INTERIOR DESIGN EDUCATORS COUNCIL®

IDEC East Regional Conference
October 5-6, 2023
Boston, MA
Host: Wentworth Institute of Technology

PRESENTATIONS

Scholarship of Teaching and Learning

Renewal: recovering humans + regenerative energy

Dr. Carol Bentel: School of Visual Arts: Interior Design: Built Environments

Abstract

The Project: The goal was to teach about the need for renewable energy in all interior design work going forth and the need for our designs to be regenerative places for humans to inhabit – and how these two goals could go hand in hand to create a better planet. The road back to a productive life from a homeless or formerly incarcerated situation is not easy. Nor is it an uncomplicated task to receive one's own children, after years, who were previously placed in another's care while a parent was undergoing difficulties. Our design studio took on this challenge to create a "HOME" for twenty single parents and their children, thus a caring community in which to renew, restart, and regenerate. In a three-month period, single parents would learn a trade in the re-harvesting industry (solar, water, wind, or geothermal), take parenting classes, and would receive their children one by one during their stay in an "expandable" apartment. The trades studied by the adult inhabitants were energy collecting activities and they were taught how to grow organic food in an urban environment and compost leftovers after all meals. These activities provided a valuable message for the inhabitants and their children about the ways in which to help others, be sustainable and healthful, and provide for our planet, while they were all working on their own regeneration. Our students exhibited empathy for their fragile "client" and conveyed their ideas of nurturing and protection. The students worked to create a viable community among the single parents, an inviting environment for their children, and a learning environment with a focus on renewable energy. The process was to create a full building from the inside out. Individually, they designed a room based on a given square footage of 320 sf. The room was for a single parent but needed to be designed as a system that allowed for expansion – IN ANY DIRECTION – so that one or two children can join the single parent. After they designed the single room, they then multiplied the room count to twenty. They then stacked the rooms with structural integrity to get them to fit on an actual site and convey their message of "home." These homes then became a community of twenty adults and forty children, who could use this three-month period to bond and create friendships within this purposefully nurturing environment, before transitioning back into society, newly restored with a trade and with a united family. Origin of Project: My sister was incarcerated for a year in a woman's penitentiary for a non-violent crime. During that time, her two children were taken from her by Family Services and given to two separate Foster-Care families. The spaces in which my sister stayed never saw the hand of an interior designer. Her challenges changed what I focus on as an educator. After admitting to myself that my sister's past dilemma was more important than designing high-end hotels, I totally re-focused my teaching goals.

PRESENTATIONS

Scholarship of Teaching and Learning

Making Interiors: From Macro to Micro An Interdisciplinary Exploration

Sylvia DeLuca: Wentworth Institute of Technology
Jordana Psiloyenis: Queens University of Charlotte

Abstract

This abstract provides outcomes for an interdisciplinary collaboration between Junior Interior and Industrial Design students. Eleven multidisciplinary teams of two interior design and three industrial design students were formed for the last five weeks of the semester tasked with developing live/work residential micro units and three solution-based products for clients with a variety of professions. Architecture firm KTGY states “Typically, a micro-unit consists of a one-room living space designed to include seating, a bed, a bathroom, storage, and a kitchenette” while the size parameters can depend on location but are between 220sf (San Francisco) and 450sf (Boston). Through discussions amongst all faculty, it was predetermined to allot a 250sf living space in a local low-rise residential building. In addition to the general unit requirements (location of plumbing, structural walls, etc.), faculty assigned a profession to each group along with respective considerations/ needs for each profession (e.g., Access to daylight, sound absorption, specific equipment storage needs, client facing demonstration spaces). Professions consisted of personal fitness instructor, artist, culinary professional, musician, and botanist. With guidance from multidisciplinary faculty, the teams took a deeper dive into the needs of each profession while simultaneously developing a detailed client profile consisting of full client briefs and space parameters. Once agreed upon, the subsequent disciplines developed interior programming [interiors students] and products [industrial students] specific to the user with opportunities to market to the public. Due to the fall schedule of the Junior cohort, studios overlapped once a week (Mondays). This day was dedicated to small group presentations of required deliverables with the combined groups of students and faculty. Additionally, it allowed for respective disciplines to meet one-on-one with their faculty for more specific direction. Challenges included constant in-person multidisciplinary collaboration and design. With communication within the groups being at the forefront of a successful end-product students quickly found out that “To go further than a simple addition of skills and create a synergy, the key ingredient is to favour communication and understanding between individuals in the team” (Jenny Faucheu, 2012) . Students approached projects from different ends of the design spectrum, one based on space the other based on product, presenting opportunities to learn each other’s vocabulary and design process. Teams were required to consider design from macro (overall unit space) to micro considering design challenges that neither discipline was used to addressing. Furthermore, the concept of “making” was challenged, with requirements including full-scale detailed models of products, together with to scale 1”:1’-0” models of the units. Additional deliverables included digital modelling, drawings, and a collaborative in-person presentation showcasing the interior space with seamless integration of products. The collaborative studio aimed to bring a real-world client need to be solved in a collaborative manner that simulated professional project teams and deliverables. Juniors completed the project having experienced a multidisciplinary team setting while being exposed to another design facet and respective design approaches.

PRESENTATIONS

Scholarship of Teaching and Learning

Technē: Reviving Studio Culture through Making Post-Covid

Lynette Panarelli: Wentworth Institute of Technology
Sylvia DeLuca: Wentworth Institute of Technology

Abstract

In Ancient Greek philosophy, the notion of technē, the term for an art or craft, is employed for thinking about the connections between reason, ends, and action (Brennan, 2002), in other words, making, doing and thinking. Design instruction has many time-honored traditions to encourage divergent design thinking and problem solving. Iteration and hands-on learning have been the driving force in making inspired and emotionally moving spaces. The convivial atmosphere of the design studio has always been the heart of this process where serendipitous conversations, collaboration and personal engagement were the key to unlocking creativity with maker activities being inherently social (Schad, 2019). Then came COVID and a two year pause in this critical design tool and mindset. This abstract will examine how the tactility of physical making can help reintroduce us to "real" in-person life and revive studio culture. Sophomore year students were tasked with designing a homeless shelter. Through their research, they chose the focus and end user of the shelter. Based on a previous iteration of the course, the students started the semester by designing a privacy screen that would later be included in the overall shelter project. The strategy was to encourage the students to use the maker spaces on campus and integrate what was created into the final project. "Sensory-rich and experiential learning opportunities are fundamental in the development of a within the context of contemporary design education, analog tools and practices are most effectively introduced in conjunction with their digital counterparts" (Sweet, 2013) As the semester progressed and outcomes emerged, it was evident that the screen and the end project were not conceptually congruent. An item like a privacy screen for a homeless shelter needs time to develop once an end-user and design concept are well understood and not designed outside the context of the project. While many creative designs were realized, the connection to the project wasn't as strong as expected, but the impacts of making resounded strongly in the studio environment. When the time came to develop the sleeping bunks in the shelter, students were deeply invested in their project concepts. They were also drawn back into the seductive silo of digital media and photorealistic renderings. They invested a lot of time and care in designing the bunks in the digital realm and the screens, the hands-on, in-person energy of making was lost. Instructors realized there was a missed opportunity for continued making and teaching the important balance of physical making with digital creation. The final projects were thoughtful and well executed. With that said, lessons were learned about the energy of making, the need to encourage its use throughout the project. Timing of the elements being made also needs to be reconsidered so that the students are properly invested in the project before something as integral as a privacy screen is designed. In the future, students can build the bunks and integrate the notion of a "screen" into the bunks further along in the semester.

PRESENTATIONS

Scholarship of Teaching and Learning

The Yellow Wallpaper: Critical Reading for Empathy in the Design Studio

Jennifer Meakins: University of Kentucky

Abstract

Pedagogical Model: This presentation describes how an instructor used feminist narrative fiction to expose students to alternative spatial and cultural experiences in order to develop empathy and alter perspectives in preparation for a critical, spatial design project. In this undergraduate design studio, the first exercise combined research, critical thinking through reading, and analysis through drawing and graphic imagery to examine the role of cultural, social, and political forces on the narrator of Charlotte Perkins Gilman's, 1896 biographic short story, The Yellow Wallpaper. Through narrative inquiry research and critical pedagogical methods, using narrative fiction as a means to expose students to the experiences of others has been found to increase empathy toward marginalized or disadvantaged groups, such as women (Johnson et al, 2013). The addition of graphic imagery development is shown to further increase feelings of empathy (Johnson et al, 2013). In the studio, the students were asked to read the story and answer a set of prompts that would help guide their analysis. Their own interpretations of the story were accompanied by research, existing scholarship, and literary analysis, from disciplines such as gender studies, literature, and the social sciences. This helps to highlight the importance of gathering expertise and perspectives beyond personal opinions and experiences. In the final interpretive drawing, student's used form, annotation, framing, color, time, and scale, to tell a wide range of spatial stories about the room, outside world, and mental health of the narrator, reflecting on relationships between architecture, interior design and socio-cultural influences. As an initial assignment, the analysis of the spatial experience of the narrator in The Yellow Wallpaper introduced students to an important perspective on gender inequity in the United States. Further assignments in the studio built on analysis, knowledge, and increased awareness through research and analysis of current spaces of oppression and inequity, such as border detention facilities, the domestic kitchen, and medical facilities. For the final project, students used these skills to critique systems of inequity, oppression, and power through the analysis and transformation of the Ohio Statehouse. Reflections: Students were asked to reflect multiple times throughout the semester, both in a group and individually. New exposure to diverse ideas and perspectives as well as increased empathy toward others were acknowledged, as well as challenges with ambiguity and uncertainty along the way. In general, a new understanding and respect of space, and its role in shaping experience and upholding power was a shared benefit of the course. For the instructor, despite the difficulty of introducing topics that are typically considered "political", beginning with instructor-supported, self-led research through narrative fiction along with regular class discussions, allowed students to critically and collectively develop new perspectives on their own terms. This process establishes a common goal of critical thinking, narrative inquiry, discovery and evolution of ideas, without the typical hierarchical design studio structure of instructor-led lecturing and critique (Panayiotopoulos and Lichrou, 2023; Dutton, 1987).

PRESENTATIONS

Scholarship of Teaching and Learning

Teaching for Making Healthcare Design

Seunghae Lee: Wentworth Institute of Technology
Iris Kim: Wentworth Institute of Technology

Abstract

As primary care in the U.S. is moving from physician-centered practices to team-based patient-centered care (Malkin, 2014), designers are expected to align with this transformation in healthcare design. This presentation will introduce an oncology infusion center project that was taught in a senior studio in the Spring 2023 semester. It will share pedagogical methods, student outcomes, and successful designs along with challenges and future implications for teaching. The instructor team (two instructors with two sections) developed the project with the support of an international architectural, engineering, and planning firm. The project was for a branch location of a cancer center in a metropolitan area, focusing on infusion treatment. In terms of the industry partnership, an interior designer and an architect at the firm were primarily involved and introduced the project to students. In total, two interior designers, four architects, one plumbing engineer, one lighting designer, one electrical engineer, and one faculty member from the architecture program, in addition to two course instructors, participated across three studio reviews and one workshop + critique session that was held at the firm. There was one field trip to the main oncology center in the metropolitan area, and an interview with a recent oncology patient who had been through infusion treatment. To incorporate evidence-based design, students were required to do research topics related to oncology design and comply with sector-specific regulations. As the project facility was in Massachusetts, the checklist provided by the Massachusetts Department of Public Health (MDPH, 2023), based on FGI Guidelines (Facility Guidelines Institute, 2018) was used. In order to encourage students to develop innovative and creative design, students were required to create 3D physical models to test and explore design ideas. Students worked in groups of two. Based on feedback from critics and instructors' evaluations, there have been some successful outcomes, challenges, and future implications. First, as the program was complicated, lengthy and specific, space planning took longer than expected and demanded students a great amount of time and effort in the beginning. The program could have been controlled to be more appropriate for student designers to support better overall outcomes and provide ample time for FFE selections and research. Secondly, students needed extra encouragement to make two sets of 3D models for the project. As this group of students started their freshmen year during COVID-19 and were returning from a full semester internship, requirements for physical pinups and model making were perceived as extra work. One test model of a small area for the Schematic Design phase and a sectional model for the final were required. At the end, students were able to understand the value of developing design outcomes through physical means, as opposed to full reliance on digital means, at which they were able to develop their designs at a higher level. Finally, student projects achieved unique and interesting designs, well-reflecting and articulating design concepts throughout as they effectively communicated design intentions using various mediums.

PRESENTATIONS

Scholarship of Teaching and Learning

Bridging the gap: Connecting Design Studio and Lecture Classes for More Effective Learning

Lynette Panarelli: Wentworth Institute of Technology
Sylvia DeLuca: Wentworth Institute of Technology

Abstract

This abstract examines the benefits of faculty teaching the same cohort in concurrent design studio and core curriculum lecture courses. Faculty collaborate on research, general curriculum development and student progress. Course content development and implementation is reserved for the individual professor per course and in many cases, is not a requirement to share this implementation. It is often assumed that there is redundancy in content and therefore cognitive crossover between courses and studio. This many times false assumption is a missed opportunity to create greater connections between practice-based studio courses and lecture-based core curriculum courses. “When stimuli are learned by repetition, they are remembered better and retained for a longer time.” (Zhan, L., Guo, D., Chen, G., & Yang, J. (2018). Deeper cognitive mental bridges are not always made without the intentional pointing out of specific ideas, systems and learning connection to studio projects. Studio is a process-based course versus content driven lecture courses. The difference in content delivery creates a mental disconnect for students even when taking the classes concurrently. Greater intentionality highlighting the informational connections can boost learning outcomes and create stronger designers. “As research faculty, we often collaborate to share ideas, discuss data, and talk about current findings. But when we think of teaching our courses, we generally operate as individuals, teach the way we learned, and rarely assess our learning outcomes.” (Marbach-Ad. et al. 2007) Two full time faculty strategized to teach concurrent courses for the same cohorts in both studio and lecture. The following are examples of opportunistic connections that allowed students to understand and apply ideas across courses. In the spring of 2022, a senior museum studio project and a building regulations course were intentionally connected throughout the semester. For the final exam, students were required to produce a code analysis of their studio project like a construction set of drawings. In the fall of 2022, a residential studio and a Behavioral Aspects of Design course focused on way finding, and universal design. Examples from the lectures were used to reinforce the design reasoning in their studio projects. In the spring of 2023, a sophomore studio homeless shelter project and a Building Systems course documented building systems integrated into the studio project. Courses taught by the same instructors appear to reinforce the lecture course content with studio and bolster the learning outcomes. This was predominantly documented in final verbal presentations where students would reference what they learned in the other course and how they applied it. Students showed obvious “ah-ha” moments and their work was more informed and intentional. In conclusion, curriculums are developed with the intent of sharing content, but the implementation is not always as strong as intended. We can boost learning by sharing content between studio and lecture courses and create more opportunity to collaborate on curriculum content more intentionally to reinforce concepts and provide students with greater “real life” context.

PRESENTATIONS

Scholarship of Teaching and Learning

Interdisciplinary and Team-Based Learning in the Interior Design Studio

Anna Gitelman: Suffolk University

Abstract

In our increasingly complex world spatial design, whether at the scale of interior, site, city, or region, is getting progressively multifaceted and will continue to be so due to evolution, technological advancements, the uncertainty of the climate crisis, and the growing place-based intricacies of pluralist societies. In response to this complexity, professional design practice has pursued new ways of working. Design projects are becoming more interdisciplinary and less hierarchically structured, involving more collaborative project teams with a variety of backgrounds in architecture, urban design, landscape and interior architecture, engineering, ecological sciences, and art. At universities, the design studio which traditionally strives to be an authentic replication of design practice, has also changed. While teaching design through the traditional disciplinary-based problem-solving processes of an individual project is still understandably commonplace, the challenge for academics is to introduce students to new practices of the expanded field and develop new methodologies that stimulate group work and collaborations. This presentation is an investigation into pedagogical structures, teaching techniques, and learning activities through the COIL studio project that was organized between two programs from two different universities in two counties. This interdisciplinary project was conducted between the second and third-year cohorts of interior design and architecture students. The student's perceptions of their learning outcomes and their contributions to the teams were documented and evaluated. The findings suggest that effective teaching techniques entail the development of more accessible communication techniques in conceptual diagramming and verbal presentations. The conclusions were drawn based on student feedback, gathered via questionnaires and focus group interviews.

POSTER

Scholarship of Design Research

Exploring Biophilic Design in the Built Environment

Fullah Hazazi: University of Minnesota
Abimbola Asojo: University of Minnesota

Abstract

The goal of Biophilic design is to integrate natural components into the built environment. According to biologist Edward 0. Wilson, humans are biologically interconnected with nature—physically, psychologically, and spiritually. This deep affiliation with life is a complex process involving the promotion of mental health and well-being and has been defined as the "biophilia hypothesis" (Peters & D'Penna, 2020). This design concept has grown in prominence in recent years as researchers have investigated the application of biophilic design in different types of interiors. In this study, using databases including PubMed, Scopus, and Google Scholar, a literature search was carried out to study the importance of biophilic design in built spaces and their impact on human health and overall well-being in healthcare, educational, and workplace spaces. Proven biophilic design has produced significant user benefits, such as shorter hospital stays for patients (Urlich study, 1984; Determan, 2019), a positive impact on the health and well-being of staff in healthcare settings (Ulrich et al., 2008), improved cognition (Dadvand et al., 2015), restored attention (Lee, Williams, and Sargent study, 2015), and promoting students' academic success (Determan, 2019). A key finding of a study revealed that biophilic design helps reduce employee absenteeism, increase job satisfaction, and improve cognitive function in workplace settings (Hassan et al., 2013). Research has also shown that students feel less stressed and that their attention span and concentration improve when working or relaxing in spaces with biophilic design elements. Incorporating natural elements such as natural light and views of nature into hospitality settings can also create a more relaxing and revitalizing environment for guests (Ryan and Brown, 2018). This presentation will highlight the importance of biophilic design and its impact on human health and well-being in interior spaces.

PANEL

Scholarship of Design Research

Reconsidering the role of the Period Room

Nadia Elrokhsy: Parsons School of Design, The New School
Adeboyega Adefope: Parsons School of Design, The New School

Abstract

Period rooms' curation and representation narrowly engaged the viewer as assembled collections of incomplete histories. Some groups of people or communities of practice are left out because there is always more information to reflect upon, requiring us to reconsider the static interior scape of such exhibitions. Most draw interest as staged examples of an affluent lifestyle many can only imagine. On the other hand, as three-dimensional constructs, they successfully enable people to imagine themselves in the experience of a period and place.1 However, critical models of human practices lay hidden in plain sight and, at best, referenced anecdotally or, less accessibly, in separate publications, not integral to the exhibition itself. In the recent sartorial narrative of the temporary exhibition In America: An Anthology of Fashion, specifically the Parlor from the William C. Williams House, known as the Richmond Period Room, and Before Yesterday We Could Fly: An Afrofuturist Period Room (ongoing) at The Metropolitan Museum of Art in New York City, we find examples of how we might begin to unpack hidden narratives of the human experience. These exhibitions challenge historians, curators, artists, and exhibition designers to rethink the role of the period room in remaking an "authentic" interior experience. For example, the Richmond Room parlor contains artifacts that are not original to the room; therefore, layering a story of a Black Virginian dressmaker, Fannie Criss Payne, engaged in a fitting with the mistress of the house, helps the viewer to imagine a transitional moment following the abolition of slavery in the United States. At the same time, other audio and visual narratives reflect on the past with an eye on possible futures of "Black success and self-determination." Before Yesterday We Could Fly: An Afrofuturist Period Room centers an interplay of history, present, and future as raison d'etre to fully capture the African and African diasporic experience here and elsewhere. In this view, the period rooms are leveraged to tell stories without the encumbrance of being time or site-specific. From the decorative and ornamental to artifacts where the creative functionality or socio-political construct are often lost, making period room exhibitions could play a more significant role in centering marginalized, underrepresented peoples and practices. Beyond the study of a lifestyle are wisdom, knowledge of making, and conditions for experiences that must be amplified and become drivers of change. Furthermore, how might emerging design and technologies shape a more "authentic" account of the constructed environment or challenge with a counternarrative? Reconsidering the role of the Period Room panel will present research in rethinking the making and remaking of the period room typology to consider a more inclusive narrative. The panel will include a historian, curator, ecological designer, and exhibition designer. The panelists will engage the audience to consider the untapped opportunities within the context of the Period Room.

PRESENTATION

Scholarship of Design Research

Occupants Perception of Indoor Environmental Quality Factors in Campus Buildings

Abimbola Asojo: University of Minnesota
Jing Tian: University of Minnesota

Abstract

Post-occupancy evaluations are used to study occupants' well-being and responses to indoor environmental quality (IEQ) factors such as thermal, electric lighting, daylighting, acoustics, visual comfort, privacy among other factors. The sustainable post-occupancy evaluation survey (SPOES) developed by a Midwest University interdisciplinary team studies occupants' satisfaction with several IEQ factors in Building, Benchmark and Beyond (B3) buildings. It identifies areas that are successful and those that need improvement so as to support occupant health and well-being. The SPOES questionnaire has eleven IEQ categories that impact occupant health, well-being, and work performance. SPOES is a self-administered, Internet-based, questionnaire. Participants rate their level of satisfaction on a Likert-type scale from 1 (very dissatisfied) to 7 (very satisfied). This study compares occupants' satisfaction with electric lighting and daylighting IEQ in a LEED versus non-LEED certified campus building. Building 1 is a LEED BD+C: New Construction three-story 92,404 square foot educational building used for exhibit, and planetarium spaces; lobbies and support facilities; and office and staff support space. The facility opened to the public in June 2018. The SPOES questionnaire was administered to 138 employees with workspace in the facility in May 2019. Building 2 is a non-LEED certified seven-story, 198,079 square foot educational building with classrooms, conferences, meeting and support spaces for faculty, staff and students. The SPOES questionnaire was administered to 160 employees with workspace in the facility during fall semester 2018.

This presentation compares the satisfaction levels of occupants in the two different buildings with regard to their electric lighting and daylighting conditions. The analysis of occupants' workspace descriptions reveals that Building 1 is perceived as relatively open while Building 2 is considered as relatively enclosed. Based on the Mann-Whitney U test analysis, there is no significant difference between the two buildings regarding overall privacy (sound and visual privacy) and lighting color (P-value > 0.05). However, all other aspects related to lighting conditions show significant differences between the two buildings (P-value < 0.05). The findings indicate that occupants in Building 1 are more content with the lighting conditions of their primary workspace (Overall Rating Mean≈5.5) than those in Building 2, who hold a neutral attitude (Overall Rating Mean≈4). Additionally, the study shows that occupants in Building 1 have a greater degree of satisfaction with specific lighting conditions such as the noise generated by lighting fixtures, and the convenience of turning lights on and off (Overall Rating Mean of ≈5.5). Occupants in Building 2 have diverse levels of satisfaction with different specific lighting conditions, with a Rating Mean Range of 3 to 5. In terms of the impact of daylighting and electric lighting on work performance and health, occupants in Building 1 believe that daylighting and electric lighting enhance their health and work performance (Overall Rating Mean≈5.5), whereas occupants in Building 2 feel that they somewhat enhance their work performance and health (Overall Rating Mean≈4.5). Overall, neither building's lighting appears to impede occupants' work performance or health. Approximately half of the occupants in both buildings perceive the lighting color as neutral (neither too warm nor too cool).

The authors will provide insights from their comparison of the LEED and non-LEED certified campus building to contribute to the body of knowledge on occupants' perception of IEQ and how it supports their health and well-being.

PRESENTATION

Scholarship of Design Research

Lessons from Making Full-Scale Site-Specific Interior Interventions

William Mangold: Drexel University

Abstract

While making practices are changing in relation to advancements in technology, interior spaces remain fundamentally characterized by immediate, sensory experiences. This presentation considers how making full-scale temporary environments allows students to directly engage issues of material, light, and a range of experiential interior phenomena. In particular, this scholarship of design research has been exploring the question of how hands-on, site-specific interventions lead to deeper understanding of interior experience.

Our work draws upon theory from installation art (ref 1, 2, 3) as well as design-build pedagogy (ref 4, 5), and contributes to the growing scholarship and practice of full-scale making in the field of interiors. We've explored the potential of full-scale interior making using a framework that has graduate students work in small groups to design and construct site-specific installations. Over several years, students have created more than 50 full-scale temporary interventions. Guiding these interventions are a set of criteria aimed to focus the exploration on issues pertinent to interiors, including "engage the body," "attention to craft," and "spark delight." Our methodology begins with students scouting possible sites and analysis of the spatial, material, and social attributes of the existing conditions. Next, students are prompted to develop interventions that explore specific aspects of interior experience. For example, one especially productive prompt was "Organic/Softness," which was introduced with precedent examples (including "Life" by Olafur Eliasson, projects by Jun'ya Ishigami, installations by Tara Donovan, curtains by Petra Blaisse, and Lina Loos' bedroom), and suggestions of possible materials or techniques (dirt, leaves, fur, growing, draping, etc.). Students are given a three-week timeframe and work in groups to brainstorm how and where to create their intervention, and prepare a proposal to execute the project, which is reviewed for feasibility and conceptual intent. Once a proposal receives the green light, projects are installed by the group of students, typically in a period of a couple of hours. One aspect students are asked to consider is the 'threshold' of the experience—how, when, and where does the experience begin and end—and they situate people to engage the intervention accordingly. Lastly, the project is discussed in situ, asking students to find language to describe the experience, and consider how it addresses the framework criteria. In reviewing the array of interventions that have been completed, a few preliminary conclusions can be drawn, which this presentation will discuss in depth. First, the recognition that it is possible to create captivating moments of experience, even with limited resources and time, and second that those experiences can be about phenomena and atmosphere, revelations about site, or social interactions that emerge. Also, it is clear that students learn about how interior experiences are constructed—both literally, through materials and fasteners, taking measurements and getting on ladders; but also as a series of sensory interactions that can be shaped through phenomena like light, texture, sound, pace, view, etc. The interventions developed through this research scholarship offer tools, techniques, and critical language to understand and design interior experience.

PRESENTATION

Scholarship of Design Research

Scanned Realities: Reinterpreting Significant Interior Environments into VR Simulations

Jason Shields: University of Manitoba

Abstract

LiDAR scanning technology and photogrammetry applications allow individuals to 3D scan existing interior environments. While these tools are standard in archeology and video game development to represent large sites and small-scale objects, few studies have yet to be conducted in interior design that analyzes reinterpreting interior environment scans to virtual reality simulations. To fully understand this technology's impact, we must understand the challenges unique to capturing and accurately representing highly detailed interior environments. This paper outlines the complex process of utilizing 3D scanning technologies to record interior environments and the subsequent process of translating them into interactive virtual reality (VR) simulations. For this study, selected scanned interior environments focus on locations with historical and cultural significance. Initially, a preliminary taxonomy of the available technologies and software suitable for 3D scanning interior environments is produced. Tests are conducted using body-mounted LiDAR scanners, smartphone devices with LiDAR capabilities, and other mobile devices that can create photogrammetry data. Each technology is tested in various interior environments to determine suitable conditions and foreseeable restrictions for gathering point cloud and photogrammetry data. Scanned interior environments are converted into VR simulations using game development software such as Unity and Unreal Engine 5. The outcome of this research provides an overview of the current state of scanning interior environments and offers detailed methodologies for producing VR simulations. Notable issues such as reflectivity and transparency of materials, angle and distance of capturing, and exterior lighting conditions are addressed. Furthermore, the research emphasizes the production of correctly scaled and visually accurate virtual simulations of highly detailed interior environments. The outcome of this work provides a deeper understanding of the current capabilities of 3D scanning and virtual reinterpretations in interior design and contributes new insight into best practices and challenges when scanning and producing interactive VR simulations of historical and culturally significant interior environments.

PRESENTATION

Scholarship of Design Research

Outpainting: Analyzing AI Interpretations of Interior Domesticity

Jason Shields: University of Manitoba

Abstract

AI-generated imagery is becoming increasingly common as new AI technologies become available for public use. While current studies primarily focus on creating images using text-to-image AI models, new forms of image creation, such as outpainting, have created many concerns for designers. Unlike AI text-to-image generation, AI outpainting allows individuals to expand content from existing images outside of their predefined borders. Outpainting considers the existing image characteristics such as perspective, lighting, textures, style, reflections, and shadows. While this revolutionary process can create many creative opportunities, it also introduces the potential for errors, biases, and ethical concerns. For this study, comprehensive image analysis is conducted on fifty images using outpainting algorithms such as Adobe's Firefly and DALL-E 2. Each AI-generated image derives from Dutch Golden Age paintings, with image selections focusing on interior domesticity, due to its extensive use of interior detailing, perspective, patterns, movement, scaled figures, and varying materials. Previous research by Lu (2023) provides eight predefined judgement criteria for humans to assist in determining deception when analyzing AI-generated images: detail, smooth, blur, color, shadow & light, daub, rationality, and intuition. Qualitative data is generated using the abovementioned criteria for each Dutch outpainting to determine the errors, biases, and potential ethical concerns. Image analysis determined that the outpainting algorithm accurately represented visual aspects of interior environments, such as shadow, light, and color. However, errors and biases were often evident when examining images for detail, smooth, blur, daub, and rationality. Furthermore, these results propose that ethical and regulatory issues such as ownership, copyright, and dataset biases will arise in interior design as AI image generation's accuracy and public dissemination increase. The evidence provided in this research encourages a larger discussion on recently popularized AI technologies and their potential impact on the representation of existing interior environments.

PRESENTATION

Creative Scholarship

Why Knit: Digital Machine Knitting in Interior Design

Jennifer Meakins: University of Kentucky
Krissi Riewe Stevenson: Kent State University

Abstract

In this creative scholarship, we work through the craft and making process to identify key characteristics and parallels between interior product development, space making, and knit textile research, that embody the relationship between digital technology and craft principles. The purpose of this project is to reestablish a connection between materials and fabrication through the use of digital machine knitting in interior design. As the use of textiles in interiors continues to expand beyond finishes to include sensory and performance uses, as well as structural and material applications, this project moves beyond expected configuration of textiles and soft goods to collaboratively produce knitted objects that use technology and craft to alter interior spaces so that are more functionally advanced yet comfortable, tactile, and aesthetically pleasing. Digital machine knitting, a term for automated, double-bed knitting technology, introduces a combined process of textile product development and production in a near zero-waste manner that offers the potential for significant transformation to textile industries by allowing the designer to imbed values of function and aesthetics into the making of the product (Riewe and Meakins, 2022). These knitting machines are often seen in garment production facilities but because they allow for seamless, three-dimensional, knit-to-shape capabilities, they are increasingly being used for furniture and interior products as well as installation and architecture. When technology is solely focused on the solution of problems instead of including creative exploration, it becomes merely a tool with a means to an end (Parsons & Campbell 2004, McCullough 1996). This highlights the value of applying practice-based methodology to seek out innovative processes using “making as a way of generating design knowledge.” (Loh, et al., 2016) Creative research with knits begins with extensive iterative material testing, repeatedly moving between file programming and knitting, in order to test a range of variables. The iterative process is done through “gauge swatches”, small-scale pieces that represent the final knit structure to be used in the final product. These swatches inform constant changes in yarn choice, file size, knit structure, and stitch length and each change directly influences the possible design outcome (Munden 1959). Using this technology, materials and knit structure exploration was used to produce a system of temporary enclosure and furniture. A 3-D textile form was developed which, through varied heights of open channels between two layers of knit fabric, would be stuffed to create exaggerated, structured tubes. In an interior application the knit textile produces a self-supporting, cushioned, flexible unit that could be used in a variety of applications, such as the wall panels and chair cover. These objects allow the user to design, organize, and create spaces that support mental and physical well-being. This research aims to advance the emerging field of digital knitting in interiors and extend the use of textiles to craft interior space. Digital knitting technology in these applications furthers the legacy of craft and textile-making by combining the potential of algorithmic design and fabrication with handcraft’s material sense and construction knowledge.

PRESENTATION

Creative Scholarship

Material Matters: Learning Through Making in the Classroom and Practice

Ingrid Schmidt: University of Kentucky

Abstract

"Through the integration of learning through making pedagogy, research supports that students are encouraged to experiment, take risks, and develop a deep understanding of design principles, processes, and the impact of material choices. Nils Gore (2013) states that, “Exploration with materially based projects, crafted by hand, promotes the development of a critical discourse between maker and object, and between maker and critics/colleagues” The integration of learning through making has the potential to form the foundation of the design process at various levels across the interior design curriculum, ranging from introductory courses to graduate studies, encompassing a wide spectrum between low-tech and highly advanced physical and digital explorations. This presentation will discuss the intersection of interior design pedagogy and creative practice as a means to examine the changing landscape of interior design in relation to technological advancements, critical discourse, and the maker-centered learning paradigm. To demonstrate this relationship, an overview of the presenter's creative studio practice, which has been validated by numerous high-level art and design institutions, will discuss generative processes and diverse modes of making including hand and machine tufting of environmental textiles, digital and physical pattern manipulation, and the intentional activation of public and event spaces through the strategic use of light, color, pattern, and texture. Evidence of the translational relationship of practice to pedagogy and the tools, techniques, and processes for employment into the classroom environment will additionally be presented including, the shaping of curricular exercises, independent studies, mentorships, and an overarching pedagogical approach centered around learning through making. In the early design studios, the presenter’s material-based studio practice is thoughtfully translated to a complexity that is appropriate for the students ability. Students design with given materials (paper, acrylic, plaster, fabric, or found objects) and use tools to transform them into unique systems and diverse design proposals. In upper level courses, students layer additional techniques into their process using airbrushing, hydro-dipping, vacuum-forming or tufting along with digitally assisted tools such as laser cutting, digital pattern manipulation, animation, or projection mapping to realize unique spatial conditions that would otherwise be unimaginable.“Students interacting directly with materials learn a host of things. The bodily senses understand mass, texture, smell, resistance to deformation, sound, and color, and the subtle interplay of these things with each other and with other materials and processes.” (Gore, 2013) The impact of this work on the students design sensibility and critical framework is immediate and acute. This research demonstrates methods for translating real-world experiences and expertise into the classroom, fostering an environment where students can engage with materials in a critical way. Commitment to design materiality instills in students an appreciation for the sensory qualities of space and the ability to manipulate and transform environments through thoughtful design interventions. More broadly, this deepened appreciation can contribute to a broader discourse which emphasizes learning through making as a catalyst for innovation, critical thinking, and holistic, thoughtful design solutions."