struggling to move forward through challenging time that seem to require new measures of implementation to sustain both the quality and integrity of the education process.

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Effect of Remote Synchronous Delivery on the Future of Interior Design Pedagogy Synchronous Remote Delivery (SRD) Experience Survey

This survey explores interior design students' experiences and challenges with **Synchronous Remote Delivery (SRD)** via zoom during COVID 19. The aim is to collect data that will be used to asses and evaluate the model from several key aspects:

- Productivity and Peers interaction
- Class Engagement and Accessibility
- · Effects on Mental Health
- Learning Challenges and Obstacles

This survey is anonymous; it will take 5-10 minutes. Thanks in advance for your participation. By submitting this survey, you are giving the authors the consent to use the results for research purposes.

SECTION 1: INTRODUCTORY QUESTIONS:

 Please ind 	icate your	age	range
--------------------------------	------------	-----	-------

- a. 18 –25
- b. 26 -33
- c. 34 -41
- d. 42 -49
- e. 50+

2. How many courses you are taking this term?

- a. 1-2
- b. 3-4
- c. 5+

3. Describe your course load this term compared to your usual load?

- d. The same
- e. More
- f. Less

4. Are an international or domestic student?

- a. Domestic
- b. International

SECTION 2: SYNCHRONOUS REMOTE DELIVERY (SRD) EXPERIENCE

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Synchronous classroom environment via zoom is more productive than physical classroom environment	()	()	()	()	()
Synchronous classroom method of delivery allows for interaction between instructor and students ike the physical classroom	()	()	()	()	()
Synchronous classroom via zoom can provide opportunities to engage students in class	()	()	()	()	()

discussions with their peers					
As an interior design student, you prefer having synchronous classroom via zoom than attending physical classroom after COVID 19 crisis	()	()	()	()	()
SECTION 3- SYNCHRONOUS RI	EMOTE DELIV	VERY (SRD) CHA	LLENGES		
6. Which of the below re- interior design software	sponses des	cribes struggles	in accessing r		alling required
() Access to required software					
() Laptop / Desktop capabilities	(camera, aud	lio,			
() Internet connection access					
() Access to course materials					
() None () Other Specify					
7. As an interior design synchronous zoom educe () I feel I am more focused () Ease of access from home d () Anxiety over amount of work () Increased feeling of lethargy () Increased feeling of lonelines () None () Other Specify	ecreased leve and assignment	or mental health o	during COVID 19		
8. As an interior design s zoom experience? (Plea			do you evaluate	synchronous deli	very model via
() Allowed for a balance betwee	n education a	nd part time jobs			
() Enhanced your scheduling a	nd time mana	gement abilities			
() Affected negatively your abili	ty to connect a	and engage with p	eers and profess	ors	
() Decreased sense of alienatio	n and languag	e barrier			

() None
() Other.
Specify
As an interior design student which courses do you find yourself struggling more with since your started using Remote Synchronous Delivery via zoom? (Please select all that apply)
Please provide a rationale for your selection in the blank box below
() Studio Courses
() Drawing and Drafting Courses (Manual drafting, construction drawingsetc.)
() Computer Applications/software Courses (CAD, Revit, Sketchupetc.)
() Lecture / Theoretical Courses
() None
Rationale:
10. If you are taking courses that require collaborative engagement/assignments, how do evaluate yo experience working in teams in RSD? (Please select all that apply):
Please respond to this question as (Not applicable) if you did not have such course until now.
() I have better opportunity for collaboration remotely via zoom
() I found Break-out room via zoom very useful
() It is difficult to do collaboration work remotely
() I prefer face-to-face collaboration
() I can manage collaboration work both remotely and face-to-face
() Other.
Specify
() Not applicable

	11. What type of in class activities made you more engaged during zoom session (Please select all that apply):
() In-class discussion
() Analyzing Case studies in class
() Break room discussions
() Include short videos and discussion in class
() Hands-on assignments in class
() None
() Other. Specify
	12. What are the other challenges you face as a student during the COVID 19 situation that were not addressed in the survey? (Optional)

Thanks for your participation

Help With the Architectural Scale: Exploring Interior Design Students' Mathematical Units Construction and Coordination

Dr. Heather Carter, Oklahoma State University Karen Zwanch, Oklahoma State University Diana Allison, University of The Incarnate Word

ABSTRACT

Many undergraduate interior design majors are unprepared for the mathematical complexity required in the profession and, consequently, the degree (e.g., measurement, scale factor, and spatial reasoning). Instructors observe students having difficulties using the architectural scale, comprehending spatial relationships, and computing material calculations for projects. Although in educational research there are studies dedicated to understanding general students' mathematical abilities (Hackenberg & Tillema, 2009; Steffe, 1992), no research specific to interior design students was found. To begin filling this gap, a small qualitative case study was conducted to see if the mathematical theory of units construction and coordination could provide a framework to measure interior design students' mathematical abilities (Hackenberg & Tillema, 2009; Steffe, 1992, Ulrich 2015, 2016). Units construction and coordination refers to a student's ability to interpret mathematical tasks with increasing levels of sophistication, which are measured in three distinct, hierarchical stages. This framework was used both to interpret sophomore interior design students' understanding of measurement and scale factor and to identify their level of mathematical application relative to the interior design profession. Semistructured clinical interviews evaluated the students' stage of units construction and coordination, their fluency with a ruler, and their ability to reason about scale factor. Additionally, students measured an existing, furnished lab and hand-drafted as-built floor plans. Results indicate 75% of the students were stage two and 25% were stage three. Students at stage two could apply whole number scale factors to linear measurements but could not accurately

apply scale factors involving fractional linear units or square units. In contrast, stage three fluently applied whole number and fractional linear units and square units in the context of scale factor. The authors suggest that early assessment of ID students' units coordination structures is one method to evaluate their mathematical ability levels with the goal of applying specific interventions tailored to individual student needs. Research has found most college students are stage 2 or 3; successful interventions to move students from stage 2 to stage 3 have not been found to date (Boyce & Norton, 2016), indicating that instructional strategies will be critical to support stage 2 students' fluency with the mathematics of interior design. These stages do not measure creativity or verbal abilities. While mathematical abilities, including spatial reasoning, are important, there are interior design positions that require less fluency than others. Since, anecdotally, many interior design students have expressed to their instructors their weak arithmetic capabilities, it is advantageous to have resources at hand to support students. Some students have stated that fear of math caused them to switch majors. Early assessment allows targeted intervention for those students at lower stages to scaffold their mathematical skills and strengthen skills in other areas of the program such as those requiring creativity or verbal abilities. Future research is needed to expand the number of students evaluated with the instrument and to evaluate potential interventions including dissecting the mathematical process to the simplest explanation and utilizing worksheets to support students' comprehension and abilities.

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Appendix A: Units Coordination Tasks

	3 <u>9-38-31-36-36</u>	Teacheri		Date:
the Łars	shown above t	o answer the following th	ree questions:	
1. How	many times de	es the Medium Yellow	Bar fit into the	Long Red Bar?
				answer:
				<u></u>
2. How	many times de	es the Small Blue Barf	t into the Med i	um Yellow Bar/
				answer:
3 lise	his informat o	n la f gure a it haw man	v times the Sma	II Blue Ba r fi vinto th
	Red Bar?	n mi gura nang	y 111116-3 ((16-13 111 26	
				answer:
Use t	he space belov	v to draw a picture and	explain your a	nswer.

ĺ	
oe th	e fulla xiry information to unswer questi ws obast, the bars shown above:
4.	Pretend that the Medium Purple Bar fits into the Long Orange Bar exactly 2 times.
	Pretend that the Small Green Bar fits into the Medium Purple Bar exactly 6 times.
	times. Use this information to figure out how many times the Small Green Bar would fit

Ť	
Tse th	ne follo xiry information to answer questions about the bacs shown above:
5.	Now pretend that the Medium Purple Bar fits into the Long Orange Bar exactly 2 times.
	Pretend that the Small Green Bar fits into the Long Orange Bar exactly 8 times.
	Use this information to figure out how many times the Small Green Bar would fit
	into the Medium Purple Bar?

Use the space below to draw a picture and explain your answer.

ame	:
î	
	_
se th	e fallowing information to answer questions about the bars shown above:
6.	Now pretend that the Small Green Bar fits into the Long Orange Bar $exactly12$ times.
	Pretend that the Small Green Bar ${\it fits}$ into the Medium Purple Bar exactly 3 times.
	Use this information to figure out how many times the Medium Purple Bar would fit into the Long Orange Bar?
	answerr
	Use the space below to draw a picture and explain your answer.

4

-	
1)te	e following information to ons wer questions about the back shown above:
	e following information to ans wer questions about the back shown above: Now pretend that the Sma ll Green Ba n fits into the Long Orange B an exactly 9 times.
	Now pretend that the Small Green Bar fits into the Long Grange Bar exactly 9 times. Pretend that the Small Green Bar fits into the Medium Purple Bar exactly 4
	Now pretend that the Small Green Bar fits into the Long Orange Bar exactly 9 times.
	Now pretend that the Small Green Bar fits into the Long Orange Bar exactly 9 times. Pretend that the Small Green Bar fits into the Medium Purple Bar exactly 4

Use the space below to draw a picture and explain your answer.

5

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How We Overcame Misconceptions and Learned to Love Online Studio Education

Dr. Maruja Torres-Antonini, University of North Carolina - Greensboro

Matthew Jones, University of North Carolina at Greensboro Cameron John, University of North Carolina at Greensboro

ABSTRACT

This presentation describes and reflects on a blended design studio model based on currently recommended best practices for online design studio education and implemented in a 60-student sophomore course during the COVID-19 crisis. In the Spring of 2020 institutions were given a week to pivot from conventional education in response to the evolving pandemic. Despite the widespread use of learning management systems for online teaching and learning support, and the progressive adoption of digital technologies in design practice over the last 30 years, design programs lagged other disciplines in the adoption of online learning (OL). This was particularly true in relation to design studios, where in general we hesitated to adopt such methods. Design studio is a distinctive pedagogy centered on learning by doing in a physical and temporal place that rests on a socially active environment of spontaneous interaction and collaboration through cycles of experimentation, making, reflection, and display. To provide this valued learning context through OL is at best, challenging. Regarding higher education's attempts at online instruction in the Spring of 2020, OL experts decried that the remote learning they were seeing was not online learning: Instructors still needed to carefully consider the online delivery modality, course design, and related student needs. Best practices culled from online design education literature (c.f. Ioannou, 2018) allowed identifying the features implemented in our model: Blended learning. As a team-taught venture, multiple viewpoints and skillsets are brought to the table. This diversity is one of the greatest strengths of blending OL and in-person (IP) instruction. Disseminating information and submitting assignments online allows students the

flexibility to safely and fully participate in coursework, and time spent in studio, whether remotely or IP, to be more formative. Learning by doing. Lectures, demos, and critiques are performed in studio, recorded, and shared online for the whole group to access throughout the semester. Focus on process. A sequence of problems scaffold on one another as the semester progresses to build and strengthen the students' understanding of the design process, design composition, and space. Interaction. The format allows all students to glean understanding from information and conversations that in the past may have been too fast paced or taken place within a closed group. Collaborative context. Small learning clusters allow personal meeting spaces for building a studio culture while maintaining a safe learning environment. Extended interaction occurs within individual sections and with the overall 3-section group. Serve student needs. The flexible OL format allows 24-hr access to information and resources for all students regardless of their physical location. While translating this course into a blended learning format, we discovered just how much of a laboratory the studio environment can be in this moment. However, our preliminary observations are encouraging: Student engagement and performance seems to compare favorably with that of previous, conventionally taught, issues of this project, as seen in the Appendix. IP studio teaching is a hallmark of design education as it provides opportunity for role-modeling, mentoring, and making that cannot be completely satisfied through OL. But, as health experts forecast recurrent pandemics in this globalized, environmentally compromised world, we need pedagogies that replicate the power and richness of design studio learning by leveraging online technology. While follow-up studies are needed to definitively evaluate this experience and identify possible improvements, we submit to the claim of pioneering OL design educators: "The dam is now broken... What this current crisis has forced upon the design teaching community is the realization that teaching [design] online is indeed possible" (Academy of Art Institute, 2020).

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Scholarship of Teaching and Learning | Pedagogy | Presentation

In-Between

Kevin Moore, Auburn University Jennifer Pindyck, Auburn University

ABSTRACT

Design is the art of negotiating between competing desires. Designers are continuously asked to invent an in-between. This does not mean the in-between is a compromise. It is a new condition, in fact, one that often challenges the status quo and forces the industry, client and general audience to do the same. The in-between is inevitably the most realistic option. For a 10-week studio, students imagined a renewed future for a distinct but unassuming building as separate but related showrooms for home goods and office environments. Conducted entirely online, the studio also challenged students to imagine a new interior in-between home and workspace. Eschewing reductive labels such as living room or bedroom, students interrogated their own apartment, now a studio, by measuring and drawing existing furniture and the activities it instigates. Inventing novel possibilities for their own apartment directed the catalogue for the home goods showroom. For the office showroom, students researched furniture based on levels of interaction and autonomy—hive, cell, den, club—to curate a diverse range of environments (Duffy 1997, 60). Diversity is exactly what is at stake here. Based on location, the showrooms are intended to invite customers from the rival worlds of free-market government law and nonprofit creative activism. Attempts to organize material and spatial diversity are timeworn concerns. Post-Modernism—as theorized in the 1960's and practiced in the 1970's and beyond became a strategy to collage recognizable design elements. What was subversively populist focused so much on surface that its subversive potential dissipated. However, Modernism—as practiced starting in the 1920's and theorized in the 1960's—focused on superimposing coincident spaces. What was powerfully subconscious focused so much on abstraction that its transformative ambiguity was rejected by a general audience. Here, an in-between, unique to interior architecture, attempts to prove abstract spatial definition and material qualities are

equally necessary. Florence Knoll proves a rich example. She combined new spatial complexity with lush materials to appeal to a traditional but forward-looking corporate America (Havenhand 2019, 118). Her iconic showrooms were also in-between domestic and commercial spaces. It is a realistic but disarming diversity. Borrowing from Knoll's paste-up method, the studio focused on digital collage. Collage collapses incompatible scenes onto the same surface. However, students were challenged to develop an in-between that maintains the intensity of separate scenes but creates meaningful spaces between. Additional strategies developed by the students include spatial devices such as nested volumes and three-dimensional stripes that organize a material palette at the edge of disorder. The result is a catalogue of multi-generational spaces that are vibrant but subdued, graphic but experiential, pragmatic but theatrical and serious but with a sense of humor. These combinations are not a compromise; they are a realistically subversive in-between that invites a diverse public into a new world.

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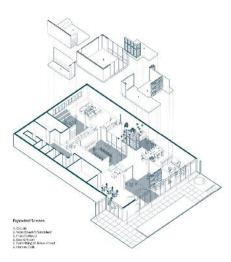
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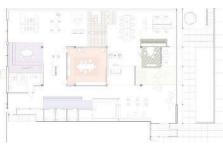
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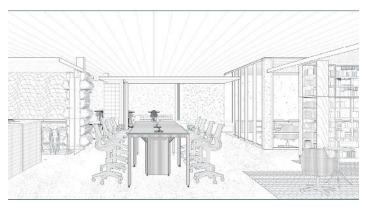
In-Between Scenes

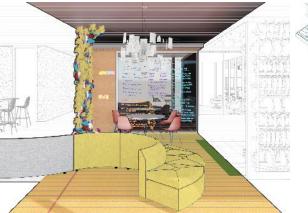
From the student, "This showroom offers a variety of office furniture for every generation. The displays span from the traditional office to the millennial clubhouse to allow customers to see the familiar and the bizarre simultaneously. The scenes themselves are placed around the store so that the typical office hive becomes in-between spaces."











CoLab: An area where one can jot down or scrap all the light bulb ideas they have while brainstorming.



Nature Calls: A motivating water wall screen that stands in front of the bathrooms and creates a serene and natural threshold before one enters the bathrooms.



Work Doesn't Succulent: A wall of succulent plants with furniture that blends into the environment is the perfect place to work when you need that extra dose of oxygen on a rough day.



Something to Rave about: This Ultra-suede meeting room is a place where people can get in their groove and ideas become lucid to the team.



Hard to Read: For the employee who is hard to read at least their office won't be.



The Bored Room: An office big enough to not only fit one man's ego but the whole offices'.

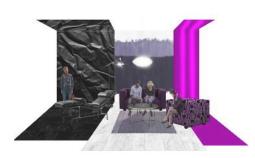




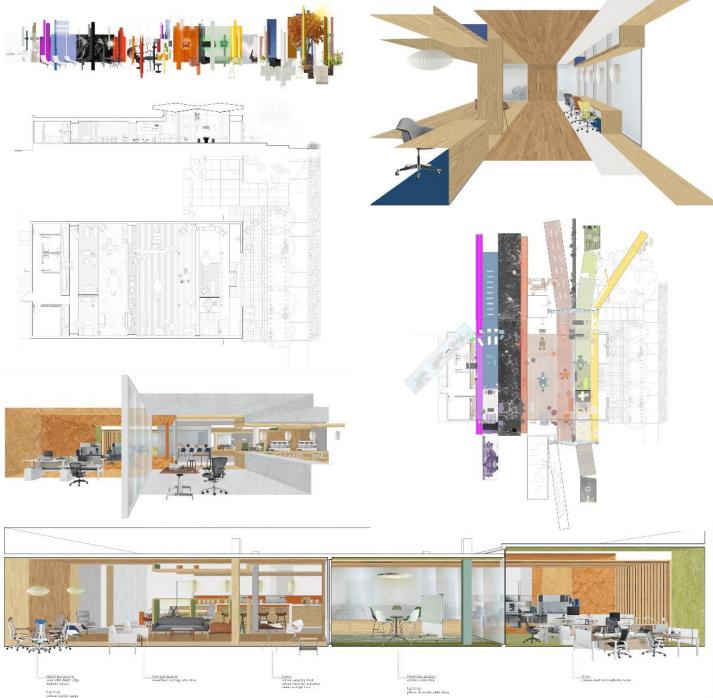
In-Between Stripes

From the student: "All surfaces are treated as stripes that wrap the interior. The result is a large open space that tactfully hides lighting and acoustic surfaces while boldly displaying architectural materials and furniture. In this way, what is typically disordered is controlled and what is often banal is exuberant. In this open but striped space, a diverse range of furniture—including choices that could clash in a more typical setting—seamlessly finds its place."



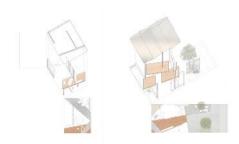


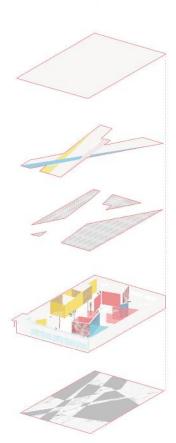




In-Between Boundaries

From the student: "Free-standing walls and a complex ceiling and floor pattern are all arranged by intersecting directions of space. The result is a 'theater.' The views that are framed and composed become stages, with furniture as actors and actresses. Then, when customers sit on the furniture, they perform with them."











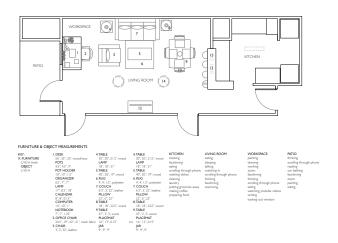




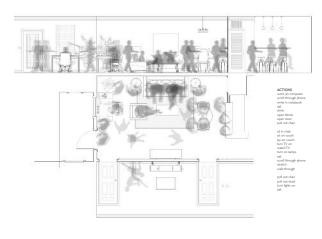




In-Between Methods



A measurement of our everyday: Each student documented, in detail, one area of their domestic realm typically labeled living, dining, office or bedroom. Completed during the summer lockdown of 2020, traditional realms significantly overlap.



Furniture and the realm: To describe overlapping realms in a single space, students documented all of the actions that take place, the objects associated with these events and the requirement of each object to instigate an action.



A catalogue of possibilities: Working from their existing domestic realms outward, students imagined novel in-between events and objects. This directed the catalogue for the home goods showroom.



Surface > + < space: An interior elevation is a single surface alone, so students partnered elevations with floors, ceilings and adjacent walls. The unfolded drawings establish precise relationships between surface and space.







Virtual display > + < physical experience: Conducted entirely online, the studio challenged students to develop a realm in-between an online and brick and mortar showroom. Material effects such as reflection are simultaneously virtual and physical.

Learning by Making: Following a Set of Rules Through Multiple Iterations to Promote Critical Thinking

Milagros Zingoni Phielipp, University of Tennessee

ABSTRACT

As students advance in their design education they often employ digital tools to create patterns and spaces results of a set of rules. But, very often, the end result is stronger of what the student original visualized and therefore it challenges very little students' reflections on their set of rules or commands (Feil 2019). Moreover, these iterative explorations using software as generative of forms is often disconnected from students' original intentions. Yet, the aesthetics of the project would fulfill expectations for the studio project. Design faculty continue Wilson's (1998) emphasis on learning through making through research and teaching pedagogies about the relationship between learning by making and making in relation to thinking. For instance, in interior design making is evaluated through the lens of prefabrication and learning outcomes (Dowling 2012, Schneiderman and Freihoefer 2013), Schneiderman 2014) and recently by Weinthal's (2019) Writing-Casting-Making: a transition from theory to making, Zhang's (2019) Thinking Through Making: Containing Ritual. These last two projects and Folding Origami Tessellations (Feil 2019) springboard as the base for assignments that inform the making process. This study asked students in a graduate CIDA accredited studio in interior architecture to explore the symbiotic relationship between [analogous] making and critical thinking by exploring notions of identity while following a system of rules set a priori by the instructor: cutconnect-repeat, subtract- repeat- fold, and score-fold-repeat. These rules were contingent to the material assigned to each group. There were three materials: 1- carboard already used to protect the interiors of elevators under construction, 2- leftover corrugated plastic from a previous funded project, and 3- cardboard tubes salvaged from a graphic design company. Throughout the [analogous] making iterations, students developed subsequent set of rules through, result of the

critical thinking of the relationship between identity and form. The studio aimed to explore 1how to renovate or repurpose the foundational principles introduced early on in their design education as a means to reduce students' dependency on the flat-screen for the generation of ideas. 2- How can students take back the intentionality behind their proposed form, result of iterative making? 3- How to leverage wasted materials for learning through making. In order to do so, students made a series of quick physical models to identify strategies for the best combination of folds, cuts, or subtractions. In essence, the process of following a set of rules is strongly guided by both the designer's mind and skillset (Feil, 2019). Following these set of rules through physical prototyping, teaches designers to concentrate on the given task from beginning to end, testing every iteration of form, against the a priori intentionality. The acts of folding, cutting, subtracting lead to the discovery of opportunities which necessitate the development of strategies for merging individual elements/ideas into a bigger, coherent picture. Moreover, students found inspiration from the limitations imposed by the set of rules given by the faculty as well as from the conceptual notions of identity they were required to represent. This study place emphasis on three areas that are in a symbiotic relationship: poetics on identity, set of rules informed by materiality, and form informed by the set of rules. In the sense, notions of identity promote critical thinking, rules inform making and together they produce experience through form. This presentation seek to convey an approach to teaching where students develop a tangible awareness of three dimensional form and proportion by focusing on the manipulation of a given material defined by a set of rules established a priori. Through a process of thinkingmaking- learning [repeat], students can visualize in real time how their decisions generate form.

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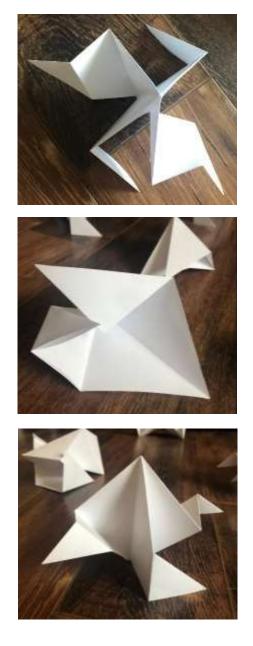
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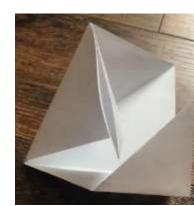
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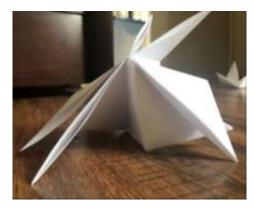
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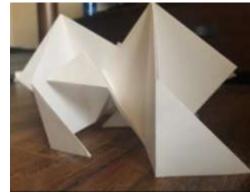


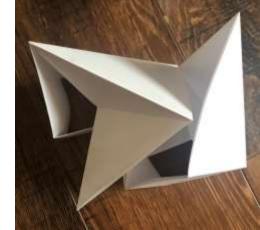


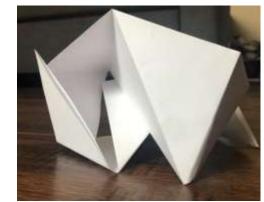










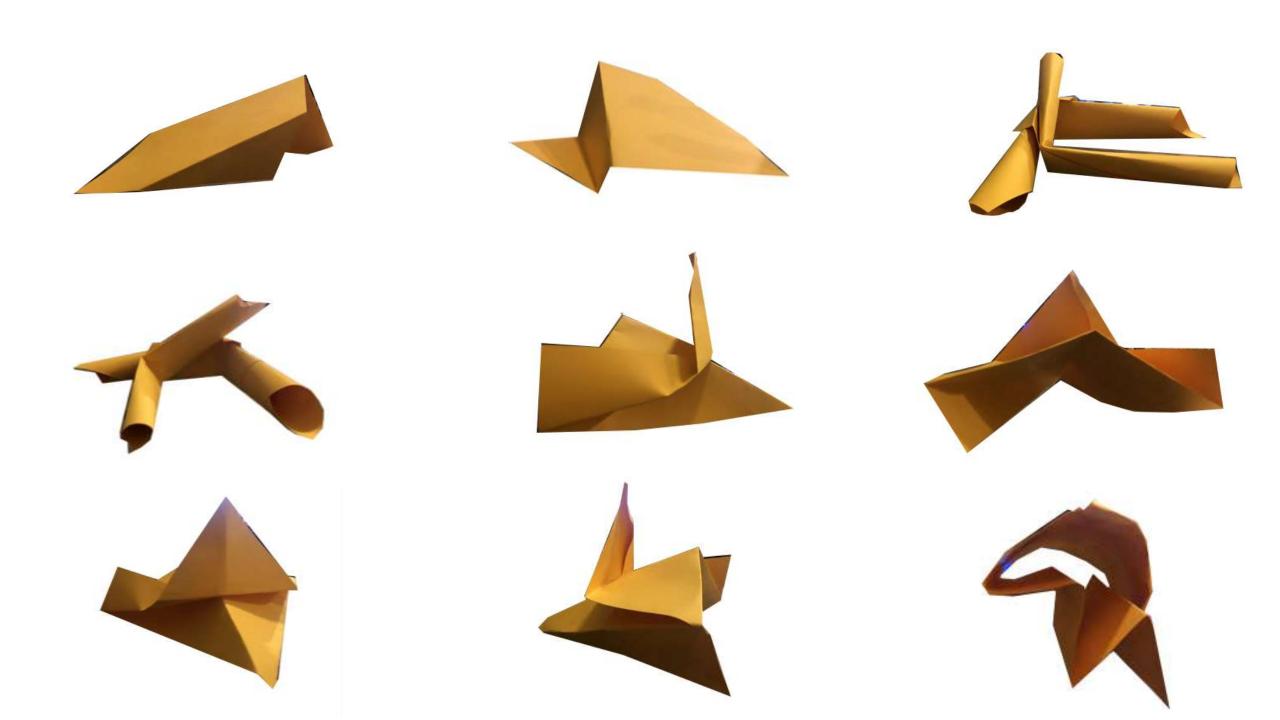




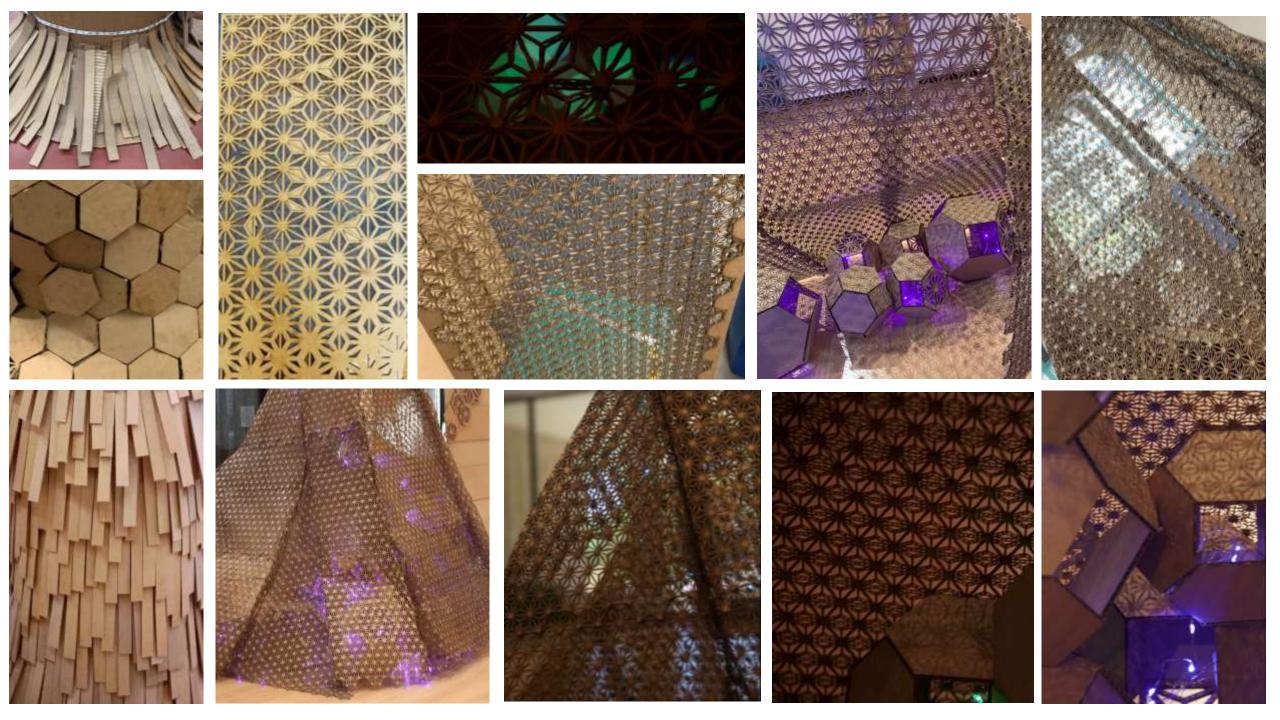






















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Long Distance Relationship: The Virtual Studio and the Remote Maker Space

Dr. Marlo Ransdell, Florida State University Chasen Bloch, Florida State University

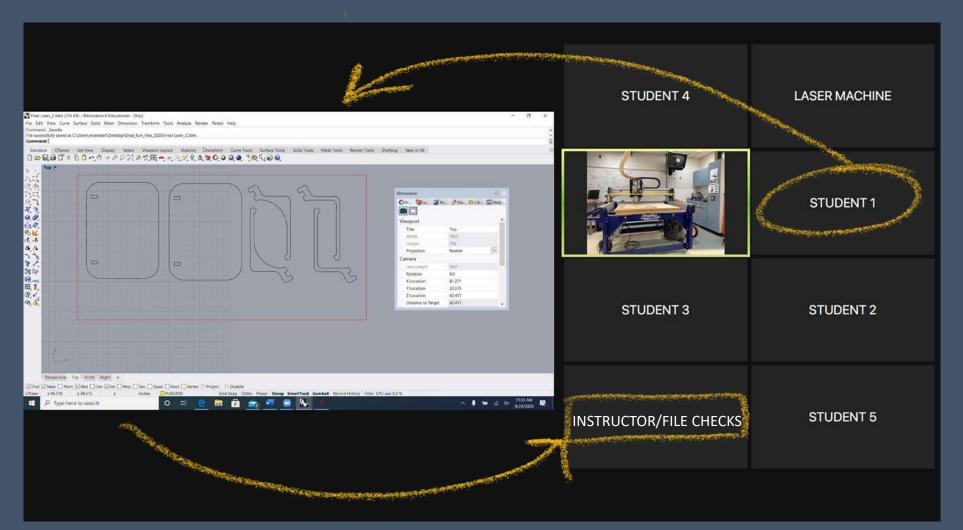
ABSTRACT

It goes without saying that recent events and sudden changes to campus access have had largescale impacts on teaching, learning, and the use of physical learning environments. However, this is especially true of experiential learning spaces (performance, studios, makerspaces, and equipment-rich environments) that practice and rely on in-person demonstrations and interactions. Experiential learning spaces are essential aspects of higher education learning as they support "communities of practice," which foster learning beyond the classroom (Kolb & Kolb, 2005). Rethinking the use and pedagogical approach of these learning spaces has been put on the fast track recently, and to maintain the investment in physical and equipment-rich environments, navigating the transition to online and hybrid approaches has become more critical than ever. In applied arts education (art, design, theater, architecture, and others), physical labs and specialized equipment spaces successfully facilitate learning and provide unique experiences for the students involved. Maker spaces and the experiential pedagogies they support present a unique opportunity in the era of authentic and meaningful distance learning to uncover strategies for success in the future. This discussion aims to explain the long-distance relationship that has developed over the past year between the virtual studio and the remote maker space. The shift in the maker space's physical use, and it's newly found remote relationship to the virtual studio will be presented in three phases as it evolved into a true hybrid and inclusive maker space model. During the first phase in spring 2020, the maker space found itself in a limbo state with no activity of any kind for six weeks. The use of software and technology to accomplish the final course goals was reactionary and strictly facilitated the virtual studio's minimum levels of success. The immediate needs that arose in phase one prompted the

development of phase two during the summer of 2020. This planning resulted in a 12-week pilot study that included four design professionals in different locations. The goal of the pilot study was to successfully connect the virtual studio with the remote maker space to facilitate the creative process of prototyping production. The lessons learned from these experiences formed the fall 2020 hybrid approach for graduate students, which successfully navigated in-person and remote studio and maker space activity depending on the current day or student needs. Logistics include remote file sharing, on-screen critiques, production files checks, machining toolpath setups, animations of production, and final prototype production (Appendix). The result is that students involved themselves in all studio and maker space occurrences in real-time regardless of their in-person or remote class status during this final phase. This presentation will focus on adapting pedagogical approaches and understanding behaviors within the maker space for successful learning when in-person interactions may be limited. Further, this will discuss teaching and learning opportunities in a creative and experiential maker space for applied arts/design education and the challenges this type of learning presents to our collective online/hybrid future. This demonstration-based presentation will offer participants an in-depth look into the workings of the virtual studio and the remote maker space's successful longdistance relationship.

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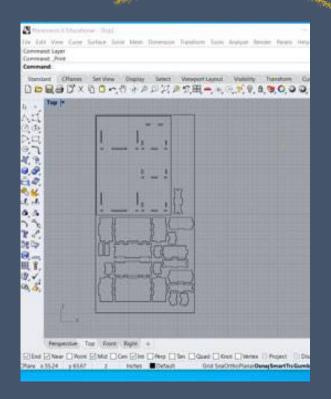
Kolb, A., & Kolb, D. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. Academy of Management Learning & Education, 4(2), 193-212. Retrieved September 26, 2020, from http://www.jstor.org/stable/40214287



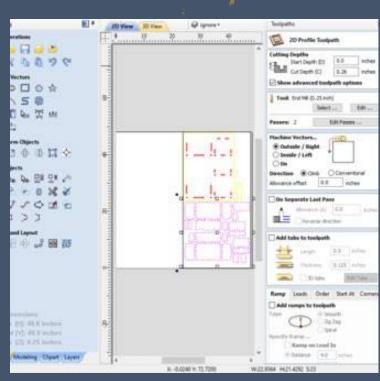
Student 1 shares their production file with class and Instructor for full screen critique.

After critique, Student 1 and Instructor begin the production approval process.

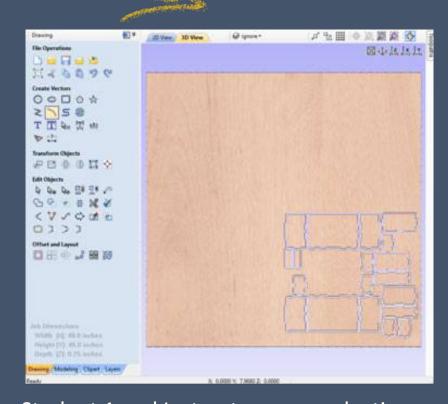
Production Approval Process



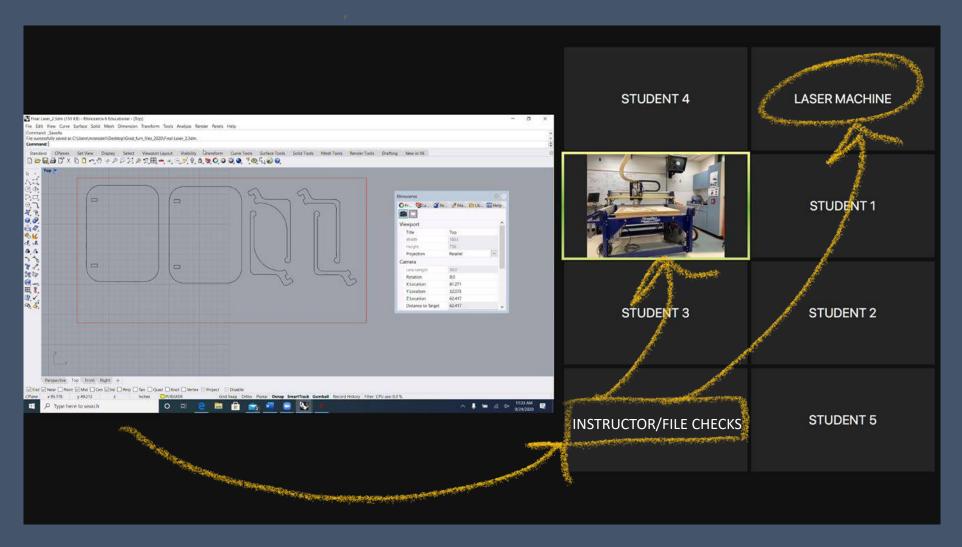
Student 1 sends critiqued file to Instructor for review.
Instructor reviews file with Student 1 for correct vectors, measurements, and placement in Rhino Software.



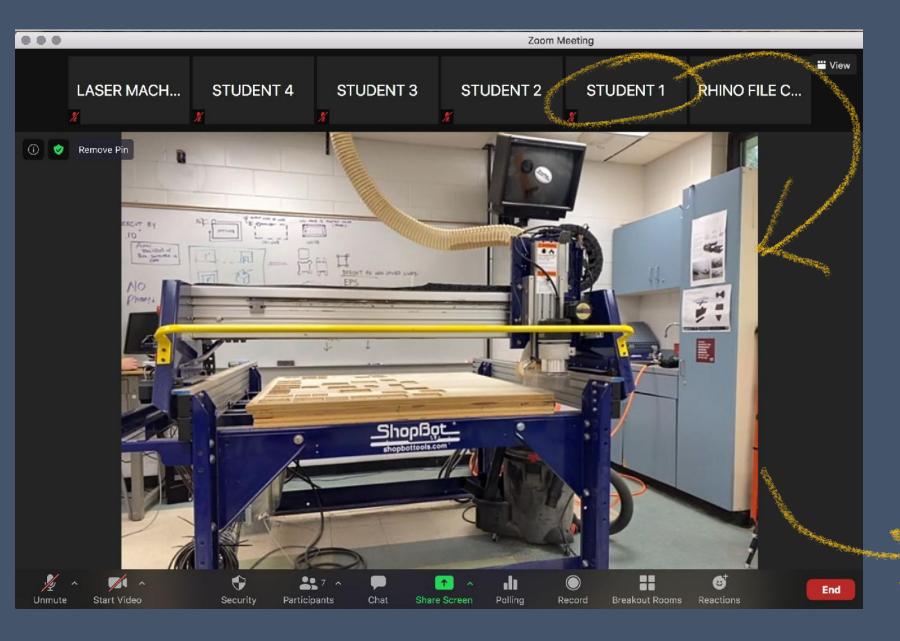
Student 1 and Instructor collaboratively assign production toolpaths for all closed vectors in Aspire Software for machining.



Student 1 and Instructor run production animation of toolpaths in Aspire aerial view. This uncovers opportunities to enhance the upcoming prototype production for quality, time, and material use.



Once the production file is approved in Rhino and Aspire, the Instructor sends the file to the Laser Machine and/or CNC Machine for prototyping at the remote makerspace.



Student 1 views the production of the prototype at the remote makerspace in real-time and arranges pick-up of prototyped pieces and sandpaper for finishing based on production time.





Scholarship of Teaching and Learning | Pedagogy | Presentation

Material Fabrication for Material Application

Nathan Bicak, University of Nebraska Lincoln

ABSTRACT

Relevance and Problem The application of materials to an interior design project has the power to create sensation, evoke memories, and engage the human body as an active participant in the experience of space.(1) The multitude of material options for a practicing designer requires an advanced understanding of their potential effects in application. Establishing and integrating materials in the interior built environment must exceed the skill of composition; a designer must see materials' embodied potentials to connect users and contexts in the most intimate of ways. This presentation discusses the effectiveness of full-scale material prototyping as a mechanism to understand interior materials' impact on human experience. *Context* Material Applications is a 3rd year, core curriculum interior design course that endeavors to evolve students' understanding of material application through full-scale making. This is the second course in a two-course sequence, with the first focused on technical and performative aspects. Material Applications focuses on material meanings, application strategies, and impacts on human senses. The course is structured to allow students to gradually increase their awareness of the role of materials in interior environments. Through early application exercises and case study analysis (Appendix A), a vocabulary of material qualities is built. Readings and lecture topics focus on the relationship between materials and spatial experience, by way of context, human senses, and perception. The latter half of the course focuses on the fabrication of materials toward better understanding application strategies and human scale interactions. *Instructional Methods* The prototyping projects in this course elicit material proposals through multiple design scenarios, asking students to generate original ideas by both hand and digital means. (Appendix B) The intention of these projects is to provide students an outlet to explore the role that full-scale making can play in their design process. The objectives of these exercises are 1) to work at oneto-one scale with real material, to test limits and gain insight into materials' physical qualities

and characteristics, 2) to exercise maker skills and 3) to recognize the relationship between materiality and sensorial experiences on people. *Outcomes* In Fall 2019, students were asked to qualify survey statements about their learning and were asked to write reflections on how these exercises helped them grow as designers. Survey data indicated that 76% of students (n=21) strongly agreed that the exercises helped them think about new approaches to selecting and creating materials, and offered new ways to think about designing space. Two-thirds of students strongly agreed that the exercises helped them gain confidence in designing custom elements for interior spaces. Prevalent themes (~30%, n=22) from the written reflections included understanding material limits, feeling more comfortable with tools, and embracing experimentation through a trial and error process. One theme that only 24% of students mentioned is the idea that materials impact people through sensory experiences. While this theme was present in the project intention statements, the small incidence of this theme in the final reflection indicates that more can be done to help students make this connection. These projects allow students to test the limits of real materials at one-to-one scale and realize the application of materials can be experimental and experiential. Constructing design ideas benefits interior design students by allowing them to communicate intentions, and allows them to make the leap from the mind to object and space. (2) Students leave the course with new prototyping skills, and are able to consider ideas of material production, re-use, and material lifecycle. The projects position material making as an empathetic exercise rooted in user experience, understood through human senses.

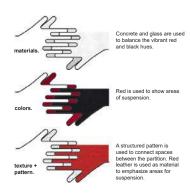
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Appendix A: Material Applications. Application and case study analysis exercises help build material vocabulary.

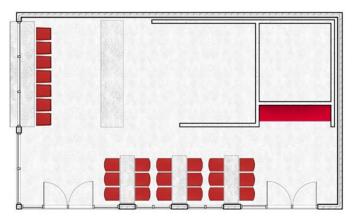


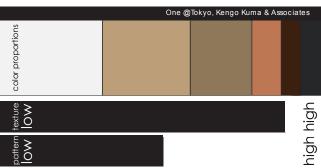
logo is intended to mimic the playful creative nature of the work of startup and gaming companies appeal to, helped to inform both my commaterial applications to the space. I a vibrant red and contrasted if with understated patterns and textures beste a more sophisticated feel that a ssional office may strive for.











texture OV

pattern |OW

The main goal of the hotel is translated into the individual rooms. On the right we can see a large use of wood which is implemented throughout the project. Although, in the rooms, the materiality is less bold and contains less large-scale partiers and restures. The public spaces made a statement, but the rooms are at a more liveled standard. The carpet gives subtle texture and a structured pattern that contrasts with the blank ceiling. This is a different element than the cement which was common in the public spaces. The wood materials are put on the walls and enclose the space. It is also seen that some rooms are focused on the historic wooden side of the goal while some have more industrial and metallic materials.











material impact of project elements







luxury There are multiple style of rooms. The atelier suite has wood textured walls and table that is the focal point and a full bathroom with stainless steel sinks and stone walls. Materials are use to help define each space.



Comfort

The wood textured wall brings warmth into the room. The carpet brings in another texture and soffness to a room that is surrounded by hard elements. The bed becomes a focal point of comfort when surrounded by hard elements.



Personality

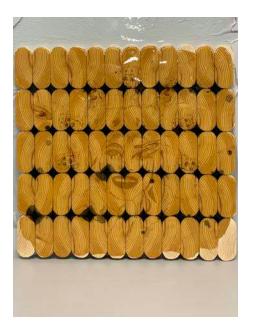
By bringing in elements such as wood that has a rough texture and natural color palette gives this room personality and a feel of luxury. The large table in the room give the space scale.



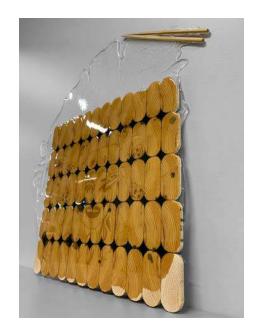
Appendix B: Material Applications. Material Making/Prototyping Projects (student work samples). 2x[Four] Project: Create a new interior material using only (and the entirety of) a 32" length of 2x4.











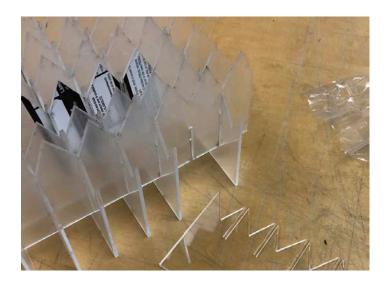




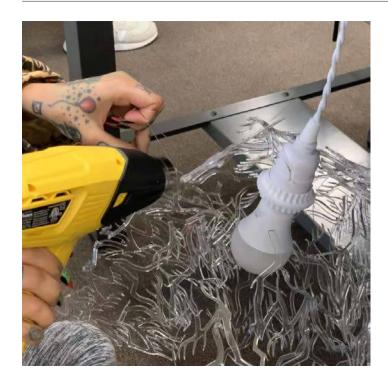
Appendix B: Material Applications. Material Making/Prototyping Projects (student work samples). Plasticity Project: Create a new interior material using only (and the entirety of) an 18"x24" piece of acrylic.

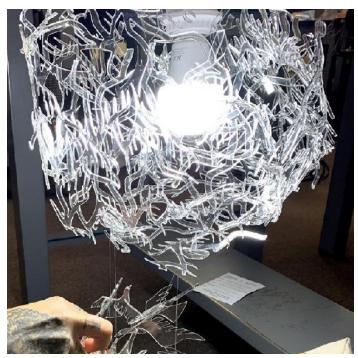






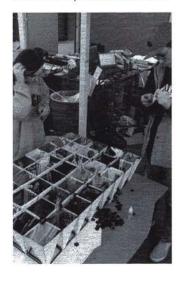


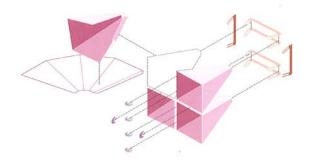


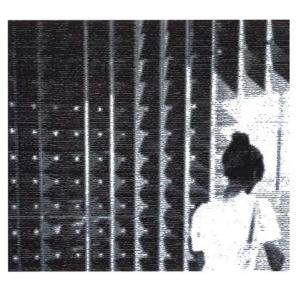


ENCLOSURE & OCCUPATION

For our third project, we focused on reuse of materials and mass production. Our enclosure is a cylindrical space made from an aggregate of pyramid forms folded from album covers. The clips and structure of the space are made from the records. Many records sit in Goodwill and other thrift stores untouched because they are undesirable in music type or are in bad condition. This project allows us to find a way to use those records and record covers to create a useable space in a record label office.

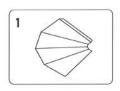








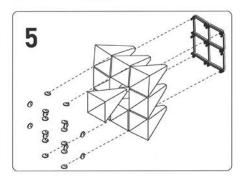




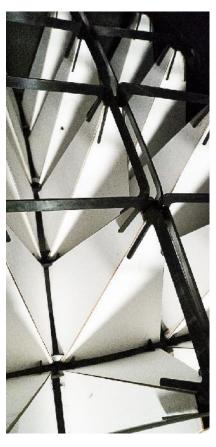














INTENTION

The project aim is to create a light filtering installation that considers the specificity of a singular bay in the link. We started by selecting a bay that had unique conditions; it is visible from multiple lines of sight, it is in a well trafficked area, and unobstructed by handrails or overhangs on its primary level. By choosing a location that offers multiple viewing angles we believe this will challenge us to incorporate depth into the design and think about the installation in greater terms of 3D VS 2D space and how that can produce a unique light filtration design.





POST INSTALLATION

We think the installation is successful in how it engages human experience and perception. The interior faces shift and challenge perspective as the viewer's position shifts creating a dynamic visual experiment. The line work does create a 2d reading of the surface hiding its depth in singular readings or from across the link. Creating a smaller scale module may have created a more holistic 2d reading from the associated walk way. The beyond faces work well to contrast the interior faces based on the color and depth. They do not visually pop as much as intended, but that may be due to cloud coverage and weather conditions.

The interior faces filter light as intended, giving the light that passes through a hue of the unseen color behind the black and white panels. The light filtering condition on the beyond side is somewhat less spectacular than expected. We knew that we would not be getting a lot of sun by positioning the wire frames facing north, but we thought there would be some more play with shadows and color vibrancy through the double window reading than seen so far.

Overall we are pleased with the installation. We wanted to create an installation that filtered light, encouraged the exploration / realization of points of view, and engaged depth.









Scholarship of Teaching and Learning | Pedagogy | Presentation

Materials in a Box: Hands-On Teaching Resources for Virtual Learning Experiences

Stephanie Sickler, Florida State University Helen Turner, University of Kentucky

ABSTRACT

Context: One of the many challenges facing interior design educators as pedagogy has shifted to online instruction, is retaining hands-on components of the curriculum. Nowhere is this more evident than in courses which rely upon experimentation, simulation, and physical examination, such as in a Materials course. It is long established that students are better able to understand applications and limitations of materials through active learning processes (King, 1993), yet distance learning presents unique challenges to this scenario. As an integral component of interior design education, the Council for Interior Design Accreditation (CIDA) standard 3e requires that students "have convenient access to a current range of information (bound, electronic, and/or online) about interior design and relevant disciplines as well as product information and samples" (CIDA, 2018). But what happens when this information must exist virtually and is taught remotely? This presentation reveals the process of developing an experiential learning kit for students in a virtual Materials course at two interior design programs. The outcomes suggest that a kit of physical course materials can become the scaffolding for maintaining student engagement during distance learning experiences. Methodology: Funded by the Irene Winifred Eno Grant by ASID, this project includes several phases, the early phases of which will be shared. The first phase included informal information gathering from personal experiences and anecdotal accounts from other educators regarding teaching materials in a design curriculum. These initial conversations lead to the development of a SWOT (strengths, weaknesses, opportunities, threats) analysis of course tools and requirements by researchers. The analysis revealed a variety of challenges inherent to materials courses, in addition to the challenges of online education, such as shortcomings of textbooks, availability of

product samples, accessibility to industry partners, and the need for content relative to health, safety, and welfare for users. It became clear that a pilot study would be necessary to determine project feasibility. Researchers assembled and distributed materials kits in boxes for each student of their materials classes, whether taking the course remotely or in-person. Kits were filled with physical samples, such as floor and surface tile, wallcovering, laminate, textiles, paint, and a variety of floor coverings that complimented the class lectures and resources for activities, such as a terrazzo kit and a hand-blocking textile kit allowing students to follow along in a hands-on and tactile way. The kits simultaneously eliminated the need for students to access their respective resource rooms, which have maintained limited access since the covid-19 pandemic. Conclusions: The ability for student engagement to remain high in a remote setting has been the ultimate success of this pilot program. Examples from these experiences as well as corresponding course activities will be shared during the presentation. This opportunity has shown that student engagement can be preserved in a virtual environment with the addition of a hands-on materials box component.

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Materials in a Box: Hands-on teaching resources for virtual learning experiences

Appendix file contents:

- 1- Kit contents
- 2- Kit images
- 3- Example Assignment sheet 1
- 4- Example Assignment sheet 2
- 5- Example Assignment sheet 3

Samples included in boxes for materials course includes:

- Wallcovering (commercial and residential)
- Floor tile
- Surface tile
- Laminate sheet goods
- VCT
- Plastic/resin (3Form)
- Textiles (performance and residential)
- Paint sheen card
- Rubber flooring
- Rubber cover base
- Wood or bamboo flooring (variety of types)
- Acoustic ceiling tile
- Glass
- Resilient flooring
- Woven vinyl flooring
- Carpet (residential and commercial)
- Quartz
- Solid surface

Activity kits included in boxes for materials course includes:

- Terrazzo kit (see attached assignment sheet)
- Hand-blocked textile kit (see attached assignment sheet)

^{*}Other materials can/may be added as needed.





Material sample kit assembly (top, top right), organization for packaging (right), and shrink-wrapped for delivery (bottom).





PURPOSE

To specify any material, it helps to understand how the material is made. As such, this activity will help you explore the process for making terrazzo.

TASK

- * photograph your process **
- 1 find / source your own aggregate
- 2 using the kit provided (concrete, plastic container, petroleum jelly) take the petroleum jelly and apply it to the inside surface of the plastic container this will help provide a barrier, making it easier to remove the terrazzo once curred.
- 3 prepare the concrete. Put the concrete in a disposable container, then slowly add water to achieve an appropriate consistency (the heavier the aggregate, the thicker the consistency will need to be to support it) aiming for the consistency of brownie batter more than a slushy.
- 4 place some aggregate in the bottom of the container
- 5 pour your concrete mixture on top and fill to desired thickness (at least half of the container so end product is stable)

 ** throw any remaining concrete away DO NOT DISPOSE OF IN SINKS, TOILETS, ETC. **
- 6 place more aggregate on top
- 7 let cure for at least 24 hours, then remove from plastic container
- 8 submit photos of your process as well as the end result along with a brief reflective statement about what you learned from the experience and how this contributes to your knowledge / understanding of materials / materiality.





HAND-BLOCKED TEXTILE DESIGN ASSIGNMENT

OBJECTIVE Design a block pattern to create a hand-blocked print inspired by a motif derived from an original William Morris textile. Utilize the form, shape, movement, textures, etc. of the given Morris print to inspire the design of a two-dimensional textile suitable for use as a window treatment. The window treatment style should be appropriate for use in a residence where the user plans to age in place. Health and well-being should be considered when designing your original block print. You may design a window shade, or drapery panels, in one of many varieties. Consider the scale of your original block print when selecting a window treatment style.



SKILLS & Deconstruction, analysis, and reinterpretation of the elements and principles ABILITIES of design.

Understanding context of historical textiles.

Understanding of textiles and their properties.

Visual communication with mixed media delivery methods.

Transition of material application from 2D to 3D.

Soft goods specification.



DELIVERABLES CONCEPT INFORMATION INCLUDING:

Image of original Morris print that inspired your design. Concept statement that includes information on the elements and principles of design as derived for inspiration from the original print as well as how your design contributes to overall feelings of health and well-being for the user, especially as it relates to the type of window treatment you have designed.

TEXTILE INFORMATION AND REPRESENTATION INCLUDING:

Specifications for the textile indicating weave, pattern repeat, & bolt width.

2D color rendered sample of your designed block pattern. This sample should be approximately 4 x 4" and should be shown as a single block as well as the entire repeat. You will submit your textile along with the presentation board.



Application of the textile in the designed window treatment, depicted in a fully color rendered perspective.

Rendering should consider pattern scale, direction, and seaming in the application of the designed textile to the window treatment.



FORMAT VISUAL PRESENTATION GUIDELINES:

Arrange all deliverables on one 11" x 17" display board in either a portrait or landscape orientation. Along with this you will submit your printed textile. Also prepare a digital version of your file to submit to the Canvas course site. Directions for upload will be given in class. Include your name.

PURPOSE

Patterns and color have a huge impact on the practice of interior design and designed interior spaces. While most designers select materials that imbue pattern and color, some designers explore careers in pattern development for material companies. So, to gain an understanding of how patterns might be created as well as how they correspond to color, this assignment explores various methods for pattern creation.

TASK

- 1 Watch this video: https://www.youtube.com/watch?v=rghSkOGnI_0
- 2 Using 12 sheets of plain white paper, follow the process outlined by Ashley Goldberg to generate patterns inspired by your Material Specification space **USING ONLY BLACK + WHITE...**
 - cover 3 sheets with a variety of lines (weights, scales, etc.)
 - fill 3 sheets with dots (spacing, scale, etc.)
 - cover 3 sheets with dashes (like dots, but more experimental could be directional, etc.)
 - fill the last 3 sheets with any interesting shapes or marks
 - · could be connected to your space i.e. using a flower or reusing trash / packaging to "stamp"
 - watch this video for inspiration: https://www.youtube.com/watch?v=87UgIP7BA_Y

*** HAVE FUND AND DON'T OVERTHINK IT! ***

- 3 Repeat #2 USING ONLY COLOR...
- 4 Photograph your process as well as the end results.
- 5 Using physical (cut, rip, fold, etc.) and digital (photoshop, etc.) modes, manipulate the patterns to create new patterns. In addition to using the patterns created, use those as inspiration to create new patterns. This should be an iterative process, so you should produce more than one. Select the one you think is most appropriate for your space and photograph it.
- 6 Submit a document to Canvas that includes the three photographs (collection of B+W patterns, collection of color patterns, and the manipulated pattern) along with a reflective description of your process as well as the end result, including why you selected the final pattern and how you think it might contribute to your space, material specification, and concept, especially in terms of color and how it relates to materials, texture, light, and form.

















Recommendations and Guidelines for Creating a Comprehensive Undergraduate Architectural Acoustics Laboratory

Stephen Skorski, University of North Carolina - Greensboro

ABSTRACT

The acoustic characteristics of an interior space has a significant impact on the way we experience and relate to our surroundings. In certain building types, such as concert halls, restaurants, and movie theaters, the sonic environment has a considerable influence on whether we will enjoy our time in the space. In other instances, the impacts are more critical. Within intensive care units, behavioral health facilities, or educational buildings, there may be extremely negative long- and short-term effects related to a poor acoustic environment (Cunha & Silva, 2015; Darbyshire, Müller-Trapet, Fazi, & Young, 2019; Klatte, Hellbrück, Seidel, & Leistner, 2010). As interior design educators, we are tasked with providing our students with a comprehensive understanding of the forms, laws, materials, and building sciences that guide the design of interior spaces. For many interior design programs, finding innovative means of conveying the architectural acoustic aspects of this education is challenging. While we typically use a textbook with guidelines and best practices, it is difficult to provide real world experiences of these often-abstract concepts. As an example, while it is useful to learn the equation for calculating a room's reverberation time, it is much more impactful to measure the reverberation, in real-time, within a room occupied by the students. The room can then be modified by the removal or addition of furnishings, people, and other materials. This is then followed by a second measurement. In this way the students have experienced a direct connection between material, space, and the acoustic condition. This presentation will lay out a series of guidelines and the recommended laboratory equipment required to bridge the gap between the textbook knowledge of room acoustics and experiential learning possibilities. This will include a variety of laboratory operation scenarios. At the most fundamental level, equipment adequate for explanation and

demonstration will be explored. A more advanced equipment setup required for scientific study and analysis will also be discussed. These equipment recommendations will include budget numbers to assist in prioritization decision making. There will be two main categories of equipment discussed. The first category will focus on hardware, such as sound level meters, microphones, recording devices, play-back systems, and required accessories. The second category will focus on appropriate software including acoustic modeling computer programs, digital applications required to gather and analyze data with a sound level meter, as well as the value of readily available phone apps geared towards less detailed measurements. Specifically, the presentation will examine a variety of acoustic modeling software applications including EASE (Enhanced Acoustic Simulator for Engineers), ODEON, and CATT-Acoustic. A typical sound level meter will be examined for its room acoustic measurement capabilities. Particular attention will be paid to the appropriate sound level meter plug-ins and microphones that will allow for efficient data collection and analysis appropriate for an undergraduate and / or graduate program. Examples of the output generated from these devices will be highlighted. Given the ubiquity of acoustic issues related to the design of interior spaces, coupled with the significant ramifications of a poor acoustic environment, it is essential that we are educating our students in an effective way to design with sound and space. It should be noted that acoustic issues have a considerable effect on the general population but are typically more acutely felt in vulnerable populations. This presentation will provide the tools and methods required to modify pedagogy in a way that enhances student understanding of room acoustics.

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Images for the "Recommendations and guidelines for creating a comprehensive undergraduate architectural acoustics laboratory." submission:

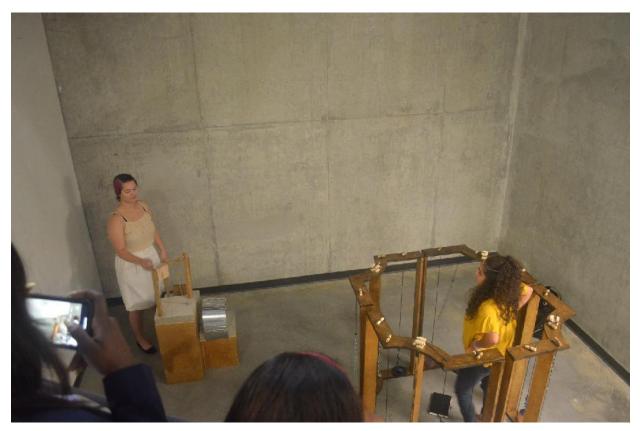


Figure 1: Students creating sound responding to the on-site acoustic environment.



Figure 2: Students listening to sound quality in a highly reverberant space (fire stairwell).

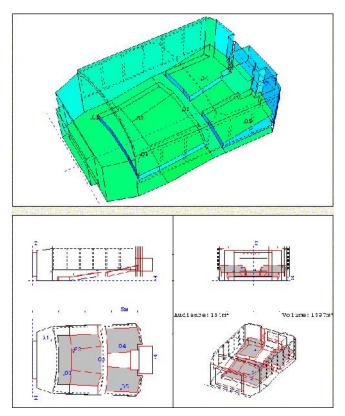


Figure 3: Example of acoustic modeling using the CATT-Acoustic v9.1 software. Retrived from CATT-Acoustic wesite on Sept. 27, 2020. https://www.catt.se/

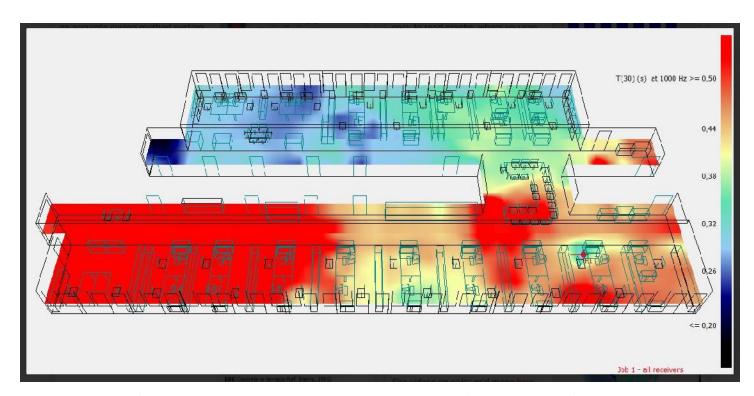


Figure 4: Example of acoustic modeling using the ODEON room acoustic software. Retrived from the ODEON wesite on Sept. 27, 2020. https://odeon.dk/product/features/

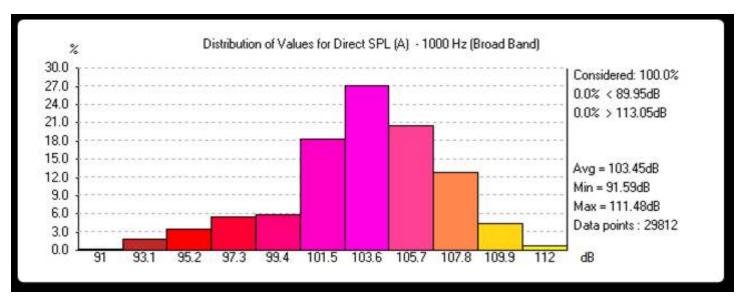


Figure 5: Example of acoustic data using the EASE acoustic software. Retrived from the EASE wesite on Sept. 27, 2020. https://ease.afmg.eu/index.php/statistical-tools.html



Figure 6: Example of typical field measurment equipment. Retrived from the NTI Audio website on Sept. 27, 2020. https://www.nti-audio.com/en/applications/room-building-acoustics/room-acoustics



Figure 7: Example of a typical sound level meter. Retrived from the Bruel & Kjaer website on Sept. 27, 2020. https://www.bksv.com/en/products/measuring-instruments/sound-level-meter/2270-series/Type-2270-S

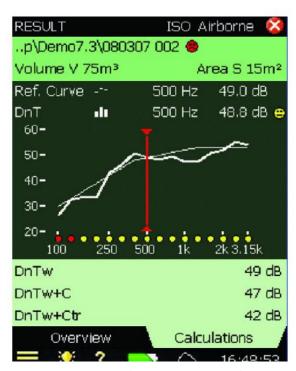


Figure 8: Example of a screen capture from a typical sound level meter. Retrived from the Bruel & Kjaer website on Sept. 27, 2020. https://www.bksv.com/en/products/measuring-instruments/sound-level-meter-apps/bz-7228-building-acoustics

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Reshaping the Culture of Creativity in Design Education

Dr. Seyeon Lee, Syracuse University

ABSTRACT

The complexity of today's environment reshaped the culture of design highlighting greater interactions among design communities. As an 'inter-disciplinary' study, design extends its capabilities across disciplines promoting collaboration as a tool in developing sustainable design knowledge in response to environmental, social, and cultural, and economic challenges. While it has been more common in the business industry and product development, over the years, crossfunctional collaboration or interdisciplinary collaboration has become a vital tool in the development of sustainable design knowledge (Holland et al., 2007; McDermott et al., 2014; Parker, 1994). Yet, many challenges remain in pursuing this holistic approach in design education. While design educators recognize the significant role of collaboration in design education, there is a lack of opportunity to collaborate between design disciplines. The traditional practice in design education limits design students to work in silo focusing on skills and knowledge of their discipline. This paper posits that emerging roles and qualities shall be cultivated through design education, and this interdisciplinary process would further reshape the landscape of design education responding to environmental, social, cultural, and economic challenges we face today. This paper presents findings from a collaborative project, 'X' Exhibition across four disciplines (Environmental and Interior Design, Communications Design, Industrial and Interactions Design, and Museum Studies) at 'Y' University aimed to identifying design students' perspectives on this holistic learning approach. Collaborating with other 'creatives' from design programs besides their own, students collectively developed holistic design solutions by sharing individual expertise toward a shared goal. This paper describes findings from students' project logs and end of project evaluation identifying design students' perspectives on this holistic learning approach. Through this study we have discovered that there has been a lack of communication among disciplines which induced centralized decision-making procedures, and less considerations for other design disciplines in the design process. Most students also found the collaborative project to be a great opportunity to learn about other design disciplines and that this approach should be cultivated further promoting broader design thinking and practices.

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Project Kickoff Introduction of Teams



Interim Review



Team Meeting Minutes / Logs (Example)

Date: Friday, 10/18/19

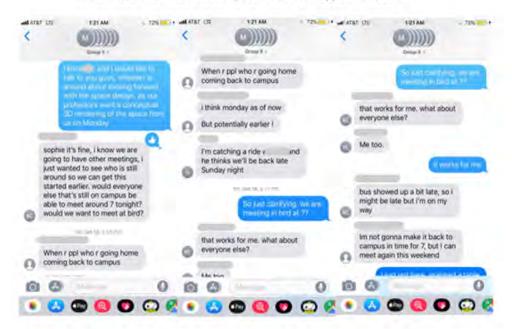
Time: 7 - 8pm

Location: Library

Attendance:,,

Notes:

- Of the entire CMD group, _____ was the only one available to attend
- walked through first draft of floor plan with Diggl, showing the changes to zone 2, the development of the "small" room, and the designated spaces for zone 1 and 3
 - Explained why the "hallways" in zone 2 had to be changed due to proper walking space and ADA
 - Designated the size of the "small room" to make sure it was large enough to fit a decent amount of people and that it included 1 emergency exit
- introduced the idea of the activity in the "small room"
 - Having the faces of those displaced protected/shown on screen wall as they stand in the black room
 - This concept was developed to force those in attendance to face the reality of displacement
 - Faces overcome any language barrier and all humans can relate/empathize with the faces of others
- gave her approval of the idea and after the meeting, sent out a text explaining the idea and got the approval of sent out a text explaining the idea.
- asked the CMDs to further identify what they were looking to accomplish in zone 3 - specifically the "mural" that they were hoping to exhibit
 - understood this request and relayed the message to the other CMD
 - need more information/concept of what it to happen in zone 3



Partial Final Presentation Poster



FOR CHANGE

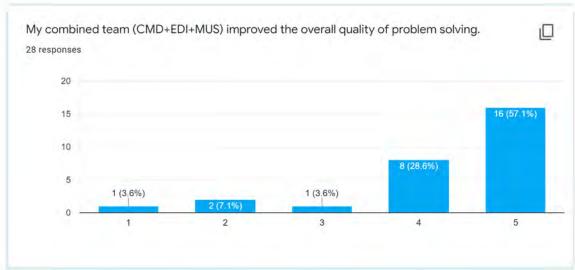
Note: a part of poster is not included for the bline-review purpose

Final Presentation Client's Office

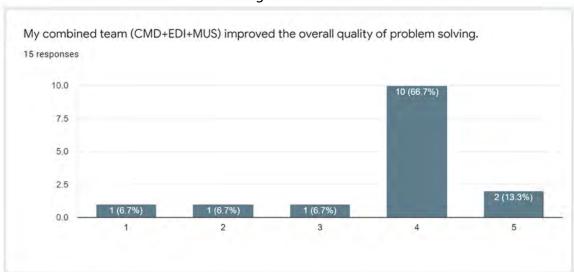


Student Survey (Sample)

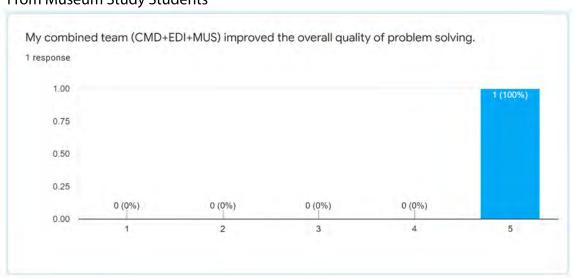
From Communications Design Students



From Environmental and Interior Design Students



From Museum Study Students



Scholarship of Teaching and Learning | Pedagogy | Presentation

Segregation, Gentrification, and Community Renewal: The Interior Design Studio as an Agent of Social Change-A Case Study

Tina Patel, Kent State University

ABSTRACT

Introduction: The consequences of historic urban segregation and redlining led to disinvested neighborhoods, concentrated poverty, crumbling urban communities, and eventually gentrification. Gentrification, while focusing on urban spatial improvements in the neighborhoods, generates a negative condition and displaces its residents. Through the lens of cultural and economic drivers, the affects of gentrification are studied by sociologists, urbanists, and geographers (Zukin, 2010). In the wake of recent protests against racial and economic injustice and recognition of the profound spatial consequences of many of these practices, the design educators have an urgent moral responsibility to create new pedagogical approaches that expose our students to these tough questions. This presentation will discuss the role and pedagogy of the interior design studio project rooted in a community that has experienced discriminatory social and political housing practices like segregation and redlining and is undergoing socially conscious gentrification. The goal of the project is to make students immerse into these issues and empower them to become agents of change for these communities. Project: The studio project focuses on the design of Food Hall, in the neighborhood which became a selfcontained 'Black Metropolis' and the center of the city's African American life in the middle of the 20th century because of discriminatory postwar housing practices. The area is now experiencing a high rate of poverty, blighted properties, frequent incidents of violence, and poor health outcomes. This Food Hall is a part of economic redevelopment initiated by a local social service organization, which would like to reinvestment and renew this community without the goal of displacement. The project challenged the students to confront the tragic outcomes of the sum of our cultures' social ills and propose an environment that would hold great promise to

operate as a tool for change and progress for this neighborhood (Pable, 2007). Process: The students traveled to the site and observed diversity in the landscape of the city, features of the site, differences in the social and urban fabric, and visited similar typologies. They documented their observations in a photo essay, a combination of visual and narrative form to illustrate their experiences and sensory perceptions of a place. They exchanged dialogue with a diverse range of voices, including local community members and leaders, and conducted qualitative, primary, and secondary research to understand all the familiar parameters and unfamiliar territories of the project. The students reflect on the information gathered with insightful deliberation through a series of exercises and empathetic design strategies built into the design process. The educators derived these strategies after reading the work presented by various contemporary researchers, like Kumar and Curedale on design thinking. Once the students understood the critical issues; acknowledged for and with whom they were designing, they started reframing the problem to identify the scope and provided design solutions reflecting empathy for this community. Projected Outcomes: This experience increased students' sensitivity, and each stage of the project provided students with a new skill and understanding of the issue and an empathetic design thinking strategy. In conclusion, this case study demonstrates a design pedagogy of social engagement, wherein students understood the diversity of other communities, listened with empathy, seek justice, and meaningfully contributed through interior design to the mosaic of the larger urban stage.

REFERENCES

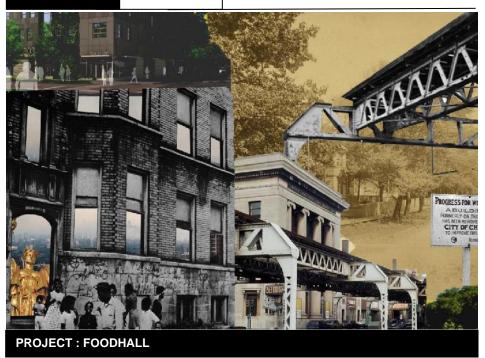
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Pable, J. (2007). Interior Design Homeless shelter design: a psychologically recuperative approach. Journal of Interior Design, 32(3), 93–108. doi: 10.1111/j.1939-1668.2007.tb00543.x

Zukin, S. (2010). Naked city the death and life of authentic urban places. Oxford, NY: Oxford University Press.



ASSIGNMENT DESCRIPTION

The Photo Essay is a combination of visual and narrative form to illustrate the experiences and sensory perceptions of a place. While traveling, you will observe various influential architecture styles, diversity in the landscape, features of site, differences in social and urban fabric and case studies of similar typologies. You will undoubtedly experience a variety of emotions and perceptions. Recording these experiences and your responses to them in both written and graphic form (sketches or photos) will give you the raw materials for creating a visual narrative of your experiences and of the place. This narrative will give a clear reflection of your own personal transformation, understanding of site and context and help you to broaden your views and overall global consciousness.

PROCESS

- 1. Record your thoughts, feelings, perceptions, etc. prior to departing.
- 2. Throughout the travel, photograph the changing landscape, different architecture and design styles, poignant moments, sensory encounters, site and features of site, change in social fabric and scale, different food hall, images of food, gastronomical experience etc. and record your thoughts on each of them.
- 3. Upon returning, process and compile your images with both the images and your thoughts. Craft and communicate a narrative of your thoughts and perceptions as you begin to understand and appreciate the place, culture of this place, site and the typology you are designing for.

DELIVERABLES

Students will create a photo essay (8 ½ X 11) and will print it in color ready for pin up. Please see schedule for pin-up date. You will also submit the PDF on Blackboard or through google drive.

You must focus on the composition of each spread, photoshop the images as needed.

The categories to be included but not limited to:

- a. Changing Landscape
- b. Culture of the Place
- c. People
- d. Food and Gastronomical experience (Color, Texture, Contrast etc.)
- e. Food halls- you can curate these around a theme or concept.
- f. Site, and you can curate these around a theme or concept (example texture, scale, context, form, objects around etc.)
- g. Any symbolic references, poignant moments or sensory encounters
- h. Conclusion

The essay shouldn't exceed more than 10 pages. It should have a statement in the beginning, some captions throughout and conclusion slide (essentially key takeaway).



"If form follows fiction, we could think of buildings as a space of stories- stories of the people that live there, of the people that work in these buildings. And we could start to imagine the experiences our building creates." — Ole Scheeren (2015)

PROJECT 3: FOODHALL

The third project for this studio will focus on design of a Food Hall. This project is a part of redevelopment of Blueprint for Equity. The students will work in teams of three initially on the research presentation and then individually on the development of design. The project prompt below outlines the parameters of the project, design process, deliverables and project schedule.

THE PROJECT:

Background Information:

Your site for this project is one of the catalytic anchors, the Revive 6300 building, also known as the old Washington Park National Bank. You will be proposing a Food Hall for the first floor of this building. This Food Hall will offer an attractive investment for a start-up, fast-casual business. Compared to opening a stand-alone restaurant with high rents and labor costs, a food hall offers a fledgling owner lower rents and shared expenses. This should allow groups of eaters to find choices based on individual tastes, to eat and socialize.

By the middle of 20th century, this neighborhood became part of Black Belt – a collection of south side neighborhoods that, due to redlining and segregation, became self-contained 'Black Metropolis' and the center of the city's African American life in the middle of the 20th century. Discriminatory postwar housing practices, white flight and disinvestment created a downward spiral that turned an area known in the 60s for jazz clubs, culture, and community into one scarred by economic damage and crime. The area is now experiencing high rate of poverty, blighted properties, frequent incidents of violence, few social gathering spaces and poor health outcomes. A series of developments have positioned in for the continued community economic development in the community.

You will learn more about the site during your visit and a PDF of the drawings will be provided to you.

PROCESS:

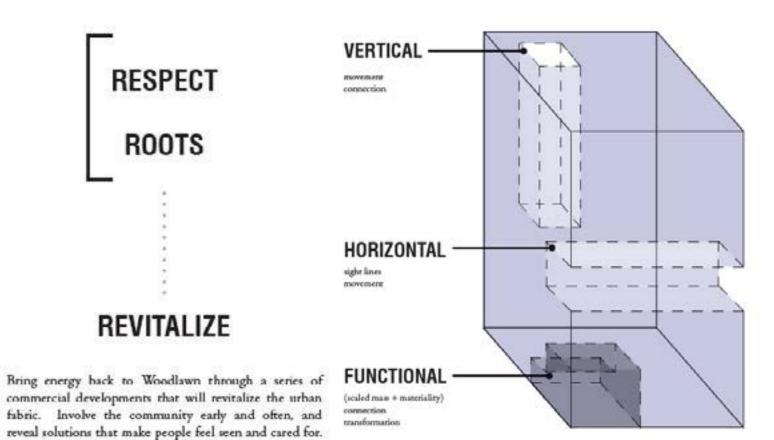
- Step 1_ Meeting with the Client
- Step 2_Record Meeting Notes and Photo Essay
- Step 3_Group Research
- Step 4_Thinking+Conceptualization+Production
- Step 5 Presentations

DELIVERABLES:

1. Photo Essay (15% of the grade)

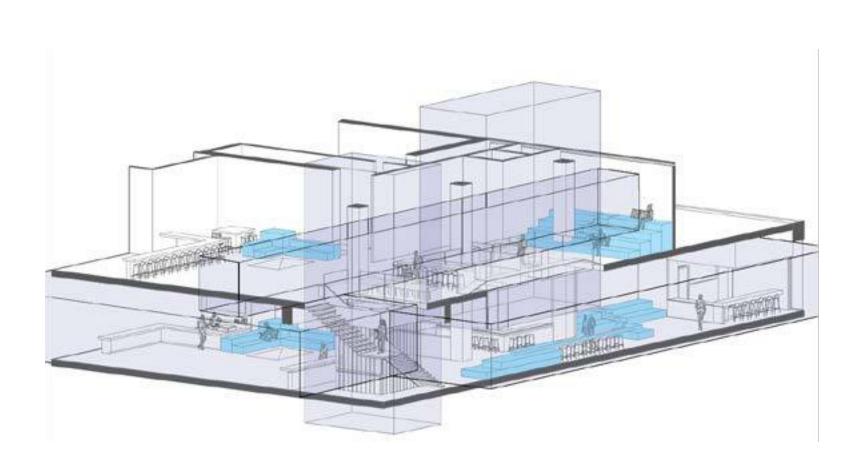
- **2.** Research- Done in Group (10% of the grade)
- 3. Individual Research Precedent Studies and Literature Review. Please organize this and write a reflection on how this will inform your design; what are some of the key takeaways. (10% of the grade)
- 4. Design Process + Progress + Iteration (the process work needs to be dated, must reflect progress in a cyclic and incremental way) (15% of the grade)
- 5. Digital Presentation and Design Quality (40 % of the grade)
- 6. Model or exploded axonometric (10% of the grade)

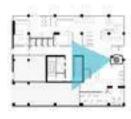
Digital Submission of **all** process and final work. Any work completed by hand must be scanned. Study/final models are to be photographed with attention given to lighting and background.













Scholarship of Teaching and Learning | Pedagogy | Presentation

Stories from the Screen: Advocating for Studio Culture Online

Madison Sabatelli, Appalachian State University Noor Murteza, The Ohio State University

ABSTRACT

CONTEXT COVID-19 has caused disruptions in supply lines, wedding plans, and our studios. Design educators have needed to reimagine their in-person courses to accommodate an online format. Many have been concerned about the additional challenges this transition would pose on their students and their pedagogies while remaining invested in maximizing the benefits to each. While course discussions can continue on Zoom and pin-ups can take place through online exchanges, the informal culture of the studio is a less structured, more difficult thing to replicate in a digital space. The essence of studio culture has been examined by many prior to COVID-19, including Donald Schon's reference to these spaces as "reflective practicums" (1983). In this text, Schon ascertains that "students do not so much attend these events as live in them," painting the studio as not only a space for learning, but creating, collaborating, socializing, and much more. This understanding of studio culture is reflected in many department policies as a critical component of student learning (Appendix A). This collaborative learning environment and the resulting informal teaching moments are essential to the studio environment (Fleischman, 2019). Pallof and Pratt (2007) talk explicitly about the need for human contact and how to counteract its loss in online teaching through establishment of clear group goals, rituals, and sharing responsibility for facilitation and reflection. They warn against conceiving of online teaching as a simple "curriculum conversion" from a face-to-face course, but rather as a "paradigm shift." METHOD Stories from the Screen brings together experiences and observations from two differing studios that have taken this "paradigm shift" to an online or semi-online format for the Autumn 2020 semester following the advent of the COVID-19 pandemic. One was a 24-person visual literacy course for non-specialized students at a large research university in the Midwest

United States. This course was conducted in a semi-online method with both online and smaller in-person meetings. The second course was an advanced interior design studio composed of 12 students at a smaller public university on the East Coast. This course was conducted entirely via online synchronous meetings. The presentation considers the authors' initial approaches to their courses through the four following processes: the objectives of the course, the choice of course material and assignments, the topics outlined in each of the classes, and the development of assessment tools (see Appendices). The differences between the two courses, including size, manner of instruction, means of assessment, and skill level of the students all serve to offer a breadth of approaches to teaching online from the perspective of two junior instructors. Through these accounts, the authors offer insight as to how these processes were executed as well as personal narratives illustrating the roles of instructors and students in developing strategies to promote an online studio culture. IMPACT The importance of the presentation lies in the critical necessity for reflection on the part of educators responsible for virtual studios. The authors offer their considerations on the needed "paradigm shift" before any teaching even takes place while incorporating these practices throughout the semester. The presentation makes it clear that educators need to adapt and rethink how online (and semi-online) teaching strategies are approached so that these digital platforms fulfill the same pedagogical goals intended for inperson modes of delivery. This is only possible if we understand what is at the core of the studio experience and the pedagogical value of that experience. Consistent sharing and communication within educational communities and between studio educators and students can help create a more connected, responsive environment moving forward in our - albeit, virtual - studios.

REFERENCES

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Student EEP Plan Summer 2020



EEP FALL 2020

NAME:

CO-OP FACULTY ADVISOR:

MAJOR: Interior Design

GRAD YEAR: 2023

DATE: July 2, 2020

......

LEARNING GOALS:

Through your experience, you will build your hard and soft creative skills and your professional skills to support my future creative goals. Develop a minimum of three

lexample - Create a strong cohesive portfolio in preparation for the next co-up referral process | Understand the professional behaviors necessary to be successful in the workplace. (Ex: time management and prioritization skills | Understand my role as a self-learner and the importance of self-directed learning while involved in the co-up program.)

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#	GOA	Ĺ

- Understand professional communication and confidently relay back to coworkers and clients.
- 2 Understand my role as a self-learner and the importance of self-directed learning while involved in the co-up program.
- 3 Understand time management and proactively adapt to challenges in the workplace.
- 4 Create a strong and cohesive portfolio in preparation for my next co-op referral process.
- Learn new software skills that I can apply to previous and future projects in aiding my portfolio cohesiveness.

EEP PLAN:

Please list your EEP plans for Fall 2020. At the conclusion of your EEP, you should have deliverables to enhance your portfolio, resume, or CV, as professional assets in your creative career.

(example: A portfolio containing three projects guided by industry experts gained through part-time and project-based work |
Certification in Adobe Creative Suite gained through online certification | Documented community research and creative solutions to global problems gained through participation in UC Service Learning

#	SELECTION	HOW WILL THIS ADVANCE YOUR LEARNING & PROF DEVELOPMENT	ESTIMATED HOURS	DELIVERABLES	SUPERVISOR/MEN- TOR/FACULTY
1	Revit Upskilling	Understanding of highly used software currently in demand in the workplace	~50-70	Thermador Student. Concept Kitchen Competition	TBD- A friend of my uncle's
2	VIS	Real time application of hard and soft skills- teamwork, communication, and software applications	~125	TBD – Use of deliverables in Portfolio	TBD- Dependant on who the leader of our group is.
3	Photoshop Upskilling	Further understanding and experience using a widely used program in the workplace	~54 (based off of 7.1 meeting)	Floor Plan rendering for past/present/future projects	UC Faculty
5 (Interchangeable with 4)	Sketchup Upskilling	Further understanding and experience using a widely used program in the workplace	~54 (based off of 7.1 meeting)	Modeling/Rendering of past/present projects	My uncle, owner of RDA Group Architects in Dayton, Ohio

RESOURCES:

What are the resources, platforms and/or softwares you will need to enhance your skills, document your creative growth/process, communicate with your mentor/quides.

(example: Adobe CS6: InDesign, Illustrator, Photoshop taking a series of classes through Adobe.com to get my Creative Cloud certificate | UCMail | I will stay in communication with my mentor via UCmail.)

#	EEP SELECTION	RESOURCES NEEDED	ESTIMATED COST	HOW WILL YOU ACQUIRE THE RESOURCE
1	Revit Upskilling	Autodesk - Revit	Varying?	Student License – Revit Website
2	VIS- Session 1:Project 1 Company + Description: ORIBE	Rhino, TBD	Varying	Already have Rhino license, unsure of other softwares
3	Photoshop Upskilling	Adobe Photoshop	Free-39\$	Already have Adobe Photoshop
5	Sketchup Upskilling	Trimble Sketchup	Free-55\$ for student license	Student License or subscription via website

Student Experience Assessment Summer 2020

Student Report Summer Serveder 2003 2000 A more deserted 2000 2000 Student Name This time is a located than my tool or also fivent to gain more negotiability and telephologic at the located to my future plot. I find the with more respond to by will get more separation and growing additional and a fundamental services. Buyou have any specific consens about your exercises? [figs. an automatic response will be sent to your experiented existential sent sent and the processor from about any last in teach with your bidge made of the base associated passible.] Student Experience Assessment Part 2 STUDENT EXPERIENCE ASSESSMENT PART 2 Corners Supervices Navinable and subsystemperature is frameway progressive all your golds nickely through the winester. Fine-grounds the size your continues a supervisor. Student Experience Assessment Part 1 STUDENT EXPERIENCE ASSESSMENT PART 1: See it: West program have you made towers See I that you set at the beginning of the servester' In Part 1 you will set professional goals for your equations: Please provide number and thoughtful responses Student Experience Assessment Part 3 You should meet with your supervisor in the first two weeks of your experience to set your goals for the semester. Please provide the sales wound with your separation. Biolycument Cod 17 - Soar 1: How did you must Soar 17 Provide specific information that demonstrates your vacces and at least one search. Have been more yould the replacement's and have really tried to share my comore and loans more. I have gained a followinders on my deeppeared have received a lot of great heatback from my devotors. See 1: 1 emily the additional steps you need to each Goal 1 by the end of the servence. Coopera professional college year earlies develop during your experience. Professional dalik are difficults consumpting in the broader consect of the vertiplace versus your specific discipling veg or I will continue to by to step out of the confortione and confinue to progress as much as I can De yournest God 17 - Scar 1: Why die you not neet God 17 What of alleriges eld you cincur to that prevented you from masting this god? What die you carries a result of not meeting this god? vitang Abyaan na farawa gaal tha af ar denga in yaar a qaalana, navyngkas ar han sa kabackan war and ayar halaanga Saal 1. Peare intyaar naksa gasi, indusing the neet orujel ta kan tha haud an hediade from yaar en si ayar. See 1. Write egod to help you do not be proposational of Replactor, whose Medic or your most be with your assert on for feedback to help inform Lea 1. See 2: West progress have you made towers See 2 that you set at the beginning of the semester? I want to be more confident with my work and become petieral using more design tergange when presenting my work. Dis yourneet Goal 27 - Soni 2: How dis you meet Soni 27 Provide specific information that demonstrates your subsections at least one Have been haved with designing almost at of the corputs in the case to we are working on soil did intery feet very intersection for the device of the source. for tike I had much more of a role and wasn't so much the "intern". Even though I was hundreds of miles away. I felt like leading of to know that learn and had more of a responsibility throughout the original have wasning on. I felt like I had my role in a 10 to 30 of leave that in. Soul 2: Sentily the activities impolyou need to reach Goal 2 by the end of the serverser. See 2: Write a goal to help you develop the accord profusional shift reflected above. Refer to your meeting With your supervisor for lead tops to help inform Owi 2. Did your weet Cost 27 - Gos 2: Why did you not reser Cost 27 What challenges old you encounter that presented you from meeting this gost? What did you seem as a result of contracting this gost? cations (Colymers of to the legist 2 beset of that get in your experience, new projects or free best from your enables (Astrongs Sec. 2) focus in your revision god, set what give revision do be set of the black of the large contribute. Student Report Student Report Student Report Summer Semantic (CSS) (CSS)

I was wereing from frome with little to no supervision and I was always on time an prompt with my assignments and stayed on the computer for my 9 hours a day making sure I wasn't distracted with things from my everyday life.

Reflection what innovation looks like in your fell and identify how you have observes or contributed to innovation in your outrest

Hell kee I was very impositive in the carpet designs especially, the project I was working on was retirending the casho so we had a free higher common the raw brend was going to licik like and how we was going to access within speci.

A. Communication

Student Report

Danmer Serveder 2003 2000

Please decades your expressibilities associated with this expensations if you are describing them to a future employer or on your return. [Accommended length 301:590 cores]

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Locald delimary pollute myed at the firm effected type that is definitely a group of people I was of low to work for along with the fact but I lever their work.

How would your supervisor rate your performance on:

With residently and concludy

Provide examples of now you utilized your communication did it justices or orally through this experience. (Recommended length 100-150 example.)

I was blown away at how fast, clear, and well-communicated this firm was given the remote aspect of the internship. If it is acro to salored that been an expected immediately and other.

B. Critical Thinking

How would your supervisor rate your performance on:

Student Report

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Student Report

Summer Semester 2020 1020

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Understanding the	implications of you	r actions and how	your actions are	pe neived		
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Very Often Provide an exprose of a time that you worked with others in a diverse settine. What did you learn spout yourse fland others through

Student Report

We had been calls multiple thesis week when we had to discuss project operate and stake of different peoples rates on the team. I got to hear how others mought and processed heir knews.

D. Ethical Judgement

How would your supervisor rate your performance on:

Demonstrating increases and imaging The degree to which your personal values align with the values of the organization

Faux:6 of 5 9/37/2020 Nov. v 9/27/2000

Show in tioning

E. Innovative Approaches How would your supervisor rate your performance on

F. Professional Work Habits

How would your supervisor say that your

My personality is a good matter for this experience.

Student Report

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Per: 216.5

EEP Evaluation Summer 2020

Response Summary:

Did you complete your FF2 this Summer? Yes Please list your top 3 EEP goals for the summer. Goal #1 working with people in other design field Goal #2 doing a research project

Goal #3 get Adobe Illustrator Certification

Did you meet your EEP goal for the summer? Yes

Did you meet your FFP goal for the summer? Yes

Did you meet your FFP goal for the summer? Yes

How did you meet this goal? Provide specific information that demonstrates your success and at least one example.

Participating in the Virtual Innovation Studio with xxxxx and other team members in graphi design and industrial design.

Assisting a Museum Research Project with faculty and students for 8 weeks.

Completed the Adobe illustrator course and passed the certification exam.

How many hours have you completed this summer? Total Hours 308

Of your 250 hours this summer, how many of the hours you have completed are Upskilling: 30

Of your 250 hours this summer, how many of the hours you have completed are:

Virtual innovation Studio 125 Working on a muti-function outdoor kiosk design challenge with three other DAAP students. I completed the project.

How would you rate your experience? Excellent

Undergraduate or Graduate Research 153. Working on museum researching, generated diagrams for each topic, then at the end applied these findings to design a virtual museum room. I completed the project

How would you rate your experience? Excellent

Upskilling: Please select up to TEREF [3] skills you spent the most time developing this summer. (Choose 1 to 3)(If a skill you worked on is not listed, please use "Other" and provide the name) Anobe Illustrator

How did you upskill in ? Select all that apply: Participated in a faculty led class. To what extent did you complete upskilling in ? All of what I intended

After completing some or all of upskilling in , how knowledgeable do you feel you are? Very knowledgeable

To what extent do you believe upskilling in will enhance your future employability. Definitely will

Did you earn certification? Yes, I passed the certification test

How would you rate your upskilling experience? Excellent

How has your EEP enhanced your professional growth, knowledge of your chosen field and/or employability? This EEP experience allowed me to further develop relevant skills? Strongly agree

I found the EEP experience to be beneficial to my professional development? Agree

The EEP helped me increase my self confidence? Somewhat agree

My EEP provided me with a better understanding of my chosen profession? Somewhat agree

My EEP provided skills or work to enhance my employability or resume/portfolio? Strongly agree

I prefer a more structures academic routine? Somewhat agree

How has this experience influenced your career goals and/or professional identity? I believe all three projects I have completed or worked on during EEP will make me more professional in my future career. The virtual innovation studio with AvorKo is a great portfolio piece to showcase team work. Having research experience and illustrator skills will definitely be beneficial for me when locking for future opportunities.

COMMUNICATION. How would you rate your performance on: Speaking with clarity and confidence Very Often Writing clearly and concisely Very Often

CRITICAL THINKING - How would you rate your performance on: understanding and assessing a problem Very Often applying classroom and/or specialized knowledge Always considering options and generating solutions Always interpreting and analyzing information Always understanding and applying the technology and tools Very Often

Give an example of a challenge or failure that you faced during this experience and how you navigated the situation

When designing the outdoor food klosk project, our team didn't address the secondary function clearly and had a hard time thinking out of the box. We decided to set up a meeting and each of us would bring some ideas to share. After the meeting we combined a few ideas together and feel more confident about our design.

TEA VIWORK/COLLABORATION IN DIVERSE SELTINGS - How would you rate your performance on: effectively collaborating with others to accomplish a goal Always recognizing and appreciating differences within your team Always identifying your personal biases and ask questions to understand perspectives different from your own. Very Often

ETHICAL JUDGMENT - How would you rate your performance on: recognizing and assuming responsibility for your actions Always. demonstrating honesty and integrity Always

INNOVATIVE APPROACHES. How would you rate your performance on: demonstrating original and creative thinking Always developing, implementing, and testing new ideas Always

Reflection what innovation looks like in this experience. What was your greatest accomplishment

The greatest accomplishment for me was the opportunity to work with students in other design majors. That different perspectives on how to design a space - every group member need to share what they know to complete the project from every aspect. I understand that listening to others' ideas can enrich the design concept and make it more meaningful.

PROFESSIONAL WORK HABITS - How would you rate your performance on:

demonstrate a professional/positive attitude Always demonstrate self confidence Very Often show initiative Sometimes quantity of work Always quality work Always task/project management Always prioritization Always the degree to which your skills and abilities allowed you to be successful Sometimes.

How do you plan to utilize what you have learned this semester moving forward? I think I will be more flexible on different types of design projects. I'm also interested in communication design since it is an important part of a professional project, so I plan to learn more skills related to that to broaden my design knowledge.

is there anything else about your experience that you would like to share? I think all the EEP projects I worked on are great experiences to make myself more professional and confident. Also very helpful in my future study and career.

How would you rate your overall EEP experience? Excellent

Did you have a supervisor or mentor for your EEP? Yes

COVID EEP: Virtual Innovation Studio Work Sample

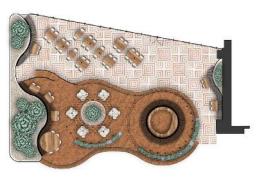


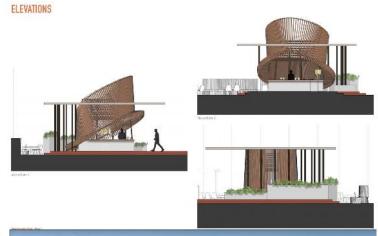
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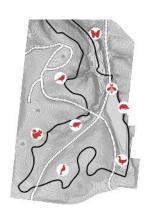


COVID EEP: Service Learning Work Sample

Goal: Jumping off of the Urban Explorers Discovery, make Burnet Woods more engaging for people of all ages and increase ecological literacy using different educational tools and interactive experiences

- · Using the proposed trail layout, we have set up 9 mini playscape destinations along the trail
- · Each of these locations draw inspiration from different species that inhabit Burnet Woods





NEFITS OF PLAY



CLIMBING

Climbing playground equipment or trees also helps kids build body awareness. They have to know where their body parts are and what to do with them. It can help kids learn directions like up, down, left, and right, too. Also encourages problem solving and predicting what's going to happen. "Where should my right foot go next? How will I get down from the top?"



FREE PLAY

Helps kids learn to communicate with other kids and practice conversation and vocabulary. Kids also have to follow rules, share, and take turns on the playground. These kinds of social interactions help kids practice picking up on social cues like body language and tone of voice.



SWINGING

Helps with balance and teaches kids to know where their body is in space. It also gives practice with fine motor skills (gripping the chain), gross motor skills (pumping the legs to swing higher), and coordination (putting it all together). Swinging also helps the brain learn to make sense of speed and direction.



SIGNAGE / WAYFINDING





The Effects of the Open Studio Environment on the Design Major Students' Perceptions of Their Learning Experiences

Annamaria Lambri, American University in Dubai Natalia Albul, American University in Dubai

ABSTRACT

Introduction: The focus of the study is students' learning experiences related to their collaboration and individual work efficacy. Students' learning experiences are influenced by their physical environment (Kariippanon et al., 2019). Studio space is a central aspect of interior design students' learning experiences, where they spend long hours working in class or on their homework. Furthermore, studio is the main space for students to receive studio instruction and space to do their work in groups or individually. Literature Review: Studio learning environment is focused on cooperative and collaborative learning, where an instructor provides guidance and resources. Studio space itself plays a critical role for students, influencing quality of their final work and submissions. There are traditional studio environments and open studio environments. Traditional studio environments are laid out as typical classroom spaces with rows of desks and chairs, and are enclosed with walls. Open studio layouts have limited walls, and are not enclosed by boundaries, allowing for rearranging of furniture, and interactions between courses and student proficiency levels. Studies demonstrate that open environments provide more stimulation (Kariippanon et al., 2019), and they stipulate additional opportunities for group work and social interactions (Cantero et al., 2016). Open studio environments have more opportunities for flexibility. Flexibility of the space is very important to support learning and social engagement (Flynn et al., 2017). Space flexibility allows for users to adapt the space to their needs for collaboration or individual work; and minimizes hierarchy between students, and between learners and instructors (Byers et al., 2018; Kariippanon et al., 2019), allowing students to rearrange their space based on the daily needs (Aslan et al., 2016; Cantero et al., 2016). Based on

literature, K-12 studies are prevailing over higher education studies that focus on the effects of the physical classroom environment of the students' experiences in higher education. Thus, the current study will add valuable insights to a variety of educational settings. Methodology: This study was created to explore how the studio environment affected students learning experiences and perceptions with the focus on how open space has affected students' collaboration patterns. The study subjects were 17 undergraduate, advanced, interior design students. The participants were of diverse ethnic backgrounds, mostly females, aged below 34 years. The data were collected from students that experienced traditional and open studio environments. The study of the physical space was focused on the following aspects: access to the physical and digital learning spaces and their borders, and how it included or excluded the learners. Research hypotheses were established; surveys and consent forms were developed, approved and administered; and observations were conducted. Results: Comparative analysis was performed. Prevailing majority (82%) preferred an open studio environment as more productive for their group and individual work. Students felt more creative and connected to their peers. An unexpected result emerged as students felt that additional noise was helpful for them. Based on the observations, interior design students developed strong bonds within studio for academic and social interactions. It was noted that students created mixed groups consisting of different academic levels. Also, a stronger relationship formed between students and instructors acting as guides rather than authoritative figures. Conclusion: In conclusion, studio physical environment had a significant influence on interior design students. Particularly, an open studio environment created a better-quality learning experience for students, allowing them to take more control of their surroundings and create an enhanced personalized learning experience.

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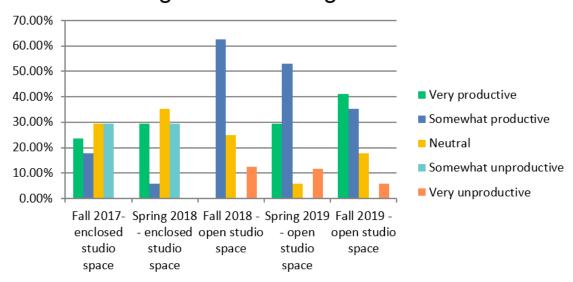
Flynn, L., & Colby, S. R. (2017). Cultivating Classroom Spaces as Homes for Learning. Middle Grades Review, 3(3), 1–15. https://scholarworks.uvm.edu/mgreview/vol3/iss3/3

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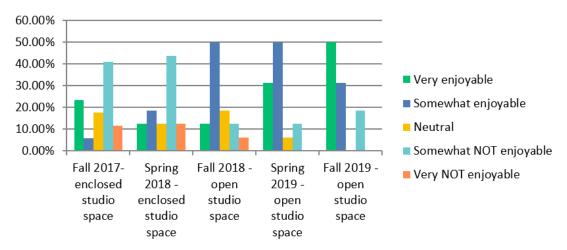
The effects of the open studio environment on the design major students' perceptions of their learning experiences.

Appendix.

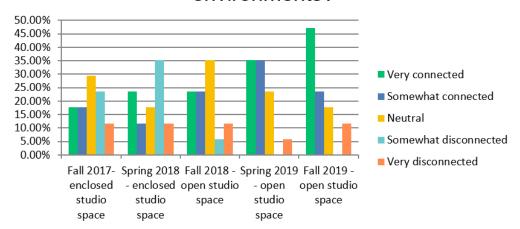
How productive did you feel within the following studio learning environments?



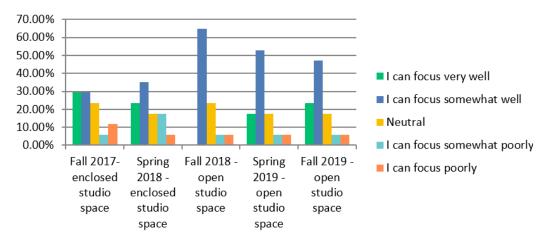
Did you find it enjoyable to study within the following studio learning environments?



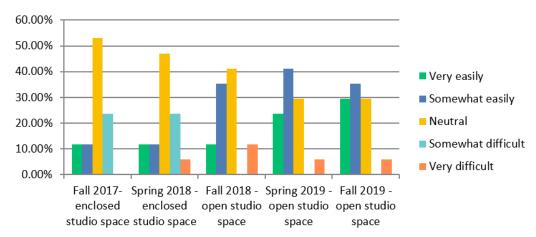
Did you feel connected to your peers within the following studio learning environments?



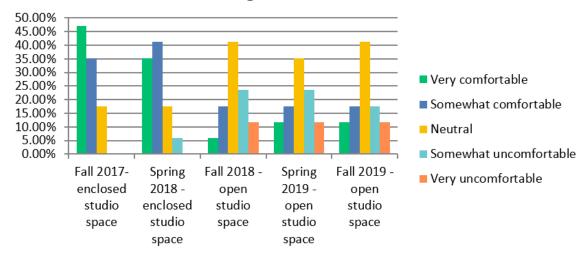
Did you find that you can focus well within the following studio learning environments?



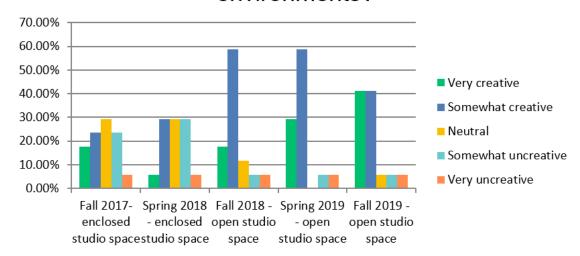
Did you find that you easily come up with ideas within the following studio learning environments?



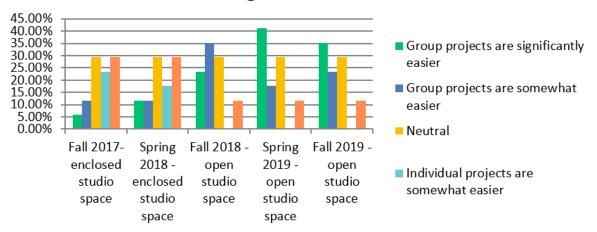
Did you find that noise level is comfortable within the following studio learning environments?



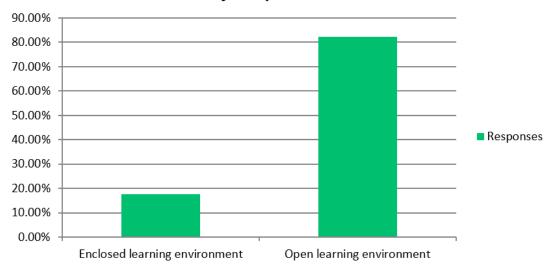
Did you find that you are creative within the following studio learning environments?



Did you find that it is easier to work on group projects or individual projects within the following studio learning environments?



Which studio learning environment do you prefer?



The Virtual Design Studio: Understanding the Digital Shift Caused by the Covid-19 Pandemic

Dr. Marjan Michels, University of Antwerp Inge Somers, University of Antwerp Eva Storgaard, University of Antwerp

ABSTRACT

Focus: The presentation will focus on the lessons learned concerning the necessary and sudden switch from the physical design studio into a virtual design studio due to the COVID-19 pandemic. The focus was driven by a unique momentum. Never before education in the design studio has been confronted with a total lockdown, making a total switch-over inevitable and necessary. This unique situation provided the opportunity to generate insights into design studio teaching based on the experiences of students familiar with both teaching situations. Context: In interior architecture education the design studio is generally considered as the backbone of interior design teaching. The design studio is characterized by an interactive educational method of learning-by-doing. A chief component in this interaction is the tripartite communication between educator, student and artefact (e.g. drawings, sketches, models) that takes place during intense and frequently organized design dialogues. During these dialogues an experimental and creative process unfolds itself using a specific design language in which the acts of speaking and drawing are entangled. According to many scholars, it is exactly this complex hybrid communication that is crucial and indispensable (Schön 1984; Webster 2004). With the outbreak of the COVID-19 pandemic the design studio model stood under pressure and the retention of this specific interaction, now through digital means, became the main focus. Software programs as Skype or Zoom were deployed. Given the momentum and the urgency of the situation, an exploratory research was held into the perceived effects of the digital shift on the development of design skills as experienced by interior architecture students. To have a multi-angled exploration semi-structured interviews with forty bachelor and master students were conducted and twenty

online design dialogues observed. The data-analysis, realized by means of the principles and coding guidelines of the Grounded Theory approach (Charmaz 2006), revealed a very diverse range of effects on the development of design skills. On the one hand, the shift caused considerable problems, such as (i) insufficient (verbal, visual, bodily) communication, (ii) a limited exchange of vital project material, (iii) the loss of peer interaction, (iv) an increased tension and demotivation through loss of the cultural and social context and (ix) less in-depth dialogue. On the other hand, it yielded benefits, such as (i) the development of autonomy, (ii) self-management of the student 's learning process, (iii) the development of new communication skills and (iv) improved design thinking. Lessons learned: The insights gained in the exploratory research allow us to draw four major lessons. First, we notice that despite the use of software programs, enabling to mimic the design studio environment through virtual verbal and visual communication, many aspects related to the development of design skills remain under the radar. Second, it becomes clear that investigating the perceived learning effects of the digital shift as experienced by students enables us to understand in greater detail the complex and hybrid nature of design studio teaching. Third, we see that the range of effects revealed can be attributed to three main elements of an educational setting: (i) the content of learning, i.e. the development of design competences, (ii) the teaching methods used and (iii) the wellbeing of students. Moreover, these elements are closely related and their specific combination can result in either a supportive or unsupportive learning environment. Finally the insights of this investigation potentially lead not only to the improvement of both the physical and the virtual design studio but also to the development of a balanced way of blended learning. This short-term study deliberately focused on the experiences of students. Additional research is needed to cover the experiences of tutors.

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Appendix for The Virtual Design Studio. Understanding the digital shift caused by the Covid -19 Pandemic.

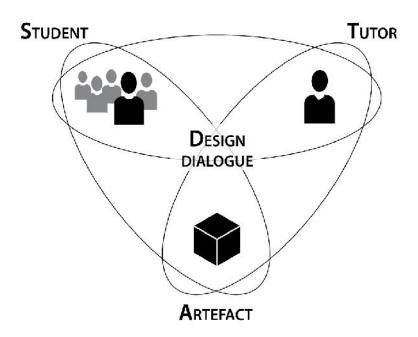


Figure 1. A scheme of a tripartite communication in a design dialogue.



Figure 2. Images of a design dialogue in the physical design studio.

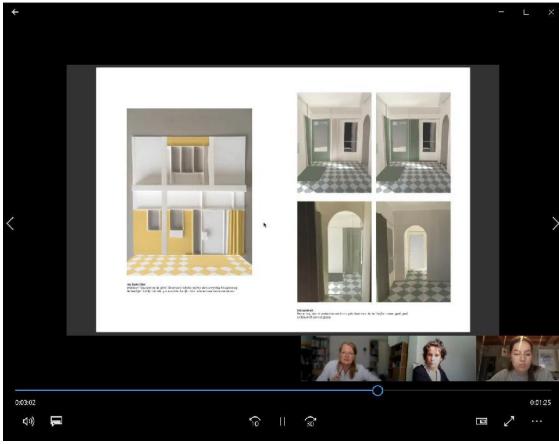


Figure 3. A screenshot of a design dialogue on Skype between two tutors and one student, where the student shares her screen.



Figure 4. A screenshot of a design dialogue on Skype between two tutors and one student, where one of the tutors shows a project in a book.

- 1. How did you experience the verbal communication between student and tutor/educator? Give some examples of good and poor communication.
- 2. How did you experience the verbal communication? Was it e.g. possible to show and to explain sufficiently/adequately your design material? Or other meaningful experiences?
- 3. You had to provide your tutors your design material in advance. Which were the pros and cons of this method?
- 4. Describe your master design process during the lockdown (habituation/familiarization, routine, recurring problems, etc.).
- 5. Did you develop certain skills thanks to these new learning methods? If so, which ones? Have you developed other competences within the digital studio compared to the physical studio.
- 6. Do you think your design process would have evolved differently if it had been physically organized? If so, please explain the possible differences.
- 7. Each counseling moment took place with two tutors and the student. Was this beneficial to your design process or would you have preferred a one to one counseling with alternately one tutor and the following week the other.
- 8. How did you experience the design studio teaching? Did you receive adequate support and input within the limited time slots? Did misunderstandings occurred when explaining your design and design evolution?
- 9. Was there a difference in tutoring compared to conventional physical tutoring?
- 10. What has been your experience sharing your personal design -/process materials on Google Drive? Have you regularly consulted the design material of your fellow students?
- 11. What was your experience sharing your personal design -/ process material on Instagram? Is this a platform that you will use in the future or rather not? If not, why? If so, why?
- 12. What would you like to change about online education?
- 13. What positive aspects of online education would you like to transfer to the physical design studio?
- 14. Would you prefer or recommend a different platform than Skype?
- 15. Formulate 3 advantages and 3 disadvantages of the educational situation during the lockdown caused by Covid -19?
- 16.Do you have any other conclusions you would like to share?

"In real life you would have been able to show the project in different ways: via plans, models etc., process book [...] Everything depended on the images you made. Because of this, I no longer worked with different techniques. For example, I no longer made models during the design process. I didn't get a good picture of them online and in reality models can show something totally different."

"During supervisions you usually put everything next to each other on the table, in order to get an overview of different parts. During online tutoring, you view the information page by page, so the information only comes by briefly and is not always discussed again. As a result, you may not know whether or not each part has been approved."

"Because I shared my screen with the supervisors, I couldn't see their faces - which made it difficult for me to judge whether they understood my explanations or not. In the same way I could not read their facial expressions, which sometimes can say a lot."

"I am a rather introvert person, which is why communication does not go so smoothly with me. I have therefore experienced the online guidance as an extra threshold."

"In order to prepare the online supervision, you had to make a document in advance. You had to make a selection of the material which you thought would be a good preparation. Because of this it was often easily understood what I wanted to say."

"I structured my document in such a way that in my mind my design decisions also became clear and I went very deeply into certain lines of thought. Sometimes bringing structure into the document gave me new insights."

"By making a document in advance for the online coaching I learned to distinguish essential from minor. In this way I was able to ask the most important questions and I got specific answers which I could immediately start to work with."

"In the beginning I found it difficult to express my opinion concisely and clearly. But the more often we did these online counselling sessions, the better I became at communicating clearly. You quickly notice that a clear structure of your presentation helps enormously in conveying your points of view and ideas."

"What I missed very much was the presence of other students. Giving and getting feedback from fellow students can lead to new insights. In most cases you don't know what your fellow students are doing, so the pressure and stress was high. You couldn't measure up well to the rest of the group."

"If you have problems, I think you would tell your tutor about them earlier if you could talk to her face to face instead of through skype."

"Normally, you get support from your fellow students. Those aspects now completely disappeared, which made me feel like I was really on my own and I often panicked and got demotivated."

"I am very grateful for all the efforts of the teachers, but I found the communication to be incomplete and impersonal. Exactly the distance made the teachers less involved."

Scholarship of Teaching and Learning | Pedagogy | Presentation

Writing Interior Fiction: A Case Study of a Writing Intensive Course for Design Students

Jill Lahrmer, Kent State University

ABSTRACT

Context: "Once a reading of a book is under way, and we sink into the experience, a performance of a sort begins. As readers, we are both the conductor and the orchestra, as well as the audience." (Mendelsund, 2014) Through words, a fiction author builds character and plot development with a storyline enticing the reader into the world of their constructed experience. There are lessons interior designers can learn by questioning how fiction writers construct viewable spaces within the reader's imagination. Designers can use these tools as they create their spatial narrative to immerse the client/users into a similar experience. However, design students often get stuck in a plan-oriented approach, providing functional solutions to a 'problem', potentially missing the opportunity to create a meaningful and experiential spatial narrative. Considering this, the purpose of this writing intensive course offered to interior design students was to integrate storytelling as they imagine and construct interior environments. The students explored how to write interior spatial development through an exploration of precedents posed within fiction examples. Process: Students started by reading the fantasy novel, The Night Circus (2011) by Erin Morgenstern. Morgenstern's education is routed in theater and studio art with no formal training in environmental design, yet, her work provides ample opportunity for spatial visualization through graphically imagined written content. Over the first four weeks of the course, weekly, students took 15-30 minutes to hand sketch a scene they visualized within the assigned reading. Students posted their sketches for class discussion, asking if others could guess the scene being sketched, evaluating what viewpoints the sketches were from. Discovering liberties taken between the actual text and where the students' imposed their own memory and/or imagination within the sketches, became a primary focus of conversation among the class to question how the reader/client fills the void when visualizing space. The conclusion of this first

module of the course allowed for depth of thought and exploration relating to time, perception and place, carrying into the following learning module, which centers on observation-based writing. During the next phase of the course, students were asked to examine a variety of interior centric writing combined between theoretical pieces such as Species of Spaces from George Perec (1997) and graphic novels such as Building Stories (Ware, 2012) and Here (McGuire, 2014). Students were then tasked with selecting an interior space on campus to write their observation of the space from a variety of different perspectives: from the building's perspective and then from an evidence-based design perspective complete with trace observation, behavioral mapping and ethnography. The final module of this writing intensive course challenged students to compose the design of their final studio project before it was designed, with the added twist that their studio project was the backdrop for a creatively written fictional short story. This exploration was evaluated through peer and faculty reviews of students work, both in written edits, and through students sketching a scene they visualize from the rough draft of a peer's short story. These peer sketches allowed the student author to see how a reader might visualize the built environment of their creatively worded fiction story. Implication: Through this writing intensive course integrating storytelling and interior design, students are able to explore the parallel convergences between professions by studying the meaning of our words, evaluation of observational techniques, ponder imagination and memories influences, and explore their own creative depths through both written and visual expression.

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Perec, G. (1997). Species of Spaces and Other Pieces. Penguin Books: London.

Ware, C. (2012). Building Stories. Pantheon: New York.

Assignment #1: Book Discussion + Sketching

Using Erin Morgenstern's *The Night Circus*, student will consider how without any education in interior design or architecture, fiction writers can successfully develop a narrative of the built environment visible only through the readers imagination.

Based on this, questions for reflection and discussion will align with:

- 1. Does each reader view these written environments drastically different within their own imagination? Or do the authors words allow readers to convey spacial elements with a similar visual through their imagination?
- 2. How do fiction writers build interior environments through words, without any education in interior design or architecture?
- 3. How do interior designers become more successful at articulating our designs to our client through words, as a compliment to our drawings?
- 4. How do we continue to approach design solutions from a variety of vantage points?
- 5. Is it possible for interior designers to design through words, prior to developing a visual solution?

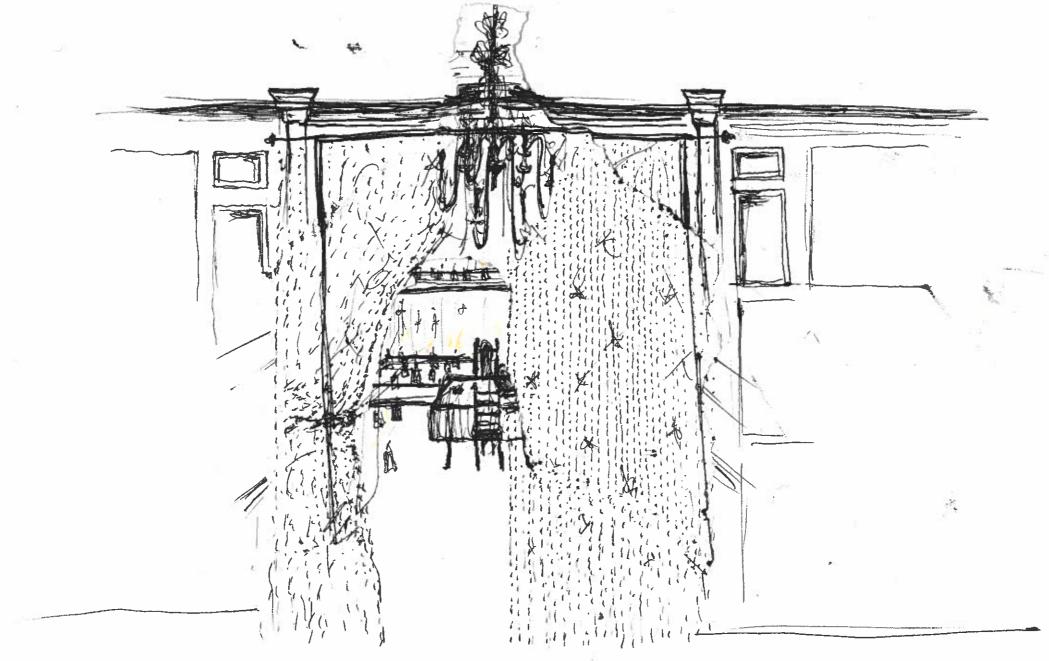
Using their imagination, each week students will complete a hand-drawn sketch which visually resonated with them, based on the writer's words. The first 3 sketches will be completed in black and white, intentionally quick (use shade and shadow as needed), taking no more than 15-30 minutes to complete. The final sketch should take additional time and feel like a more complete picture of the conclusion of The Night Circus. If color is desired at any point, it can be included if it is necessary/intentional for the purpose of your sketch. If you feel conflicted about your sketch needing multiple sketches to convey movement or time, you are welcome to do so (layer trace paper or draw a series of sketches).

Students will place sketches in the class Miro page as a high-quality PDF and the original will be brought to class. If a student feels they may have sketched the same scene in the book as another student, place your sketch near the other student's sketch. The students name, part in the book, page number and topic of the sketch should be written on the back of the sketch but not included in the Miro page – we want to keep the scene and student name a secret!

Schedule

(subject to change)

<u>date</u>	activity	due
Sept 1	Class Introduction + Assign Assignment #1	
Sept 8	Book club discussion + sketch critique	Read NC Part I, pages 1-116, Sketch #1
Sept 15	Book club discussion + sketch critique	Read NC Part II, pages 117-293, Sketch #2
Sept 22	Book club discussion + sketch critique	
	+ lecture on conclusion	Read NC Part III, pages 294-392, Sketch #3
Sept 29	Book club discussion + sketch critique	Read NC Part VI, pages 393-512, Sketch #4
		+ written conclusion (more info to follow on
		expectations of written conclusion)







The Prospector and Refuge

A fresh blanket of snow rests upon the ground, kindly rendering its target a glittery white. It is 6:57 in the evening and a tinted-black SUV has just appeared inside the view frame. First out of the door emerges a woman's leg hiding behind an emerald silk fabric. As she steps out, the snow softens its fall, complimenting her presence. Following closely behind, is what appears to be her husband, whose head exceeds the desired perspective. The gentleman folded back his satin-cuffed jacket and glanced down at his new watch. A screen projects perpendicular to his wrist allowing the couple to check their arrival time. He places his hand on his partner's back, suggesting her to enter the glass revolving doors -for the event is about to start shortly.

While within the constraints of the door, time seems to slow. Attention is kinetic as the revolving door pushes one's focus counterclockwise upon entry. Time now is absent. The woman stops in her place as she gazes into the mystery in front of her. Taking the identity of water, yet not sharing any hydrogen molecules within its DNA, this blue panel runs vertical as if taking place of a wall. It sneaks its way over the void framed by what is thought to be a hand railing, as if it promises to meet her on the second level, where the couple is now headed. She forces a smile to the gentleman unlocking gold chain of the VIP rope, giving them access to the staircase. The woman has an itch to look back, and at the first break of the landing, she acts as if her dress was caught, to get another look at the mystery. She notices a limestone sculptural piece tucked behind the vertical planes, a section of space that seemed to stand still in time. To her curiosity, it seems to be a Corinthian capital resting upon the top segment of this sculpture. The

Scholarship of Teaching and Learning | Practice | Presentation

Co-Design Processes in Service-Learning Implemented Across the Interior Design Curriculum

Dr. Jain Kwon, Colorado State University Leah Scolere, Colorado State University Maria Delgado, Colorado State University

ABSTRACT

Introduction The contemporary design approaches and processes have increasingly demanded the participation of various stakeholders (Apaoja & Haapasalo, 2014). While it is common for interior design courses to include service-learning opportunities, it less common to analyze codesign methods in service-learning across the curriculum. This study proposes a pedagogical framework for the implementation of co-design processes in service-learning courses at various levels. With reference to the service-learning impact indicators derived from a service-learning assessment model (Driscoll et al., 1996), this study analyzes a range of co-design activities that both students and client-stakeholders may perceive as beneficial to enhanced communication and understanding. This study also relates co-design processes to the CIDA Curriculum Standards and discusses the contribution to the interior design curriculum. Framework and Methods The framework for this study was based on the factors and variables derived from the literature in codesign and service-learning. The framework included seven key factors: prior conception, communication, perceived role of self, perceived role of others, perceived impact, collaboration, and assessment (Table 1). To identify the role of co-design in the design approaches, three design courses were analyzed focused on the participatory activities, tools and methods, stakeholder involvement, and interaction between students and stakeholders/participants. The three courses include a senior-level research-based design course, a junior-level interior design core studio, and a design thinking certificate capstone course. The senior-level, research-based design course consists of advanced human-subject research and design practicum. The

interdisciplinary co-design activities involve human-subject research training, eye tracking experiments, data analysis and synthesis, and participatory programming (Figure 1), design application, fabrication, and installation in a virtual environment and a campus building. In the multi-level, design thinking certificate course, students partnered with industry to design a Tiny House (Figure 2). Throughout the course, students apply the Engineering Projects in Community Service (EPIC) design process to guide their human-centered design approach. By utilizing the EPIC model, students learn to submit request for proposal responses, host virtual reality presentations to industry, and test prototypes. This third-year studio included a service-learning project focused on the design of a children's library and parent resource space within an Early Childhood Center. Teams of students facilitated a series of participatory visioning sessions with a diverse multi-stakeholder team. A key part of this experience was the development of a series of generative tools, activities, and probes to engage in a co-design process with the stakeholder team. (Figure 3). The levels of learning expectations in each course and co-design factors integrated into the course activities were determined with reference to the CIDA Standards 5-9: Collaboration, Business Practices & Professionalism, Human-Centered Design, Design Process, and Communication (Table 1). Emerging Findings and Implications The emerging findings suggest an integrative framework for implementing co-design methods in service-learning projects across varying levels of design curriculum. The participatory aspects of co-design are valued as a process, not merely a methodic approach (Luck, 2003). Through participatory design processes, students learn how to interact with the stakeholders and other participants while playing a key role in the project teams. This study also suggests the contribution of the implementation of co-design to the interior design curriculum. The co-design activities discussed in this study demonstrate the varying levels of learning expectations, ranging from awareness to problem-solving suggested by CIDA (Table 2).

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APPENDIX

Senior Level Research-Based Design Course | Figure 1

This senior-level research-based design course included a service-learning project focused on the environmental graphic design for college branding and interior wayfinding in a university building that houses the Dean's Office. The student team conducted eye-tracking experiments with research participants and prepared and facilitated a project visioning session with a stakeholder team.

co-design methods + tools



Figure 1. Co-design activities in the senior-level research-based design course.

Multi-level Design Thinking Certificate Course | Figure 2

In this service-learning project, students designed a Tiny House using the EPICS design process. They toured a tiny house construction site and responded to the course assignment Request for Proposal submission in both a construction document set and a Revit/Enscape virtual reality tour presented to professionals.

Service-learning supporters: industry, community, teachers

co-design methods + tools

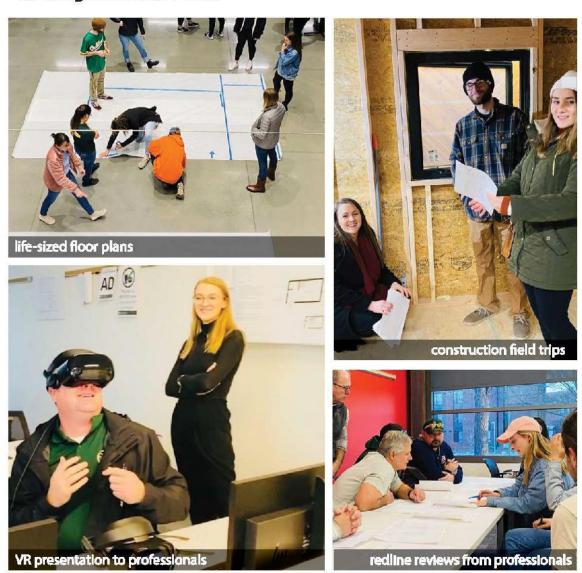


Figure 2. Co-design activities in the multi-level design thinking certificate course.

Junior Level Interior Design Course | Figure 3

This third-year studio included a service-learning project focused on the design of a children's library and parent resource space within an Early Childhood Center. Teams of students facilitated a series of participatory visioning sessions with a multi-stakeholder team.

Stakeholder Team Members: Executive poord members, teachers, parents, children, and librarian.

co-design methods + tools

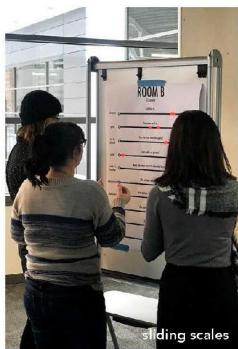








Figure 3. Co-design activities in the junior level interior design course.

Table 1. Framework for course analysis: The conceptual relationship among co-design factors, service-learning impact indicators, and CIDA curriculum standards.

	Factors in Co-Design Processes	Service-Learning Impact Indicators	CIDA Curriculum Standards (5-9)
Pre-process	Prior Conception	Awareness	
	Communication	Empathy	5. Collaboration
Key		Involvement	6. Business Practices & Professionalism
Concepts		Development	7. Human-Centered Design
			9. Communication
	Perceived Role of	Empathy	5. Collaboration
	Others	Identification	6. Business Practices & Professionalism
			8. Design Process
	Perceived Role of Self	Autonomy	5. Collaboration
		Identification	6. Business Practices & Professionalism
			8. Design Process
	Perceived Impact	Identification	5. Collaboration
		Insight	6. Business Practices & Professionalism
			7. Human-Centered Design
	Collaboration	Development	5. Collaboration
		Involvement	7. Human-Centered Design
			8. Design Process
			9. Communication
Post-	Assessment	Achievement	
process		Satisfaction	

Table 2. Expected learning levels and associated course activities.

Learning-	Senior-Level	Multi-Level	Junior-Level
Levels	Research-Based Design	Design Thinking	Interior Design
Understand	Understand perception & cognition research contributes to interior design; Understand research ethics and principles.	Understand the design- thinking theory through the practice of the EPICs design process module.	Understand the role of co-design methods in a human-centered design process with stakeholders.
Identify	Identify design problems through visioning meeting with the stakeholders and research activities with participants.	Identify project solutions based on programmatic design constraints.	Identify empathetic techniques for understanding stakeholder needs and key issues related to the design problem.
Analyze & Synthesize	Analyze and synthesize the stakeholders' input and research data.	Students synthesize their designs into a Revit model. Then, they analyze the tiny house overall cost and weight. Lastly, they produce schedules, drawings, and renderings for professionals to redline their student drawings and provide feedback.	Analyze and Synthesize stakeholders' input from a series of visioning session activities into guiding principles for the project.
Apply	Apply of research findings in wayfinding design practicum	Students apply the professional constructive feedback to an updated tiny house design version.	Apply guiding principles to a series of proposed design solutions.
Explore & Express	Explore and express ideas in collaborative design processes. Present project plan and	Students explore virtual reality technology and present their final construction document set and presentation to	Explore facilitating a visioning session with stakeholders. Express ideas and
	brainstorm with the stakeholders. Present research progress to an academic audience.	professionals.	insights to stakeholders through various forms of communication.
Solve & Assess	Assess stakeholders' needs and current interior condition. Solve design problems; Assess and propose solutions; Fabricate/install outcomes.	In collaboration, students and professionals identify the strongest tiny house design elements and design opportunities for continued growth.	Assess stakeholders' needs and propose scope of design.

Scholarship of Teaching and Learning | Practice | Presentation

COVID/Upskilling Experiential Exploration Program: A Study in Alternative Experiential Learning

Kimberly Burke, University of Cincinnati

ABSTRACT

Co-operative education has been the foundation of our institution for over 100 years. Our program has weathered the Great Depression, war, riots and even the H1N1 virus of 1918. Spring 2020 started a whole new challenge in co-operative education when most co-op students were furloughed as the result of the COVID quarantine. The summer 2020 co-op search was abruptly cut shout with the University's announcement that only remote work would be permitted. Unfortunately, most design students were unable to work remotely. Instead of giving our students a waiver for summer, our faculty collaborated to create a COVID/Upskilling Experiential Exploration Program (EEP) as an alternative to co-op. This presentation explores the effectiveness of the COVID/Upskilling EEP as a viable alternative to co-op. In Sheiner and Yilla's article, The ABC's of the post-COVID economic Recovery, they state that "the depth and speed of the decline will rival that of the Great Depression" and that "there will likely be no quick recovery." The Washington Post writes "The U.S. unemployment rate is expected to stay above its pre-pandemic levels through the end of 2030, according to a 10-year economic report released Thursday by the Congressional Budget Office." Without a doubt, the pandemic will have a lasting impact on unemployment. Proactive measures to engage students in experiential learning will become more important as competition for fewer traditional employment options becomes a reality. EEP's have been an approved alternative to earn co-op credit for some time. Students have always had the option to participate in service, research, and travel EEPs and earn co-op credit for one of their five required co-op semesters. Because of COVID, the EEP offerings were expanded to include an COVID/Upskilling EEP which allows students to participate in multiple activities over the course of the semester to earn co-op credit. Students are

required to complete 250 hours of upskilling and can participate in a variety of activities including technical upskilling, the virtual innovation studio, service learning, competitions, and faculty led research projects. Paid work experience as well as student driven projects are also part of the EEP options. Each EEP is unique to the student and should be designed to help them move toward their professional goals. Data used for this presentation is derived from student assessments and reflection meetings. All students are required to complete a student experience assessment report and to meet with the co-op advisor after each co-op term. Because of the individual nature of the EEP, EEP students are given a separate assessment that addresses the unique nature of the EEP and corresponds to the student experience assessment. By March 12, 2020, 25 of 31 students participating in the search had co-op positions for summer. By the start of summer semester only 6 of the 31 students were employed in full-time traditional co-op positions leaving the remaining 25 students working on an EEP. This program will discuss the results of a small-scale study of 31 4th year interior design students over the summer semester of 2020. We also have preliminary data on the 43 3rd year interior design students for Fall 2020. The introduction of EEPs this past summer has given us valuable data to move forward and improve EEP implementation and practice. We are working towards Spring semester where we have the youngest and most inexperienced students seeking co-op positions and we anticipate a relatively high number of EEP students. With the uncertainty of the pandemic and the economy, we do not see an end in sight for the need for COVID/Upskilling EEP plans. This presentation will cover the basics of planning and preparing an EEP, EEP implementation, mentorship, assessment and best practices moving forward. This presentation will discuss the COVID/Upskilling EEP as a viable alternative to co-op.

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https://www.washingtonpost.com/business/2020/07/02/cbo-economic-outlook/

Student EEP Plan Summer 2020



EEP FALL 2020

NAME:

CO-OP FACULTY ADVISOR:

DATE: July 2, 2020

MAJOR: Interior Design

GRAD YEAR: 2023

LEARNING GOALS:

Through your experience, you will build your hard and soft creative skills and your professional skills to support my future creative goals. Develop a minimum of three

lexample - Create a strong cohesive portfolio in preparation for the next co-up referral process | Understand the professional behaviors necessary to be successful in the workplace. (Ex: time management and prioritization skills | Understand my role as a self-learner and the importance of self-directed learning while involved in the co-up program.)

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#	GOA	ľ

- Understand professional communication and confidently relay back to coworkers and clients.
- 2 Understand my role as a self-learner and the importance of self-directed learning while involved in the co-up program.
- 3 Understand time management and proactively adapt to challenges in the workplace.
- 4 Create a strong and cohesive portfolio in preparation for my next co-op referral process.
- Learn new software skills that I can apply to previous and future projects in aiding my portfolio cohesiveness.

EEP PLAN:

Please list your EEP plans for Fall 2020. At the conclusion of your EEP, you should have deliverables to enhance your portfolio, resume, or CV, as professional assets in your creative career.

(example: A portfolio containing three projects guided by industry experts gained through part-time and project-based work |
Certification in Adobe Creative Suite gained through online certification | Documented community research and creative solutions to global problems gained through participation in UC Service Learning

#	SELECTION	HOW WILL THIS ADVANCE YOUR LEARNING & PROF DEVELOPMENT	ESTIMATED HOURS	DELIVERABLES	SUPERVISOR/MEN TOR/FACULTY
1	Revit Upskilling	Understanding of highly used software currently in demand in the workplace	~50-70	Thermador Student Concept Kitchen Competition	TBD- A friend of my uncle's
2	VIS	Real time application of hard and soft skills- teamwork, communication, and software applications	~125	TBD - Use of deliverables in Portfolio	TBD- Dependant on who the leader of our group is.
3	Photoshop Upskilling	Further understanding and experience using a widely used program in the workplace	~54 (based off of 7.1 meeting)	Floor Plan rendering for past/present/future projects	UC Faculty
5 (Interchangeable with 4)	Sketchup Upskilling	Further understanding and experience using a widely used program in the workplace	~54 (based off of 7.1 meeting)	Modeling/Rendering of past/present projects	My uncle, owner of RDA Group Architects in Dayton, Ohio

RESOURCES:

What are the resources, platforms and/or <u>softwares</u> you will need to enhance your skills, document your creative growth/process, communicate with your mentor/guides.

(example: Adobe CS6: InDesign, Illustrator, Photoshop taking a series of classes through Adobe.com to get my Creative Cloud certificate | UCMail | I will stay in communication with my mentor via UCmail.)

#	EEP SELECTION	RESOURCES NEEDED	ESTIMATED COST	HOW WILL YOU ACQUIRE THE RESOURCE
1	Revit Upskilling	Autodesk - Revit	Varying?	Student License – Revit Website
2	VIS- Session 1:Project 1 Company + Description: ORIBE	Rhino, TBD	Varying	Already have Rhino license, unsure of other softwares
3	Photoshop Upskilling	Adobe Photoshop	Free-39\$	Already have Adobe Photoshop
5	Sketchup Upskilling	Trimble Sketchup	Free-55\$ for student license	Student License or subscription via website

Student Experience Assessment Summer 2020

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Student Report

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Provide examples of how you utilized your communication disk justimes or cost) through this experience. (Recommended length 100-150 servid)

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B. Critical Thinking

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Student Report

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Student Report

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Student Report

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Demonstrating increase and imaging

The degree to which your personal values edge with the values of the organization

I was working from frome with little to no supervision and I was always on time on prompt with my assignments and stayed on the computer for my 9 hours a day making sure. I wasn't distracted with things from my everyday life. E. Innovative Approaches How would your supervisor rate your performance on Cardity of work The degree to which you so been abilities will allow you to be successful. Reference what innevering looks like in your feet and identify how you have obviously at contributed to inneverting it your pulsers

Hell kee I was very impositive in the carpet designs especially, the project I was working on was rebranding the casons so we had a freen base on have the new prant was gaing to tack like and how we were going to achieve had goes.

F. Professional Work Habits How would your supervisor say that your

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Student Report

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wagths and provide examples of now you demonstrated these strengths in your experience. (recommended length 100-

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Artibulate two areas for growth and nowyou plan to each toward interesting these professional areas, (recommended length 100-100 account). I word to always grow in new programs and stretching my cheekse ideas to other sepects with heing even more indicative with the more it understand project world by and organization.

My personality is a good matter for this experience.

Boyou have a supervisor mental, or other person in the organization who you feel should be recognized for outstanding supervisors student support, or manager p^{α} . Pleasuprovise their email

Per: 216.5

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How do you hallow you fit is not be presented in

G. Perceived Fit

EEP Evaluation Summer 2020

Response Summary:

Did you complete your FF2 this Summer? Yes Please list your top 3 EEP goals for the summer. Goal #1 working with people in other design field Goal #2 doing a research project

Goal #3 get Adobe Illustrator Certification

Did you meet your EEP goal for the summer? Yes

Did you meet your FFP goal for the summer? Yes

Did you meet your FFP goal for the summer? Yes

How did you meet this goal? Provide specific information that demonstrates your success and at least one example.

Participating in the Virtual Innovation Studio with xxxxx and other team members in graphi design and industrial design.

Assisting a Museum Research Project with faculty and students for 8 weeks.

Completed the Adobe illustrator course and passed the certification exam.

How many hours have you completed this summer? Total Hours 308

Of your 250 hours this summer, how many of the hours you have completed are Upskilling: 30

Of your 250 hours this summer, how many of the hours you have completed are:

Virtual innovation Studio 125 Working on a muti-function outdoor kiosk design challenge with three other DAAP students. I completed the project.

How would you rate your experience? Excellent

Undergraduate or Graduate Research 153. Working on museum researching, generated diagrams for each topic, then at the end applied these findings to design a virtual museum room. I completed the project

How would you rate your experience? Excellent

Upskilling: Please select up to TEREF [3] skills you spent the most time developing this summer. (Choose 1 to 3)(If a skill you worked on is not listed, please use "Other" and provide the name) Anobe Illustrator

How did you upskill in ? Select all that apply: Participated in a faculty led class. To what extent did you complete upskilling in ? All of what I intended

After completing some or all of upskilling in , how knowledgeable do you feel you are? Very knowledgeable

To what extent do you believe upskilling in will enhance your future employability. Definitely will

Did you earn certification? Yes, I passed the certification test

How would you rate your upskilling experience? Excellent

How has your EEP enhanced your professional growth, knowledge of your chosen field and/or employability? This EEP experience allowed me to further develop relevant skills? Strongly agree

I found the EEP experience to be beneficial to my professional development? Agree

The EEP helped me increase my self confidence? Somewhat agree

My EEP provided me with a better understanding of my chosen profession? Somewhat agree

My EEP provided skills or work to enhance my employability or resume/portfolio? Strongly agree

I prefer a more structures academic routine? Somewhat agree

How has this experience influenced your career goals and/or professional identity? I believe all three projects I have completed or worked on during EEP will make me more professional in my future career. The virtual innovation studio with AvorKo is a great portfolio piece to showcase team work. Having research experience and illustrator skills will definitely be beneficial for me when locking for future opportunities.

COMMUNICATION. How would you rate your performance on: Speaking with clarity and confidence Very Often Writing clearly and concisely Very Often

CRITICAL THINKING - How would you rate your performance on: understanding and assessing a problem Very Often applying classroom and/or specialized knowledge Always considering options and generating solutions Always interpreting and analyzing information Always understanding and applying the technology and tools Very Often

Give an example of a challenge or failure that you faced during this experience and how you navigated the situation

When designing the outdoor food klosk project, our fearn didn't address the secondary function clearly and had a hard time thinking out of the box. We decided to set up a meeting and each of us would bring some ideas to share. After the meeting we combined a few ideas together and feel more confident about our design.

TEA VIWORK/COLLABORATION IN DIVERSE SELTINGS - How would you rate your performance on: effectively collaborating with others to accomplish a goal Always recognizing and appreciating differences within your team Always identifying your personal biases and ask questions to understand perspectives different from your own. Very Often

ETHICAL JUDGMENT - How would you rate your performance on: recognizing and assuming responsibility for your actions Always. demonstrating honesty and integrity Always

INNOVATIVE APPROACHES. How would you rate your performance on: demonstrating original and creative thinking Always developing, implementing, and testing new ideas Always

Reflection what innovation looks like in this experience. What was your greatest accomplishment

The greatest accomplishment for me was the opportunity to work with students in other design majors. That different perspectives on how to design a space - every group member need to share what they know to complete the project from every aspect. I understand that listening to others' ideas can enrich the design concept and make it more meaningful.

PROFESSIONAL WORK HABITS - How would you rate your performance on:

demonstrate a professional/positive attitude Always. demonstrate self confidence Very Often show initiative Sometimes quantity of work Always quality work Always task/project management Always prioritization Always the degree to which your skills and abilities allowed you to be successful Sometimes.

How do you plan to utilize what you have learned this semester moving forward?

I think I will be more flexible on different types of design projects. I'm also interested in communication design since it is an important part of a professional project, so I plan to learn more skills related to that to broaden my design knowledge.

is there anything else about your experience that you would like to share?

I think all the EEP projects I worked on are great experiences to make myself more professional and confident. Also very helpful in my future study and career.

How would you rate your overall EEP experience? Excellent

Did you have a supervisor or mentor for your EEP? Yes

COVID EEP: Virtual Innovation Studio Work Sample

Violatio, form of modernia granutce on Equipment Contrains country for an experiment of the Contrains of the ord architecture. Low Angeles is Actificially proceeding the most Architecture of the Contrains of the processing of the Contrains of the second of the Contrains of the processing of the Contrains of t

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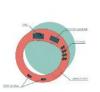
Balt hid every great film or production, o street and his crew come lagather to begin a ward movement. Singing lagather old lookwood in a modern way retracts us had the one should be present and future. So it should

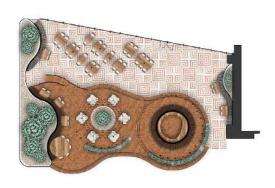


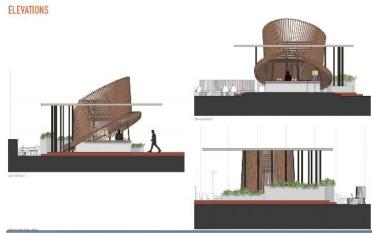


















Branding



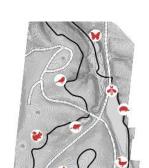


COVID EEP: Service Learning Work Sample

Goal: Jumping off of the Urban Explorers Discovery, make Burnet Woods more engaging for people of all ages and increase ecological literacy using different educational tools and interactive experiences

- · Using the proposed trail layout, we have set up 9 mini playscape destinations along the trail
- · Each of these locations draw inspiration from different species that inhabit Burnet Woods





NEFITS OF PLAY



CLIMBING

Climbing playground equipment or trees also helps kids build body awareness. They have to know where their body parts are and what to do with them. It can help kids learn directions like up, down, left, and right, too. Also encourages problem solving and predicting what's going to happen. "Where should my right foot go next? How will I get down from the top?"



FREE PLAY

Helps kids learn to communicate with other kids and practice conversation and vocabulary. Kids also have to follow rules, share, and take turns on the playground. These kinds of social interactions help kids practice picking up on social cues like body language and tone of voice.



SWINGING

Helps with balance and teaches kids to know where their body is in space. It also gives practice with fine motor skills (gripping the chain), gross motor skills (pumping the legs to swing higher), and coordination (putting it all together). Swinging also helps the brain learn to make sense of speed and direction.



SIGNAGE / WAYFINDING





Scholarship of Teaching and Learning | Social and Environmental | Presentation

Bug Filter

Nerea Feliz, The University of Texas at Austin

ABSTRACT

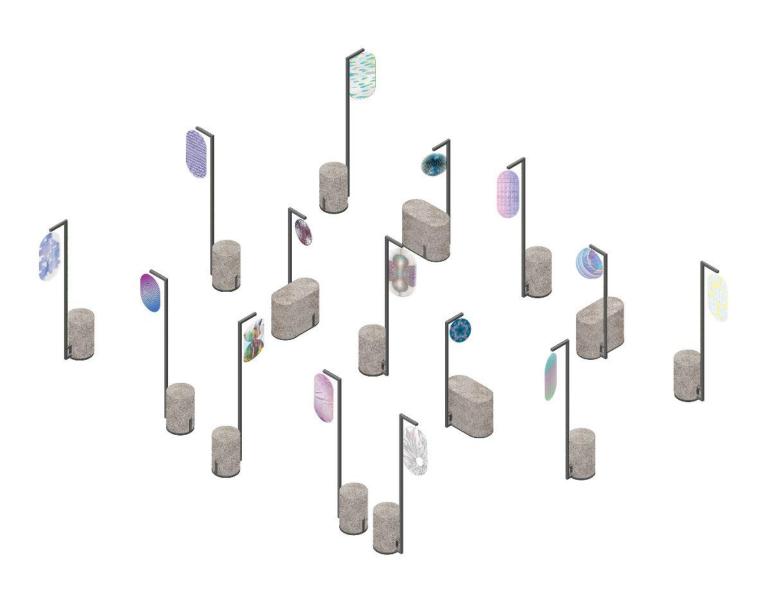
Topic/Research Question "Bug Filter" was the title of an advanced interior design studio course taught in the Spring 2020. The course was offered to a total of 14 upper-level ID undergraduate and graduate students. The class designed a series of outdoor furnishings for the social hub of a local performing arts festival, a yearly city-wide celebration predominantly featuring live performances. The course asked students to use the intervention in this public venue, to bring attention towards the endangerment of local pollinators by allowing us to share their subjective perception. What if we could experience the world through a non-anthropocentric lens? How might interior design tactics positively contribute to cultivate a sense of intimacy between us and other life forms? To explore these questions, students examined the way ornamentation and pattern could capture the fascinating world of insect vision. After researching local pollinators and bee cognition in consultation with the department of Integrative Biology, students' applied research translated this knowledge into making. Context: The course explored how interior design could amplify current discourse on sustainability. According to a number of recent studies (Carrington, 2019), 40% of insect species are in danger of extinction in the coming decades. Insects are pollinators, seed dispersers, decomposers, and serve as a food source for other species such as bats, birds, reptiles, amphibians and fish. In the absence of insects some of these other species will also be endangered. When it comes to sustainability within our discipline, most efforts focus on, 1) using renewable energy and resources and, 2) limiting energy consumption through a greater understanding of materials embodied energy, construction methods and reducing a building's operational carbon footprint. In the face of an incoming biodiversity crisis, design as a communication device can actively engage in raising awareness about the imminent need to protect biodiversity. Methods: Learning through making Students individually designed

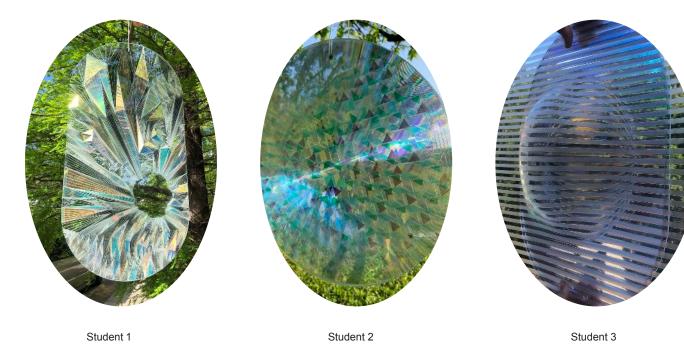
and fabricated acrylic filters that would enable visitors to see the world as if through the eyes of arthropods. Engaging directly with materials and building technologies at a real scale drove the designs in this studio. Students used a wide range of digital fabrication techniques. While exploring a multispecies conception of the built environment, students discovered new aesthetics, optical effects, and visual pleasures. These filters were an integral part of compound furnishings that included seating accommodations. Students cast the seats out of hempcrete, an alternative cast-in-place concrete made from renewable resources. This construction material locks in carbon dioxide, creating what American Lime Technology calls "better-than-zero buildings." Industrial hemp's high concentration of pollen could significantly increase bee populations (C. O'Brien, H.S. Arathi, 2019). Methods: Online Transition The furnishings were almost completed (see images) when the school had to close due to coronavirus. With the cancellation of all in-person events, and classes, instruction resumed online and a virtual edition of the performing arts festival featured live-streamed performances. Students were able to capture the essence of Bug Filter in a new video piece. They contributed 14 digitally conceived, insect-inspired filters. "Bug Filter" digital incarnation was featured in the local press. Conclusion: The studio was a unique learning experience that provided an interdisciplinary and public platform to engage students on global problems in conversation with a broad range of collaborators: the Department of Integrative Biology at our university, material manufacturers, local arts scene and the broader community in our city.

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O'Brien C. & Arathi H.S. (2019). "Bee diversity and abundance on flowers of industrial hemp (Cannabis sativa L.)" in Biomass and Bioenergy, Volume 122, 331-335. https://doi.org/10.1016/j.biombioe.2019.01.015.





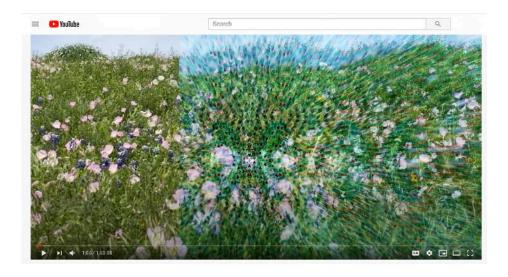


Student filter fabrication process just before school closed due to covid-19. Student names are omitted for submission anonymity purposes.

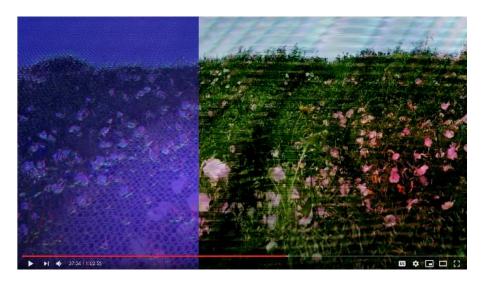


Hempcrete Seats built by students just before school closed due to covid-19.









Bug Filter film featuring digitally designed student filters streaming at the Art Festival's Virtual Edition.

Scholarship of Teaching and Learning | Social and Environmental | Presentation

De-Scription: Framing Urban Biophilic Interiors Through Design Ethics

Kendra Locklear Ordia, University of Nebraska - Lincoln

ABSTRACT

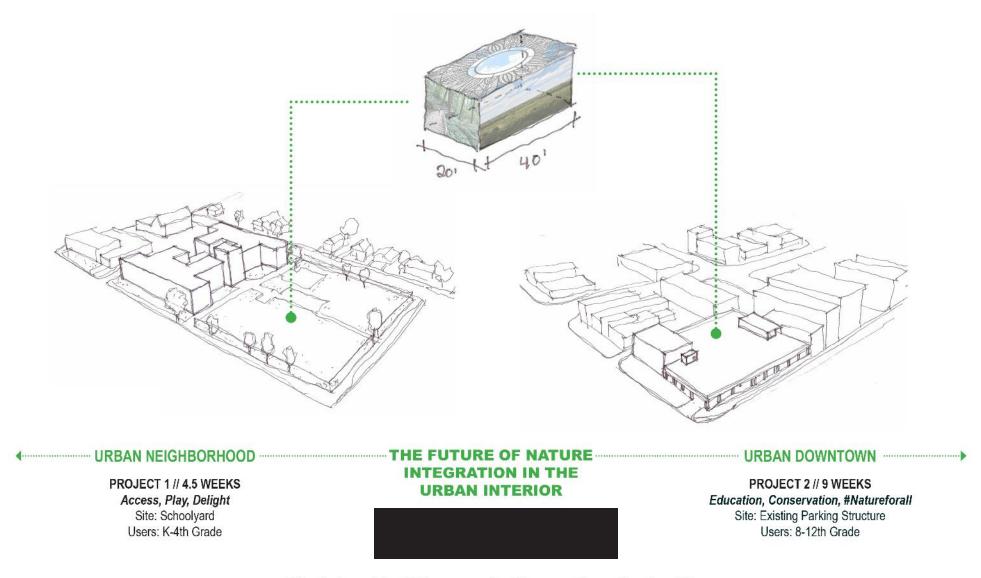
"Nature" holds many valid definitions from remote, wild landscapes to a single urban street tree. Interactions with nature are as diverse as those experiencing them. However, even when greenspace amenities exist in close proximity, they are less likely to be used by people of color.1 Resulting from systemic racism and complex social and economic factors, the lack of access to benefits of nearby nature for people of color is far from equitable. Equity is defined as being fair such that peoples' needs guide the distribution of opportunities for well-being.2 This presentation will discuss two related projects with scaffolded approaches to integrate concepts of design ethics for diverse opportunities for nature-connection at the interior scale in urban environments. This junior-level studio was framed around a primary question: How do you inclusively design interior nature-influenced spatial experiences considering diversity, culture, and identity while promoting play, delight, and beauty? The context for both education-typology projects is complex, layered, and defined by a variety of scales: from Environmental and Social Justice Movements to Early Childhood Education and Development. Students began with a selfreflective process then analyzed sources on Nature-Deficit Disorder, urban nature and children/youth, and issues of equity related to social determinants of health and racial inequalities. Design Ethics were introduced as a toolkit to establish a baseline for framing and terminology.3 Students were assigned peer groups for discussions and encouraged to listen and build empathy as others' stories may differ from their own. Project 1 built on these pedagogical approaches requiring the students to further research what it meant to design a schoolyard for mental health, understand types of play, and evaluate several pre-designed nature-play programs for integration into a modular, hands-on classroom for an urban elementary schoolyard. This

project utilized a standard portable classroom (24' x 40') and an adjacent site-built exterior deck. This 4-week exercise sought to provide low tech/high impact, innovative interior design approaches for safe, inclusive access to nature for children in urban areas. Project 2 required students to scale up in square footage and age of primary users: youth in 8th -12th grade. The project concept built on the understanding of the mental and physical benefits of spending time outdoors showing time in nature during childhood and role models who care for nature are two biggest factors contributing to environmental stewardship in adulthood.4 This non-profit educational facility focused on science and environmental sustainability education, research, public awareness, and workforce development for youth from under-served or low-income communities where access to these programs have historically been met by systemic barriers. Serving as a prototype, it utilized an existing structural framework of an urban parking garage with ground-level infill program and integration of the Project 1 portable classrooms on the upper level. This 9-week project aimed to create experiences in the urban interior to enhance awareness, knowledge, and opportunities for meaningful connection to nature for underrepresented youth. The studio topic intended to engage students in systemic inequality issues brought to national attention through the current pandemic and to investigate what biophilia means for the nature deprived. In terms of academic benefits, the projects provided the opportunity to simultaneously utilize analytical and creative thinking in evidence-based design. Students developed and referenced their design intention to propose innovative spatial solutions elevating the experience of the interior built environment while addressing identified ethical values. Both projects allowed for creative methods of defining spatial conditions simultaneously considering the health, safety, welfare, and delight of the users.

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- 4. Louise Chawla, "Childhood Experiences Associated with Care for the Natural World: A Theoretical Framework for Empirical Results," Children, Youth and Environments, Vol. 17, No.
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What does biophilia mean for those nature-deprived?

How do you inclusively design interior nature-influenced spatial experiences considering diversity, culture, and identity while promoting play, delight, and beauty?

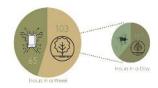
Design Intention

The goal of this project is to provide a low tech / high impact innovative design approach for safe, inclusive access to natureforchildrenandcommunitymembers in an urban area. The design intention is to create a tranquil and sustainable environment for users that breaks the boundaries of the classroom. The designs focus is to incorporate nature in everyday activities and aspects of learning for both students and the surrounding community. One strategy to achieve this is to emphasis apertures to flood in natural lighting and open up the space. Another strategy is to provide an interactive circulation between programs by implementing moments of emphasis through texture to further promote creativity and engage the senses for both students and community members.



Nature Deficit

One main concern of how children are growing up taday is the lack of nature in their everyday life. Growing up in Nebraska, I was exposed to the outdoors and was given the freedom to explore on a day to day basis. Today as a society, the United States and across the world for that matter are experiencing a lack of this creative exterior play, which in the long run has a hand in a lower mortality rates, higher obesity rates as well as higher rates in mental health problems for this generation. Parents are concerned more today about safety than in past generations even though the risk of abduction has decreased over the years. This creates the idea of "container children." The concern of abduction and the number of feet a child can explore in their front or back yards leads to a higher amount of time spent indoors. This is a problem seen not only in the younger generation but in all generations (Louv). Our time inside is increasing. In 2013, the average American teenager spent a total of 40-65 hours a week on a device (Martinez). At the highest rate of 65 hours a week, the daily time spent on a device was 9,3 hours. That is a significant statistic that has likely increased, especially in today's pandemic.

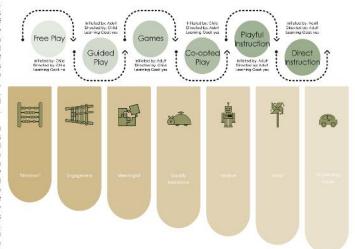




Play

To ensure high quality playful experiences, a multidimensional definition of play is necessary. This creates the spectrum of play for a child. This spectrum of play capitalizes on every realm of play from free play to guided play, games, co-opted play, playful instruction, and finally direct instruction (Zosh). Important practices of play include activities that are active and "minds-on," full of engagement, meaningful, socially interactive, iterative, loyful, and activities centered around outstanding issues (Hassinger-Dos).

The second realm of the play spectrum is guided play. Guided play retains characteristics of free play, which a child thrives exponentially in, especially the enjoyable nature because it is driven and initiated by the child, Guided play takes this drive and combines a targeted learning object behind the play. In order to attain this learning objective, some adult support is needed. Although, this play involves an adult it still respects children's autonomy and their pride in discovery. This element of respect is essential to a child's play because it cultivates a love of learning, promotes engagement while also offering suppor (Weisberg).



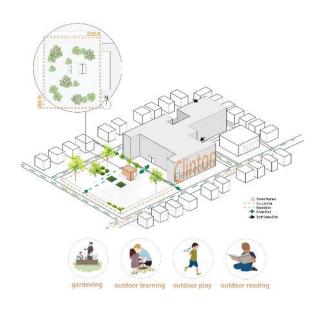
Urban Nature + Children

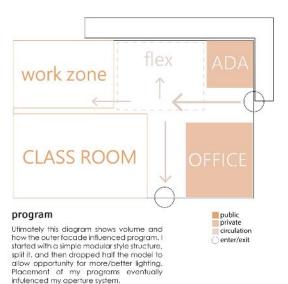
"Trees and natural areas are essential elements of healthy communities for children. They need to be integrated at multiple scales, from landscaping around homes, schools, and childcarecenters...for children's creative play," -Louise Chowla

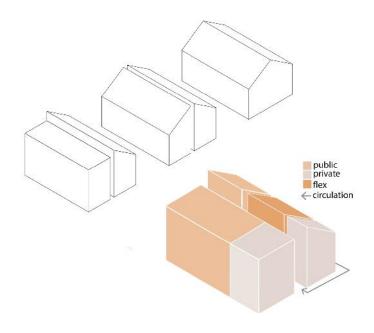
Evidence suggests that spending time in nature can benefit human health in multiple ways (Sefalk). Living in a greener environment after results in higher levels of physical activity as well as owering rates of stress, anxiety, and depression in children and adults. A person's well-being can truly thrive in these open, green spaces. Philosopher Martha Nussbaum proposed ten "Central Capabilities" of a flourishing life worthy of human dignity. Although Nussbaum's proposed list provides an articulated description of ten different domains of well-being, this list represents a bosic minimum (Chawla).



RESEARCH GRAPHICS (STUDENT WORK)

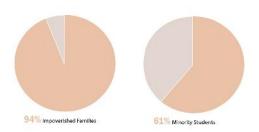






user demographics

Clinton Elementary is a Title 1 school, with 500 students enrolled, ranging from pre-kindergarlen to fifth grade. It is common to see students from impoverished families, and more than holf of them are of a different minority. These challenges threaten student's academic success now and increase risk for academic failure in the future. Clinton Elementary's staff works to increase opportunity, empower students and families, and diminish barriers. They facus on ensuring that each student receives a high quality education that supports them reaching their fullest potential in a world that continues to change.



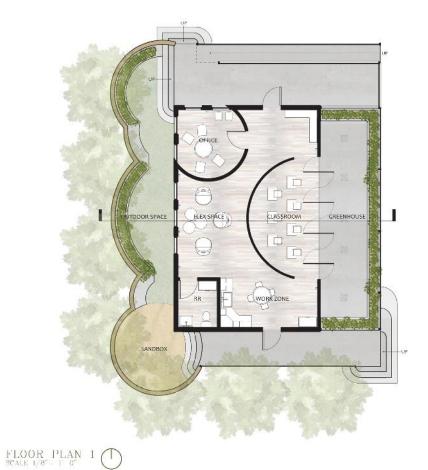


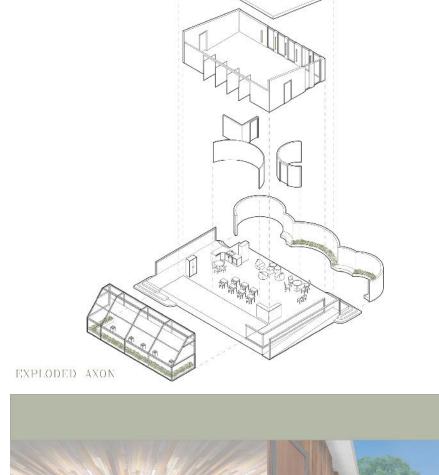
students: Graces pre-kindergarten through fifth grade. Learn better by being hands on and having freedom to be creative. 94% of them come from impoverished families, and 61% are minority students.



teachers/staff:
Work directly with the
children and have pushed for
new learning opportunities
via nature. They have seen
and learned about the
impact that greenspaces
can have on young students.



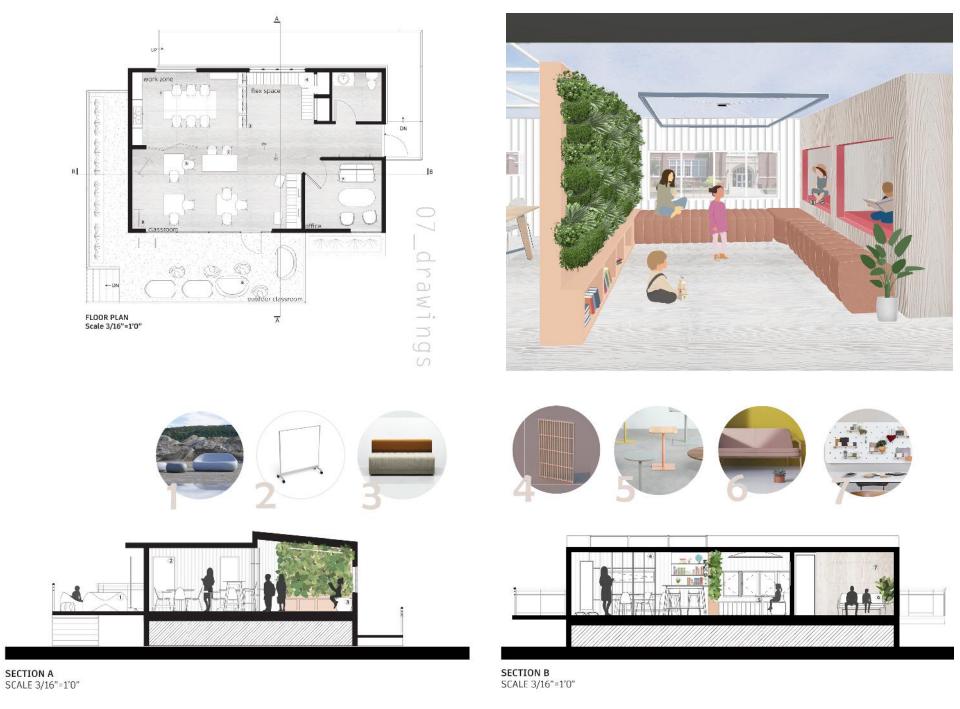








MODULAR CLASSROOM (STUDENT WORK)



MODULAR CLASSROOM (STUDENT WORK)

Scholarship of Teaching and Learning | Social and Environmental | Presentation

Facing and Experiencing a New Interior Urbanism

Alison B. Snyder, Pratt Institute

ABSTRACT

Experiencing cities as public, free and open (Sennett: 2018) cannot be ignored; and, especially today, we must consider social theorist David Harvey's reworking of Henri Lefebvre's words "the right to the city." Harvey urges, "The freedom to make and remake our cities and ourselves is...one of the most precious yet most neglected of our human rights" (2008, 23). A city's dynamism depends on a changing set of contexts, but the rapid speed of urban transforming since the COVID-19 pandemic broke in November 2019, and forced the shut down in March 2020 in the USA, is notable. Within the author's course, Interior Urban Spaces, it is argued that we must consider our rights while we transpose our understanding of the exterior places we inhabit in cities, to be interiors. In summer 2020, the course became New Interior Urbanism to spotlight new investigations and questions concerning existing conditions as they relate to re-entering the city, in this new era. >Pedagogically, a growing practice exists to theorize the existence of urban interiors and their interiority (Marinic: forthcoming; Snyder: 2020; Attiwill, et al: 2015; Yue: 2006). In the eyes of the author, there is a necessity to include and describe every public place from street to park, to market, to plaza—as containing several interior-based, spatially and behaviorally-motivated interactions, formed by the particular materiality of boundaries, edges and thresholds, as well as existing or developing cultures. >The course emphasized many kinds of analyses to understand the interior as multi-scaler and multi-disciplinary. Reading from a variety of perspectives opened up an arena for studying through, the words of urbanists (Tester: 1994; Stavrides: 2010), sociologists (Sassen: 1994), journalists (McGuirk: 2018; Kimmelman: 2020) and other critics (Benjamin: 1999), as well as designers and practitioners (various Dezeen articles), and others. >To face the current problems, field work as a primary informative practice

(Ewing: 2011; Snyder: 2021) was highlighted by the analysis experience of psychogeography/phenomenology (Debord: 1958). Students also researched the history of their NYC and global sites. Finally, a sketch problem/charrette was introduced to ask students to critically speculate on hypothetical propositions for re-adapting global city public interiors. >The new challenge of changing the way of teaching for New Interior Urbanism was also heightened by the Zoom experience. Together students and teacher pondered the relationship between urbanism, people and space within the intimate screen. The online mode presented opportunities for easily comparing primary and secondary hands-on and virtual research. >Marking the end of the course, the charrette produced remarkable designs that took into consideration local heritage, site use, and existing site geometry, to suggest and produce a design that would enhance existing conditions while applying new definitions of urban interiority in the outdoor environment. Students formed opinions based on interpreting the current hyper-awareness of needing to rework our personal and collective freedoms. Utilizing global sites of parks and markets, students virtually challenged status quo social distancing ideas by putting forth experimental designs that considered many scales and interactions, whether permanent construction, or those that blend in, degrade or disappear over time. No one wanted to mark space in the park or market as a monument to the hardship presented by the pandemic; yet, no one wants to forget how it has begun to mold us, asking us to adapt. Thus, for sites selected in Bangkok, Berlin and Cairo (see figures), important, positive and possible ways of facing hope, fear, and rebellion through experimentation is put forth in hand-drawn and digital media illustrating a new interior urbanism.

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Paper Figures List:

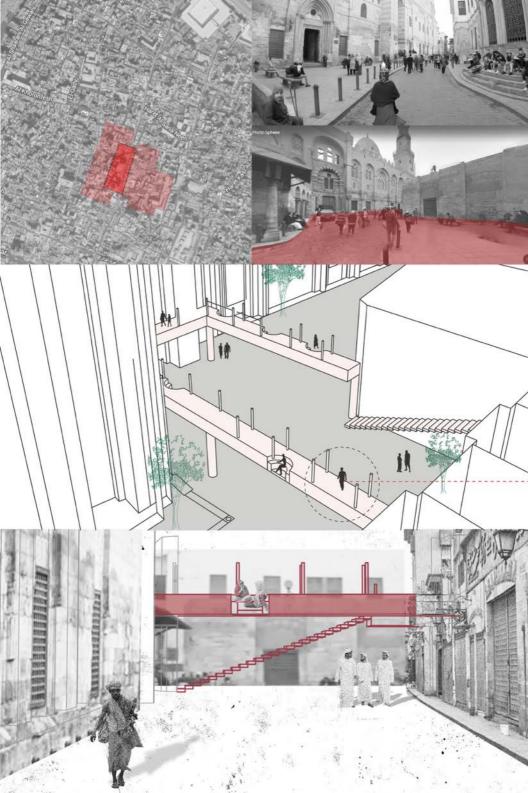
Figure 1, Bangkok park with appearing and disappearing holographic spacings and placings; Student Yating Liu.

Figure 2, Berlin park with urban furniture and ground patterning marking and providing new spaces for freedom and expression; Student Fangming Cai.

Figure 3, Cairo market with bridge installation literally and metaphorically bring people together and separating their views; Student Lena Han.







Scholarship of Teaching and Learning | Social and Environmental | Presentation

Getting WELL

Christoph Korner, Woodbury University

ABSTRACT

Human safety, health, and comfort are essential parts of our profession, but lack an academic discussion, which makes an integration in the curriculum sometimes challenging. At the same time the traditional output of our students can not represent them in any satisfactory way. How do we draw health and comfort in a floor plan? How do we show safety in a rendering? This dilemma is even more daunting in case of an upcoming CIDA accreditation visit. Parts of Standard 7 and Standard 13, as well as the entire Standard 14 can become a challenge to show in students' work. How can we document an understanding of indoor air quality, active and passive thermal systems, or acoustical control? While studying to become a WELL Accredited Professional, it became clear that these aspects of our work are at the center of WELL certification. "The WELL Building Standard is a vehicle for buildings and organizations to deliver more thoughtful and intentional spaces that enhance human health and well-being. Backed by the latest scientific research, WELL includes strategies that aim to advance health by setting performance standards for design interventions, operational protocols and policies and a commitment to fostering a culture of health and wellness." We decided to use the research and standards of the International WELL Building Institute as a framework for a seminar entitled 'Human Wellbeing'. The 1-unit course covers the 7 concepts of WELL certification - Air, Water, Nourishment, Light, Fitness, Comfort, and Mind - and explores the synergetic effects between them. The students get an understanding of the interconnection of the built environment and the human body systems. The class also prepares the students to succeed in becoming a WELL Accredited Professional, if they choose to do so. The new class has been developed over the summer of 2020 and is being taught in Fall 2020. The results of the first iteration of it will be available for the 2021 IDEC Annual Conference. CIDA Standards Standard 7. Human-Centered

Design - Interior designers apply knowledge of human experience and behavior to designing the built environment. Student work demonstrates understanding of: a) the impact of the built environment on human experience, behavior, and performance. Standard 13. Products and Materials - Interior designers complete design solutions that integrate furnishings, products, materials, and finishes. a) Students are aware of the influence of furnishings, objects, materials, and finishes on human wellbeing. Standard 14. Environmental Systems and Comfort - Interior designers use the principles of acoustics, thermal comfort, and indoor air quality in relation to environmental impact and human wellbeing. a) Students are aware that design decisions relating to acoustics, thermal comfort, and indoor air quality have an environmental impact. Students understand: b) the principles of acoustical design. c) appropriate strategies for acoustical control. Students understand: d) the principles of thermal design. e) how active and passive thermal systems and components impact interior design solutions. Students understand: f) the principles of indoor air quality. g) how the selection and application of products and systems impact indoor air quality.

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Cook, Justin W, editor. Sustainability, Human Well-Being, and the Future of Education.

Palgrave Macmillan, 2019. INSERT-MISSING-DATABASE-NAME, INSERT-MISSING-URL.

Accessed 20 Sept. 2020.

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Human Wellbeing 1 seminar unit

PREREQUISITE SEMESTER

Fall 2020

INSTRUCTOR
OFFICE HOURS

DAYS TIME ROOM

UNITS

REQUIRED TEXT/MATERIALS (see schedule)







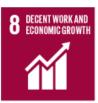
































HUMAN WELLBEING

COURSE DESCRIPTION

Human health and wellbeing are impacted by Interior Design. This course analyses and applies strategies for light and color, products and materials, as well as acoustics, thermal comfort, and indoor air quality, in order to improve human wellbeing.

PROGRAM LEARNING OUTCOMES (PLO)

Students design interior spaces based on an understanding of design principles like human experience, history and theory, and socially, culturally, economically, and ecologically global contexts, using design and research processes.

Students design interior spaces based on an understanding of design elements like spatial boundaries and relationships, products and materials, and light and color.

Students design interior spaces based on an understanding of construction and manufacturing techniques, regulations and guidelines, and environmental systems and comfort.

Students act in professional and academic environments, collaborate in interdisciplinary teams, and communicate effectively.

CIDA STANDARDS

CIDA Standard 12A: Students are <u>aware</u> of the environmental impact of illumination strategies and decisions.

CIDA Standard 12F: Students <u>understand</u> how light and color in the interior environment impact health, safety, and wellbeing.

CIDA Standard 13A: Students are <u>aware</u> of the influence of furnishings, objects, materials, and finishes on human wellbeing.

CIDA Standard 13D: Student work demonstrates <u>understanding</u> of appropriate design or specification of products and materials in relation to project criteria and human wellbeing.

CIDA Standard 14A: Students are <u>aware</u> that design decisions relating to acoustics, thermal comfort, and indoor air quality have an environmental impact.

CIDA Standard 14B: Students <u>understand</u> the principles of acoustical design.

CIDA Standard 14C: Students <u>understand</u> appropriate strategies for acoustical control.

CIDA Standard 14D: Students <u>understand</u> the principles of thermal design.

CIDA Standard 14E: Students <u>understand</u> how active and passive thermal systems and components impact interior design solutions.

CIDA Standard 14F: Students understand the principles of indoor air quality.

CIDA Standard 14G: Students <u>understand</u> how the selection and application of products and systems impact indoor air quality.

CIDA Standard 16B: Student work demonstrates <u>understanding</u> of laws, codes, and standards that impact health, wellness, security, and fire and life safety, including sustainable environment guidelines.

COURSE LEARNING OUTCOMES (CLO)

Students gain the ability to:

- 1. Use light and color to improve human health and wellbeing.
- 2. Select products and materials to improve human health and wellbeing.
- 3. Apply strategies for acoustical control, thermal comfort, and indoor air quality

DIVERSITY, INTEGRATION, COMMUNITY ENGAGEMENT, EQUITY OUTCOMES

Students gain the ability to:

- 1. Understand Human Wellbeing as a basic right that all of humanity should have access to.
- 2. Select strategies that give equal access to clean air, water, light, nourishment, and fitness to everyone.
- 3. Apply strategies that integrate all users and provide equity.

ANNOTATED SCHEDULE

- 8/25 Introduction synchronous meeting on RingCentral
- 9/1 Air asynchronous with synchronous quiz on Moodle
- 9/8 Water asynchronous with synchronous quiz on Moodle
- 9/15 Nourishment asynchronous with synchronous guiz on Moodle
- 9/22 Group discussion- synchronous meeting on RingCentral
- 9/29 Light asynchronous with synchronous quiz on Moodle
- 10/6 University Enrichment Day no class
- 10/13 Fitness asynchronous with synchronous quiz on Moodle
- 10/20 Comfort asynchronous with synchronous quiz on Moodle
- 10/27 Group discussion-synchronous meeting on RingCentral
- 11/3 Mind asynchronous with synchronous quiz on Moodle
- 11/10 WELL Certification- asynchronous with synchronous quiz on Moodle
- 11/17 Synergies asynchronous with synchronous quiz on Moodle
- 11/24 Group discussion-synchronous meeting on RingCentral
- 12/1 Studio Finals– no class
- 12/8 Exam synchronous exam on Proctorio

PROCESSES, ACTIVITIES, AND ASSIGNMENTS

<u>Synchronous meetings</u>: the synchronous meetings will take place online during the published time and day of the class. Attendance is required during those times.

<u>Asynchronous activities:</u> asynchronous classes can be accessed at any time. This contains videos and readings that are posted online. Students are required to watch the videos and read the articles and other material during the week of the date published. All links are available on Moodle.

<u>Quizzes:</u> Quizzes are accessed through Moodle. The quiz has to be taken in the week of the date published.

<u>Exams:</u> The final exam is done through Proctorio. It has to be taken on the day of the final class. A link to the exam will be posted on Moodle.

ASSESSMENT OF STUDENT PERFORMANCE

Activities, Processes, and Assignments	Percentage of Grade
Quiz 1-9	40%
Final Exam	50%
Participation	10%
TOTAL	100%

MATERIALS, REFERENCES, AND RESOURCES

All required materials will be posted on Moodle directly, or will be accessible through links on Moodle.

Scholarship of Teaching and Learning | Social and Environmental | Presentation

How Can Biomimicry Improve Interior Designers Understanding of Sustainability? Process, Project, Purpose

Dr. Sarah Angne Alfaro, Ball State University Juntae Jake Son, Ball State University

ABSTRACT

The use of nature has become increasingly important in the design of interiors given the current pandemic. This integration of nature has been confirmed to restore people within their environments, afford a more environmentally friendly atmosphere, and appeal to economic qualities. Allied research topics include environment-behavior studies that examine relationships between human behavior and the natural and built environment, environmental experiences (e.g. restrictiveness), environmental outcomes (e.g. pro-environmental behaviors such as recycling; health-supportive environments; design preferences), and processes linking environments and behaviors that support or thwart human well-being. This presentation features the benefits of biomimicry used within the scope of interior design theory and practice. Biomimicry, a term appearing from bios (meaning life) and mimesis (meaning to imitate), became popular by scientist and author Janine Benyus in her 1997 book Biomimicry: Innovation Inspired by Nature. Benyus defined biomimicry as a new science that studies nature's models and then imitates or takes inspiration from these designs and processes to solve human problems. Biomimicry suggests looking to nature as a model, measure, and mentor to emphasize sustainability. The essence of biomimicry is clear, to solve problems sustainability by using nature's principles. Biomimicry peaks interior designers' interests, however, there are many misconceptions about biomimicry in the field of interior design. For some, the integration of biomimicry on a design project serves merely as a solution for an interior material and/or product selection. However, just as interior designers are part of a larger system, biomimetic techniques are also related to the larger network: architecture, engineering, landscape, and the design process. Designs inspired by nature have a wide range of applications for interior environments. Literature recounts bioinspired solutions ranging from aesthetical biomimicry to technical biomimicry. Design patterns using biomimicry have the potential to reposition the environmental quality conversation to give the people's needs equal consideration alongside conventional parameters for building performance and occupants' satisfaction. This presentation features tools to unlock the power of nature to help solve problems for interior designers, both rising and established, in the academic and practice realm. An overview of biomimetic solutions are provided, ranging from new materials to innovative building design techniques. A case study reveals how biomimicry has been used in design firms and then inserted into an interior design curriculum to improve students understanding of sustainability and thus impacts students as they enter their career. Findings reveal being in nature helps develop a kinship; once that bond is established it becomes ever-increasingly revered. Lessons learned from nature can improve occupants' satisfaction and lessons can save energy consumption in built environment. By infusing biomimicry as a threecord braid of lecture, lab and studio in the academic classroom, students preserve the power of nature and carry lasting lessons with them into their future as they design interior environments. A hands-on exercise will help participants in this workshop develop their own toolkit to further understand biomimicry, and thus infuse their realm of interior design to effectively solve problems with a more economic, environmental, social (sustainable) solution. Lessons learned from nature have the ability to impact a lifetime. As the world becomes ever focused on nature, biomimicry serves as a key tool for interior designers to design with nature, affording more melded and sustainable solutions.

REFERENCES

Angne, S. (2012). Biomimicry: An Interior Design Teaching Tool. Biomimicry in Higher Education Webinar. Biomimicry Institute.

Benyus J. (1997). Biomimicry – Innovation inspired by nature. New York, Harper Collins Publishers

Cash, K. (2015). Beyond LEED®: Constructing a Bridge to Biomimicry for Canadian Interior Design Educators

Kellert, S. (2005). Building for Life: Designing and understanding the human-nature connection. Washington DC: Island Press.

Gehan. A. N. Radwan & Nouran Osama, (2016). Biomimicry, an approach, for energy efficient building skin design, Procedia Environmental Sciences, 34, 178-189.

Framing:

If we want to consciously emulate nature's genius, we need to look at nature differently:



We can look to nature as our MODEL and emulate these forms, process, systems, and strategies to solve human problems, sustainably



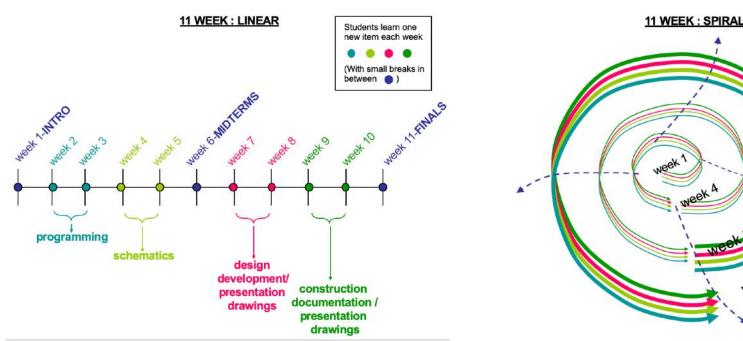
We can look to nature as a MEASURE and use this ecological standard to judge the sustainability of our innovations

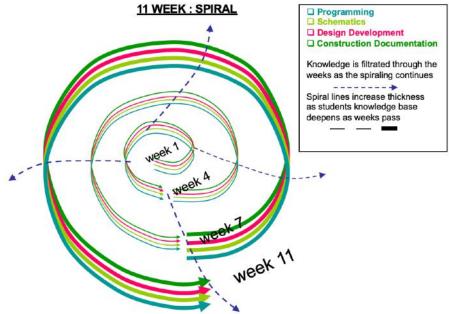


We can look to nature as our MENTOR, our constructive example

Reference(s): Biomimicry Institute, 2007;2010b, para 5)

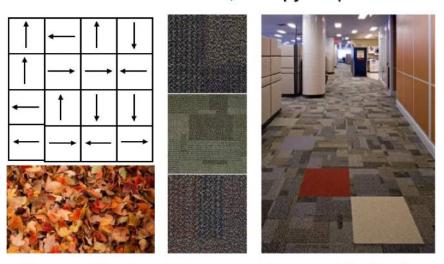
Sample Biomimetic Planning Method:





Case Study-Aesthetic

Product: InterfaceFLOR; Entropy Carpet Tiles



How would nature design a modular carpet tile floor?

Reference(s):

InterfaceFLOR. (2010). August 18, 2010 Retrieved from http://www.interfaceflor.com/

Case Study-Technical

Building Name: National Aquatics Center

Continent: Asia
Country: China
City: Beijing

Biomimicry Inspiration	Application in design
Water bubbles	The surface is covered with membrane of lit blue bubbles of pneumatic cushion created from ETFE allowing for the bubble effect
	The bubbles collect solar energy that heats swimming pools.
• Steel • ETFE sheets	Allows for temperature regulation
Energy reduction by 30% Capturing solar energy Reduction of artificial lighting by 55%	The highly sustainable structure is clad with ethyl tetrafluoroethylene (ETFE) that weighs just 1% of an equivalent sized glass panel.





Level of Biomimicry: Organism Level

No. 1

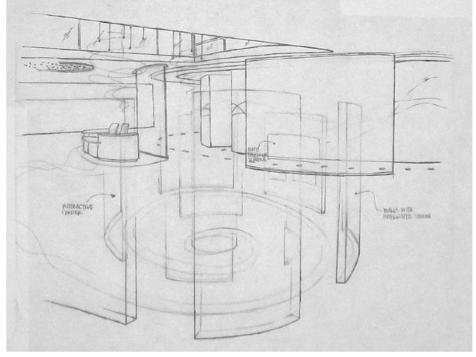
Source: Gehan. A. N. Radwan & Nouran Osama, (2016). Biomimicry, an approach, for energy efficient building skin design, Procedia Environmental Sciences, 34, 178-189

Sample Student Response:

Nature goes through life cycles. What serves as one purpose, may serve as another purpose and is a natural process of life. My space will portray a healing environment, where the occupant will confront their obstacles that may hinder their overall wellness. They will learn and observe that challenges we face in life, happen for a reason. The challenges strengthen us within and turn a negative into a positive. This will also be applied to the building as a way of sustaining itself like the elderly trees. REPURPOSED.







The Making of an Urban Institution: Paying Retribution to Displaced Populations

Emily McLaughlin, Indiana University Purdue University Indianapolis

ABSTRACT

Cultural displacement occurs when geographical development and services shift to focus on new residents or inhabitants (Solomon, Maxwell, & Castro, 2019). As a result, the character of the neighborhood is significantly transformed, and the remaining residents may feel a sense of dislocation despite remaining in the area (Solomon, Maxwell, & Castro, 2019). This process is rooted in the unequal treatment of particular racial and ethnic groups, and those most vulnerable are likely to be persons of color, those lacking post-secondary education, those who rent, and those households with children living in poverty (Richardson, Mitchell & Franco, 2019). In the 1960's, one Midwest, urban higher education institution sought to carve out space from a neighborhood of predominately African-Americans. As a result, the residents were totally displaced within two decades (Gray, 2003). Today, the former neighborhood is completely eradicated and the community has been largely forgotten. This shameful practice can be traced to the vast majority of land developments that now serve as colleges, universities, and other institutions across our country (Gray, 2003). Given this information, it is imperative that faculty, staff, and students who now walk the grounds of these campuses respect and comprehend how the landscapes of urban renewal have effaced heritage, eluded race, and allowed many people to ignore how their privileges were historically secured along color and class lines. In order to evoke appreciation and empathy among interior design students relative to those affected by racial displacement, a junior-level undergraduate studio course was selected to partner with students in an anthropology program in order to learn the historical significance of the area as obtained through records and archives, as well as through oral history and partnerships with

elders in the community. Through this enterprise, the interior design students learned a great deal about the families, cultures, built structures, and landscape of the area that existed in the precampus era. Subsequently, the interior design students were challenged with paying homage to these forgotten souls by designing a permanent exhibition and educational display for the campus, which would serve as one form of retribution for the afore mentioned racial displacement which took place. The display, which is proposed to be located in a highly traveled location on university grounds, seeks to serve as but one mechanism to educate others on the practices of displacement, highlight the affected peoples, and help others rethink the campus landscape as a space shaped by racial diversity. The observed results of this exploratory project are significant. Exposing students to the topic of systemic racism, and forcing difficult conversations about the way in which differences in social, economic, and cultural contexts in history have shaped urban development and institutional planning is significant. In addition, arming students with practical experience in designing physical displays that seeks to help communities acknowledge that every campus is a racial landscape that should be celebrated is important. Overall, this approach should resonate with design educators, as the byproduct of such activities is students who realize the social impact of their decisions and master the inquiry techniques used to create successful solutions.

REFERENCES

Gray, R. D. (2003). IUPUI--the Making of an Urban University. Indiana University Press.

Perry, A., Rothwell, J., & Harshbarger, D. (2018). The devaluation of assets in black neighborhoods. The Brookings Institute.

Richardson, J., Mitchell, B., & Franco, J. (2019). Shifting neighborhoods: gentrification and cultural displacement in American cities. National Community Reinvestment Coalition.

Solomon, D., Maxwell, C., & Castro, A. (2019). Systemic Inequality: Displacement, Exclusion, and Segregation. Center for American Progress, 7.

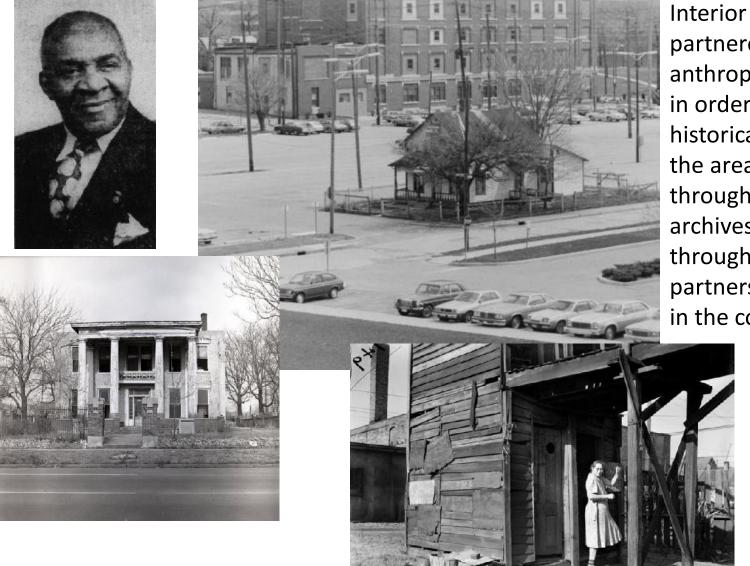
Were, H. F. I. D. When Communities Didn't Have a Say.

The Project

Interior design students were challenged with paying homage to displaced residents by designing a permanent exhibition and educational display for the campus in a badly ignored corridor between the library and business building.



Landscape of the pre-campus era



Interior design students partnered with the anthropology program in order to learn the historical significance of the area as obtained through records and archives, as well as through oral history and partnerships with elders in the community

Conclusions and Recommendations

- Student work solutions are pending.
- Inquiry methods provided a framework for real-world conversations about racial displacement.
- Arming students with practical experience in exhibition design seeks to help communities educate others about their heritage.
- This project provides a model for institutions to explore their own historical origins.

TEACHING & LEARNING IN THE ROUND

Teaching & Learning in the Round

Remote Tools Enhance Collaboration, Improve Engagement, and Make Feedback More Effective! Seriously, It's Not Just Hype

William Mangold, Drexel University

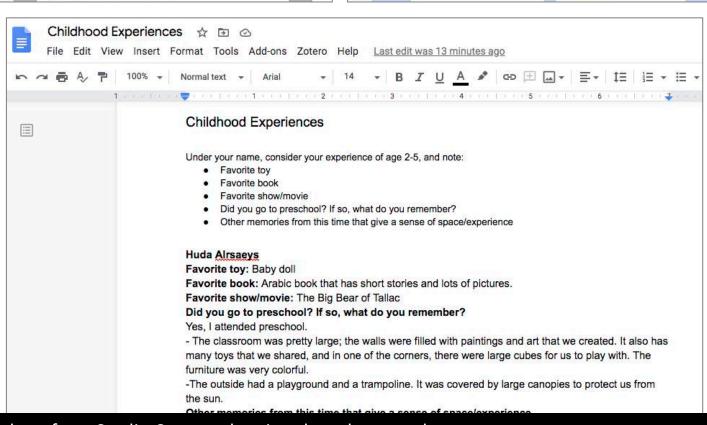
ABSTRACT

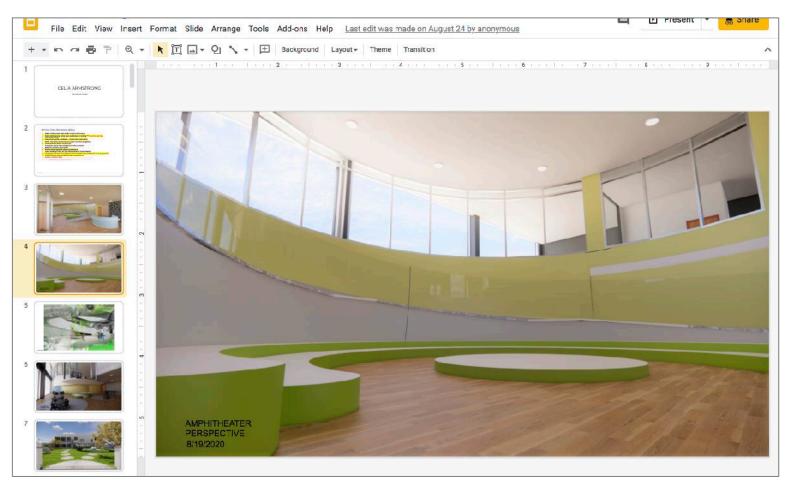
This presentation will focus on a suite of tools available from Google that have proven highly effective in translating the interactions of studio culture to the online environment. Through two fully remote terms, and continued remote learning this fall, we have been able—without extra time or effort—to maintain a highly engaged and collaborative teaching and learning process. We will present these digital tools through real-time interaction with the audience, including examples of specific projects and uses. We'll discuss how the tools work from both student and faculty and perspectives, and conclude with project examples and an assessment of the strengths (and a few weaknesses) in using the tools remotely. Everyone has heard of Google, and most people, especially students, have some familiarity with the suite of "collaboration and productivity apps" that are available through Google's online platform. The basic tools, which are the ones employed here, include word processing, spreadsheets, and presentation slides. These tools operate very similarly to conventional software versions, but web-based interface allows for simultaneous real-time interaction within the documents, between as many users as necessary. Springing from this collaboration (which again for students is quite basic and fundamental), these tools have become the basis for interior design studio and seminar courses during remote classes. In the appendix are screenshot samples of this interface, and in the presentation we will demonstrate it interactively. Students and faculty access all course materials and resources through a single page, easily updated by all participants. Further documents are embedded allowing students to "pin-up" their work informally, and develop a deep archive of process work, both of which are available for faculty and peers to review in an ongoing way. In

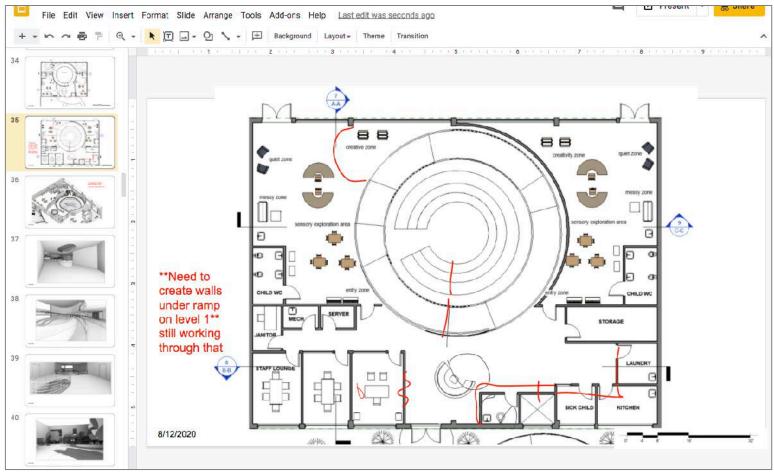
basic terms, students are each assigned a Google slide document to which they continually add images of their work (at least twice weekly in the studio course). There are separate pages linked for in-class review sessions, and students add the specified work (e.g. RCP drawings) to be discussed. For students, the interaction is comfortable, easy, and intuitive. Most students have grown up with Google documents from grade school to college and they have a high level of familiarity with the interface. They easily troubleshoot issues, and contribute their own expertise with the tools. Rooted in collaboration and exchange, the productivity tools allow courses to reproduce many elements of the in-person studio experience, including opportunities for students to see each other's process work, and promote interactions both in and outside of class. Interactivity enhances the studio culture for everyone, including faculty, who can keep regular tabs on progress (without digging deep into digital files, scheduling meetings, or making requests by email) much like we would by walking through the studio in person. It is quick and effective, both in and out of class, to review, comment, or annotate a drawing that a student has added to the Google docs. The markups are saved and visible to all participants, and easy to return to if necessary. Furthermore, these tools allow for enhanced collaboration between faculty. Our studios are team taught, and the interface allows all faculty to track progress and understand what other faculty members are noting. This has proven especially useful with thesis projects as different advisers are brought in to review and interact with students. The presentation will demonstrate these features (and others!) in real time with audience participation. We will conclude by highlighting a few process-oriented outcomes that we intend to integrate into future in-person courses. One major benefit we perceive is that these tools allow students and faculty to maintain the rigorous, collaborative, and enthusiastic culture of the design studio through remote interaction.

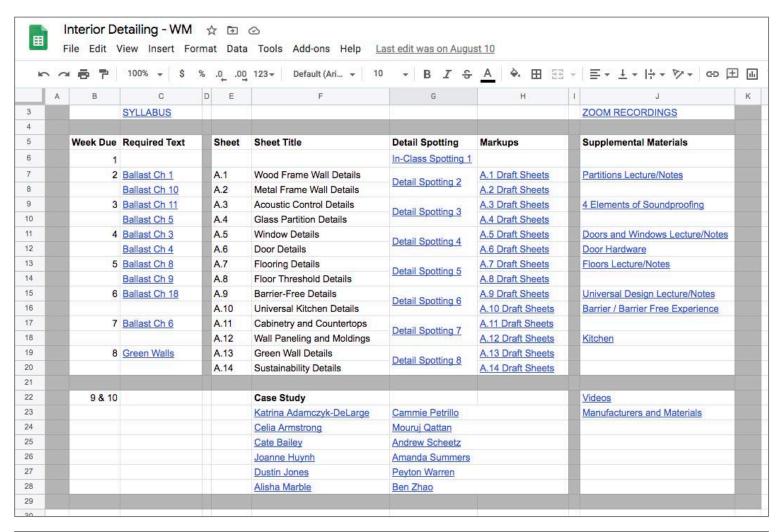
	13. In
	Course Information
	COURSE MASTER DOCUMENT (see sections in tabs below)
	Syllabus, Schedule, Assignments PDF
8	
	ZOOM Information
E .	All Sections Zoom: https://drexel.zoom.us/j/94899695587
0	Sarah Lippmann Zoom: https://drexel.zoom.us/j/7757915025
1	William Mangold Zoom: https://drexel.zoom.us/j/4299183161
2	Frances Temple-West Zoom: https://drexel.zoom.us/ij/9576538877
3	
4	Zoom Recordings (combined section meetings)
5	
6	Course Resources
7	SharePoint Resources (site photos, readings, etc.)
В	401 Lombard - Site Drawings PDF
9	Karlen - Space Planning Basics PDF
0	Material Resources
1	Digital Material Palette Samples
2	Space-Experience Collage Examples
3	
4	NY Times - "How Architecture Could Help us Adapt to the Pandemic
5	New Yorker - "How the Coronavirus Will Reshape Architecture"
6	
7 8	Preschool Program / Child Development Resources
9	Preschool Panel Discussion
0	Preschool Videos
1	IPC 2018 Chapter 10. Foresco
2	IBC 2018 Chapter 10 - Egress
3	IBC 2018 Chapter 3 - Occupancy Classification & Use
4	IBC 2018 Chapter 5 - Building Heights & Areas ADA Standards
5	ADA Standards
6	Student Work
7	6/29 Maguette Presentation (all sections)
В	COVID Adaptation Research
9	SOVID Adaptation Research
0	Topic Presentations - Team Assignments
1	Child Development
2	Wayfinding / Accessibility
3	Anthropometrics / Children's Furniture

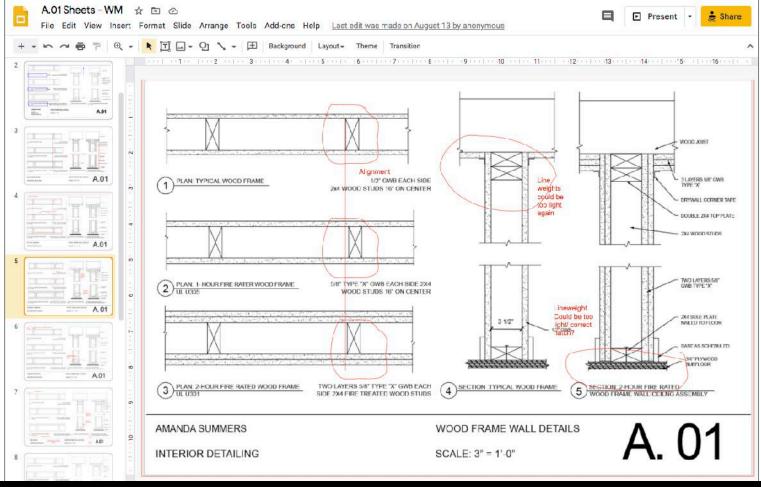
2	Course In	Course Information			
3					
4	Zoom Recordings (WM Section)	Crit Sign-up			
5					
6	Flipgrid (login with Microsoft using dre	exel.edu credential)			
7.					
8	Material Palettes				
9					
10	"Pin-ups"	Student Process Work			
1	6/22 Childhood Experience	Huda Airsaeys			
2	6/22 Prelim Maquettes	Celia Armstrong			
3	6/29 Design and Covid	Bella Crocco			
4	7/1 Base Drawings	Kylie Huffman			
5	7/1 Site Analysis	Joanne Huynh			
6	7/1 Concept Collage - v1	Sarah Jahanbakhsh			
7	7/6 Program Diagrams - v1	Isabel Min			
8	7/6 Program Diagrams - Selected	Andrew Scheetz			
9		Arlette Tran			
10	Site Model	Peyton Warren			
21	Concept Collage - v2				
2	Progam-in-Site Diagram	Midterm Draft Presentations			
13	7/16 Program-in-Site Diagram - v2	Huda Airsaeys			
14	7/20 Prelim Schematic Plans	Celia Armstrong			
5	7/22 Plans and Sections	Bella Crocco			
6		Kylie Huffman			
7	7/27 - Preliminary Materials	Joanne Huynh			
8		Sarah Jahanbakhsh			
29	8/5 - Midterm Notes	Isabel Min			
30	8/10 Experience Collage	Andrew Scheetz			
31	8/12 Exterior Views & Site Plan	Arlette Tran			
12	The second secon	Peyton Warren			
33	8/19 - Perspective Views				
34		Final Draft Presentations			
15	8/24 - Materials & Furniture	Huda Airsaeys			
6	8/24 - RCP	Celia Armstrong			
7		Bella Crocco			
8	8/28 - Test Render Plans/Sections	Kylie Huffman			
9	8/28 - Axonometric	Joanne Huynh			
0		Sarah Jahanbakhsh			
17		Isabel Min			
12		Andrew Scheetz			
13		Arlette Tran			
14		Peyton Warren			

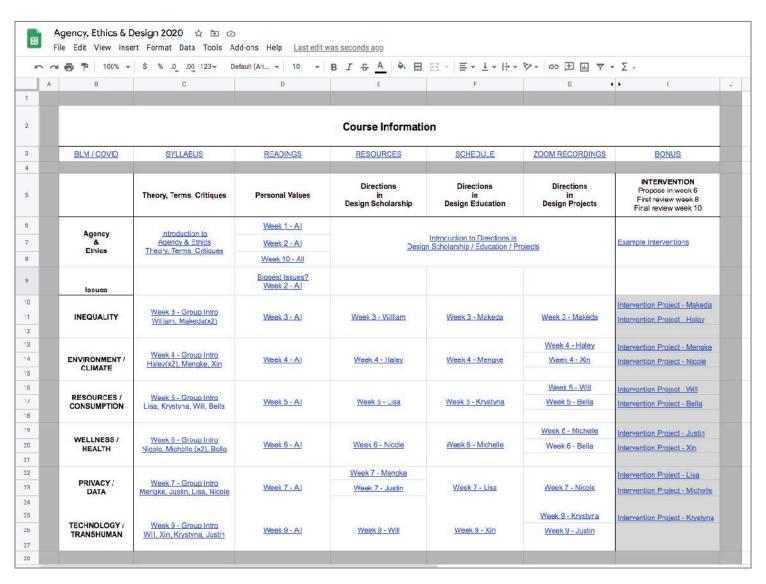


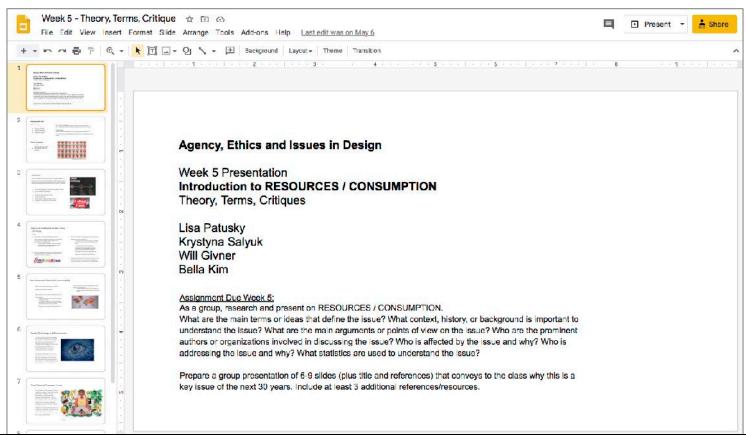


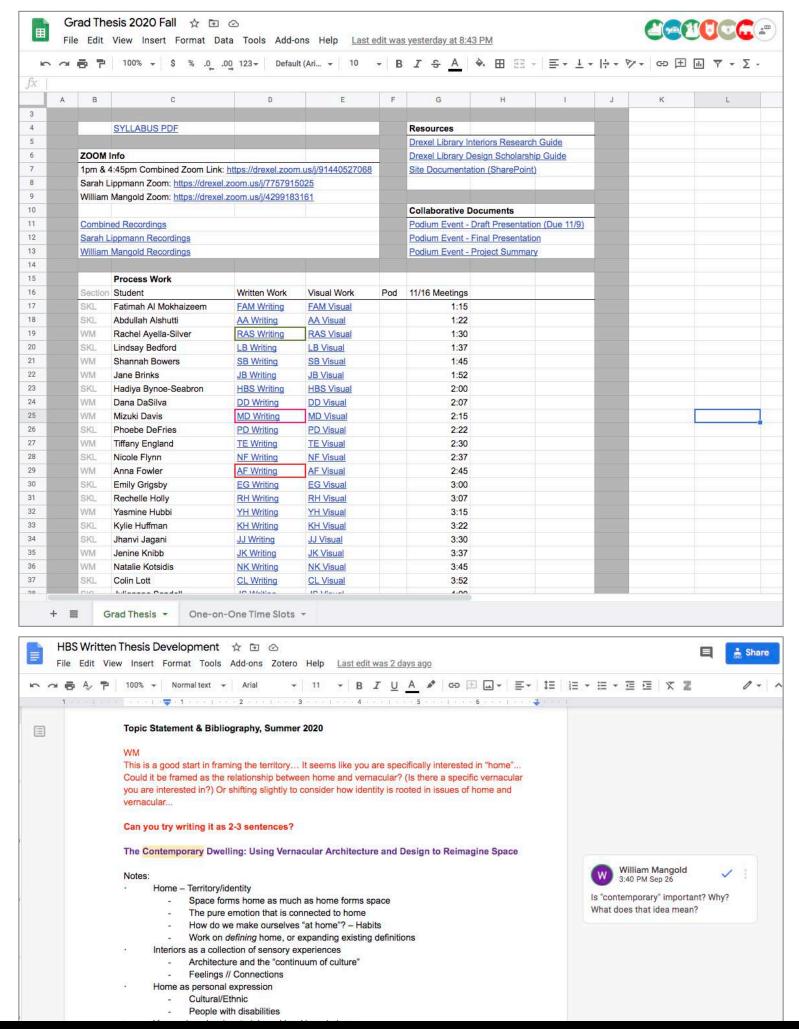












Teaching & Learning in the Round

Virtual Site Visit

Christian Rietzke, Pratt Institute Kats Tamanaha, Pratt Institute

ABSTRACT

If a picture is worth a 1000 words, a 360 degree photo is worth a million. A big portion of a construction course for interior designers is a field trip to an active construction site. It is the moment when all the lecture slides, drawings, and weird words come to life and connections are made. However, ensuring access to a construction site at just the right time in the process for a sizable group of students is not always guaranteed. In times of Covid-19 and all the associated constraints, this has become impossible. So the question became: how can we create this experience virtually to allow for round-the-clock access for an unlimited number of people? And beyond that, how can we not only re-create a simple walk through, but how can we make it more valuable as a learning experience? Could we turn this into a collection of sites covering a variety of projects using different construction methods, and effectively create a virtual database of interactive site visits? The result is the project "Virtual Site Visit." Through means of a virtual tour, Virtual Site Visit lets you peel back the layers to see, learn, and understand how the built environment is constructed. Each room offers new insights into construction techniques and applications through x-ray moments that are then further explored through drawing overlays showing the assembly in detail with annotations. The virtual tour can either be guided or selfguided. It can be viewed in its entirety or through direct access to specific moments, for example to allow for integration with a lecture. It is cross-platform accessible, meaning users can enter the tour on their computers, their phones, or their virtual reality headsets depending on their access to the various technologies. While the power of place certainly is strongest in VR, the experience does not preference that format, to be inclusive in terms of accessibility. In addition, its online format provides the chance for an asynchronous but still interactive learning experience. Each xray moment in the scenes is interactive and the user can choose which ones to explore. Upon

activating an x-ray moment, an image of the construction process is revealed in combination with a drawing and annotations. The annotations are animated and appear one at a time to allow for focus. The animation repeats and there are no time limits, so observing and learning can occur at everyone's own pace. We are currently utilizing this interactive learning experience in undergraduate construction courses. From a back end perspective, the technology used to build this website is independently owned and not associated with Google, Facebook, etc. No data whatsoever is collected or stored to protect the privacy of all users. The entire site is custom coded, so its usage could be adopted to fit specific needs, for example it could be tied into a school's learning platform for a quiz. During the session at the conference, all participants will be sent a direct link to the Virtual Site Visit. After making sure that everyone is able to access the tour and a short tutorial on how to use the features, there will be several minutes to explore the various scenes. A short question will be given to research and respond to. Afterward, the group will reconvene for a discussion.

Virtual Site Visit

The following pages present screen shots with annotations of a live demo version of the virtual site visit project website.

Virtual Site Visit Wirtual Site Visit This virtual restaurant lets you peel back the layers to see, learn, and understand how it was constructed. Each room offers new insights into construction techniques and applications. Look around you to reveal the x-ray moments, and click on the information icons to learn more.

Landing Page

Enter the restaurant * to begin!

click to enter



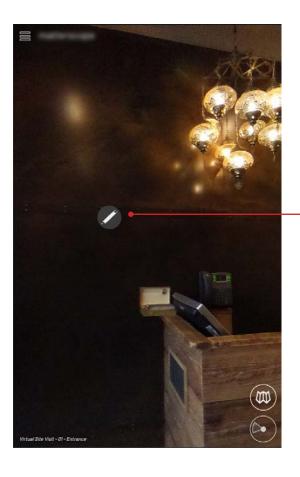
First Scene

explore the scene by using your mouse, your finger, or your phone's gyroscope



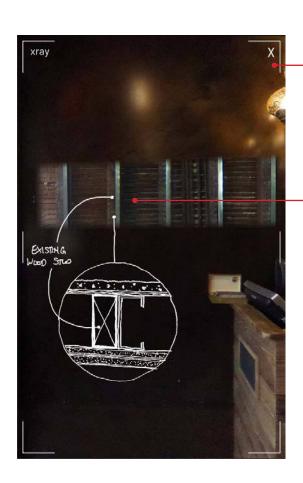
First Scene

look for the x-ray spots in the scene



First Scene

click on a location that interests you



First Scene Xray Mode

when you wish to leave xray mode, just click on the "x" and you will return to the scene mode

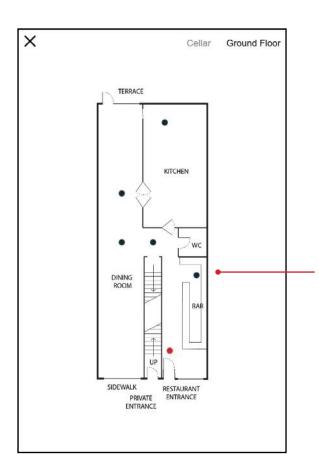
after clicking on the icon, the scene switches to xray mode, which allows you to see behind the finish, to understand the construction.

for additional information, a drawing is overlaid, and annotations are shown connecting the components in the drawing with the image



back in the scene mode, you can travel to a different scene by clicking on the arrow icon

or, by clicking on the map icon, you can open a floor plan for access to any of the scenes in the tour



Floor Plan

you can access any scene by clicking on the corresponding dot. the red dot marks your current location



Second Scene

navigate the second scene as you did the first