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Expanding research connects the critical role of nature with childhood health and development. Society is responding with an emergence of nature preschools and nature-based learning. The number of nature preschools in the US has risen from 25 programs in 2012 to over 250 in 2017 (North American Association for Environmental Education, 2017). It is imperative for interior designers to proactively prepare for this trend, especially as it is backed by empirical research and will continue to grow. This study will provide an understanding of nature-based learning, the health benefits of nature on young children and recommend a guideline of design considerations for nature preschools. The method includes a review and analysis of existing literature, empirical evidence and well-developed programs. The study of four leaders in natural learning environments offers a glimpse into where the research began and what progress has already been accomplished. These four leaders are 1) Natural Learning Initiative at North Carolina State University, 2) OLE! Texas: an initiative led by the Texas Department of State Health Services, 3) Natural Start Alliance at the North American Association for Environmental Education and 4) Early Childhood Health Outdoors created by The National Wildlife Federation. A cross-disciplinary approach to the literature review draws from interior design, environmental design, architecture, psychology, early childhood and environmental health. The review focuses on four major topics: 1) interaction patterns exhibited by children in nature, 2) restorative benefits of a natural environment, 3) the health benefits of nature and 4) biophilic design categories. If selected for presentation, the seven overarching themes to guide the design of interior spaces will be discussed and illustrated. These include: 1) visual access to nature and natural materials, 2) auditory access to nature, 3) changes in air velocity to mimic natural conditions, 4) varying temperatures of finishes, 5) innovative circulation patterns including exterior passageways, 6) transition areas that are interchangeable from interior to exterior spaces, and 7) the availability of refuge and restorative areas. These guiding themes offer opportunities to integrate the health promoting benefits of nature into interior spaces. Due to the upward trend of nature preschools and the empirical research that denotes their longevity, it is becoming progressively imperative for interior designers to be aware of these overarching themes when designing early childhood education environments, as clients will increasingly expect it.
References


Rethinking the Design of Primary Care to Encourage Participation in Preventative Care

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Preventative and holistic approaches to health are more important than ever as cases of chronic diseases continue to be the most-costly medical expense in the United States (Gerteis et al., 2014). Preventative care and lifestyle changes are key approaches to reducing chronic conditions. Preventative care contributes to early detection, symptom management and healing through a combination of medical interventions and lifestyle changes, such as activity and nutrition. Unfortunately, American society is still falling behind in preventative care. “Evidence indicates that with education, social support, and healthy policies and environments, people can and will take charge of their health” (National Center for Chronic Disease Prevention and Health Promotion, 2009, p. 11). This study hypothesizes that an engagement between health, nature, activity and socializing may achieve an integrated, holistic well-being and encourage the surrounding community to become active participants in their preventative health care. This study attempts to overcome two major challenges, and even possibly a third less imperative challenge of preventative care. The first challenge is how to attract patients to partake in a first preventative care visit, especially men and teenagers who statistically show the least interest in preventative care. The second challenge is how to encourage them to return for repeated visits. A third challenge, which is less important than the first two, is how to design a primary care physician’s office to be so appealing to patients, that they would choose to visit even when they don’t have an appointment scheduled. As an attempt to overcome these three challenges, this study’s method includes a community profile development, an assessment of chronic conditions prevalent in the area, the execution of an informal survey of preferred environments for leisurely activity, a collection of technological advances in healthcare equipment and the application of biophilic and salutogenic solutions. The research determined a scope of design solutions to fulfill the desired outcomes, such as increased activity, consistent engagement in preventative care, connection with nature, avoidance of design features that are perceived as institutional, and improved operational work flow. If selected for presentation, design solutions such as examples of activity areas, visitor circulation flow, alternative options to waiting areas, an innovative check-in system, improved patient-caregiver communication and natural finishes throughout the site will be explained and illustrated. It is proposed that centers similar to this theoretical site will encourage consistent engagement in preventative care, foster education of healthy lifestyle choices and provide options for higher levels of activity. As interior designers become aware of and implement
these healthcare design strategies, preventative care may become more appealing to Americans and possibly decrease chronic conditions through active participation in preventative care.

References
**The Auditory Environment: A New Approach to Design**

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Introduction Auditory sensitivity is a common complaint for many individuals with neuro-diversities. Multiple studies have identified auditory processing difficulties as the most prevalent sensory trigger for individuals on the spectrum (Grandin, 2006; Gaines, Bourne, Pearson, & Kleibrink, 2016; Ahburner, Ziviani, and Rogers, 2008; Tomchek & Dunn, 2007) Auditory sensitivities may be categorized as hyper-sensitive or hypo-sensitive. Auditory hypo-sensitivity in children often appears to be a hearing impairment, and the child may not respond when his or her name is called (Alcantra, Weisblatt, Moore, & Bolton, 2004). Hypo-sensitive children may enjoy making and hearing loud noises. Certain pitches or types of sounds are thought induce this oversensitivity. In contrast, children with hyper-sensitivities may become overwhelmed with loud noises. An individual may have a hyper-sensitive auditory system if they become easily distracted or over-react to unpredictable sounds. They frequently cover their ears to block out sounds that they find painful. The reactions to noise vary widely, and the same child may display hyper-sensitive reactions to sound at times and hypo-reactions at others. The purpose of this study was to develop evidence-based design recommendations for individuals with auditory processing sensitivities. By following the design recommendations, all individuals (not just those with auditory sensitivity) benefit from an auditory environment conducive for living, working, and learning.

Method Sensory Integration (SI) theory provided the framework for this study. After a thorough investigation of literature, IRB approval was obtained. Data was collected using a mixed-methods approach including 1) interviews, 2) site analysis and observations (5 sites) and 3) surveys. Over 600 individuals with sensory integration disorder and their caregivers participated in the study.

Findings/Relevance to Interior Design

Through the data analysis, six predominant themes emerged to organize the findings. The six themes include 1) lay-out, 2) materials, 3) control, 4) construction, 5) music, and 6) predictability. Each of these themes were analyzed to produce practical recommendations for designers and users of interior spaces. Through the implementation of these recommendations, environments for individuals with auditory sensitivities and the general public benefit. If accepted, this presentation will explain each recommendation and provide practical examples for integration into interior spaces. For example, noise control should be addressed early in the planning phase of construction. However, even post-construction decisions can make a dramatic improvement in the auditory environment through the
use of materials, control, implementing music, and enhancing predictability. The appendix provides some of the visuals that will be used to illustrate the findings.

References
Medical-Surgical Patient Room: An Evidence-Based Design Approach to Reduce Stress, Anxiety, and Pain Among Inpatients Through Physical Environment

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The purpose of this study is to develop a medical-surgical patient room that can reduce stress, anxiety, and pain among patients. Background: Visiting a hospital is a stressful experience for patients and their family. This experience can be tougher depending on how critical the condition of the patient is. In the US, mortality rate of adult patients admitted in ICU was about 10% to 29% in 2014 which illustrates the extreme stress and anxiety that the patient and their family may experience during their stay in ICU. The idea that stress is detrimental to people’s health is central to a number of theories like Salutogenesis and the theory of Supportive Design. Empirical evidence has supported the relationship between stress and different patients’ outcomes. For instance, in a study by Kiecolt-Glaser et al. (1995), it was found that the wound healing process of patients who experienced stress took on average 24% longer than patients without stress. Evidence found in the literature suggests that environment can improve the experience of people who stay and work in ICU by helping them to cope with stress. Environment can go a step further by improving patients’ outcomes like length of stay and pain. Hence, this line of research can impact lives of millions of people. Method: A literature review was conducted through MEDLINE, CINAHL, and HERD and a total number of 29 articles were selected and reviewed. The theory of supportive design provided the theoretical framework for the design. Seven environmental factors were identified in the literature that can improve patient outcomes of interest: (1) the number of room features, (2) medical equipment visibility, (3) nature view, (4) natural light, (5) artificial light, (6) natural sound, and (7) music. Findings: An evidence-based medical surgical patient room design was developed that (1) fosters control by providing more privacy, (2) promotes social support by facilitating patient’s family presents, and (3) provides positive distraction by increasing patient’s exposure to nature.

References


The Role of Traditions, Standards, and Legislation

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Central to the established design process is the application of longstanding customs, aspirational standards, and performance-based legislation to solutions. Webb, Williams, and Smith (2010) describe these different criteria as products that reflect cultural values and, consequently, establish rules of behavior and beliefs as to what is good, correct, or even preferred. With so many uniform criteria, however, one must wonder if design outcomes become overly normalized or if the fullest potential of a design solution can be attained? Are expectations about building performance altered? Do designers opt out of critical design thinking in lieu of baseline criteria? This presentation will imagine the impact of these criteria on design thinking and, subsequently, design solutions. Weick's method of “theorizing as disciplined imagination” (1989) requires defined contextual assumptions within a particular knowledge domain. In this presentation, the assumption is that existing, uniform criteria limit design thinking in creating designed interiors. The knowledge domains include criteria established through customs (unwritten law), standards (established … for … quality), and legislation (rules … have the force of authority), (Merriam-Webster, n.d.). The aforementioned criteria provide value to design processes and solutions. For example, budgetary requirements are informed by accurate labor estimates and materials efficiencies established through these criteria. An efficient design process, particularly for small or medium projects, benefits from typical layouts, detailing, and spatial allocations. Consistent criteria facilitate evaluations such as student assessment, professional knowledge, licensing examinations, and permitting and occupancy reviews. Occupants of the constructed interior experience ease of use, especially if the occupant has a functional limitation. Predictability facilitates interaction even of the default solution is not optimal. There are shortcomings associated with these default conditions as well. Design values are repetitively communicated through program accreditation requirements, project reviews, licensing exams, and continuing education units where the use of these criteria establish what good design is and should be. Further, these criteria typically establish minimum expectations whose implementation falls short of the true intentionality. Software developments that allow pre-designed components to be inserted further establishes the correctness of these placeholders. Perceived limits on creativity is cited by novice and experienced designers alike and is further
confounded by the belief, at least in the instance of accessibility standards, that good design and innovation is not valued. The overall level of quality is lowered by the thinking that the minimal expectation is the best design that can be achieved. Existing traditions, standards, and legislation exert significant influences on design outcomes. Regardless of ethical practice or legal authority, the role of these default criteria can circumvent a robust design process. Additionally, there can be the unintended message that default solutions and minimum thresholds are simply good design. The disciplined imagination used to explore these limitations will be supported with examples of default design solutions for analysis and further discussion. Incentivization, design values, educational and design strategies will be explored as alternative strategies.

References


Workplace Exposures to Health Risk Factors in the United States: Race, gender, and occupation-based disparities

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Workplace exposures to risk factors can contribute to poor health outcomes. Available evidence suffers from methodological problems (e.g. limited sample sizes and gaps in measurement of variety of health risk exposures). We used the Epidemiologic Assessment component of the PRECEDE-PROCEED model. This component evaluates the environmental influence (physical) on individuals’ health. We postulate that workplace exposure to environmental risk factors can result in health problems and these exposures may vary by demographic characteristics of individuals. The objectives of this study were to: 1. Assess the prevalence of exposure and demographic characteristics of those exposed to health risk factors. 2. Assess the association between exposure to risk factors and health problems based on age, gender, race, and occupation type. We utilized the National Health Interview Survey, a household assessment of non-institutionalized adults in the US. The variables we analyzed were: “Regular exposure to vapors, gas, dust, or fumes at work twice a week or more”, “Regular work pattern outdoors twice a week or more”, and “regular exposure to tobacco smoke from other people at work”. We also analyzed demographic data (e.g. age, gender, and race) and disease frequency (e.g. asthma). A risk score was computed by adding all three types of exposures (score range=0-3). Overall, 27157 individuals participated in the study (56% females, 74% Whites). In relation exposures, 25% had “regular exposure to vapors, gas, dust, or fumes at work twice a week or more”, 24% had “regular work pattern outdoors twice a week or more”, and 15% had “regular exposure to tobacco smoke from other people at work”. Males were significantly more likely to have any type of exposures and higher exposure risk scores (p<0.01). Among racial groups, Blacks and Biracial individuals had significantly higher odds for any exposure (17-27% higher) and significantly higher exposure risk scores (p<0.001) compared to Whites. We also stratified our analysis by disease type, occupational group, and race and found poorer health outcomes associated with exposure for black individuals compared to other groups. For example, Asthma prevalence was significantly higher among blacks exposed to risk factors compared to other racial groups exposed to risk factors. The findings of our research provide impetus for targeted interventions for assessment of workplace environmental risk factors and remedial actions. Worksite health policies that prevent such exposures should be rigorously implemented as per the guidelines of OSHA and US EPA.

References

Experiential Learning Theory application for creating user-centric learning through screen/pattern interventions in an immersive studio project

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The 1970’s witnessed Christopher Alexander and his associates complete the seminal publication, *A Pattern Language*. The work considered all organized planning approaches, which respond to human behavior needs seeking to enhance the personal experience. A building’s visual complexity contributes to the user’s experience through its usefulness, comfort, or even through its emotional inspiration. Fundamental to this knowledge is that thoughtful design deliberations enhance and ultimately contribute to the user’s overall wellbeing (Ryan, C.O., Browning, W.D., Clancy, J.O., Andrews, S.L., & Kallianpurkar, N.B., 2014). Whether these considerations are through the macro scale of community planning or the intimate scale of one’s bedroom, patterns help to expand our understanding. A Pattern Language grew out of the humanistic movement that occurred in the 1960’s. Environmental psychology is foundational to many theoretical contributions that we know today. Seen through the lens of Evidence Based Design, Well Institute, Living Building Challenge, and the Biophilic patterns of Terrapin Bright Green, techniques to maximize the building’s contribution to human wellbeing still incorporates early ideas of Alexander’s work (Downton, P., Jones, D., Zeunert, J., & Roos, P., 2017). Method For design educators facing the challenge of delivering pattern theory learning in a meaningful manner, it is important that students not only understand but also are able to identify, apply and redefine pattern theory into their own work. Considering pattern theory application prompted the investigators to use Kolb’s Experiential Learning Theory (2005) method during a one-week 2018 immersive studio experience. Kolb’s model undergirded the experience by allowing students to live, work and physically engage in the environment. The remote location project site provided the students exclusive access for classroom discussion, observation, and exploration and supported learning outcomes and objectives. As means to demonstrate the transcendental contributions of *A Pattern Language* and its ongoing connection to today’s healthy building design strategies, the presented student learning opportunity conveys the idea of pattern creation through the design of screens and scrims. The students sought to explore an intervention
opportunity where a screen or scrim would enhance the user’s experience within the structure and interface the exterior with the interior. Introduced to the site’s original structural design, the students investigated possible interior installation sites, and then strategically considered intervention opportunities. Equipped with this gained knowledge, the students designed and built prototypes for consideration. After analyzing the installed prototypes, the interventions were refined and then the final solution was constructed in the studio shop. Students presented their work in a final design installation and critique. Outcomes The IRB approved project presented here highlights the research method and process, and the student’s outcomes and reflections while emphasizing their responses to historical influences through a contemporary view. Student interviews and end of course evaluations demonstrate increased understanding of course learning objectives given this delivery method. Experiential learning setting positively influences information transference ultimately supporting future design considerations. Future Impact For design educators considering pedagogical refinement, it is imperative to consider learning styles and the contribution of learning spaces and integration of pattern knowledge through experiential learning.

References
The collaboration of Interior Design and Graphic Design has been a four-year exploration of process, communication, materiality and spatial perspective. As design professors, it is our responsibility to educate the next generation of designers to see the possibilities that lie beyond their comfort zones. This research project began as a ten-week; upper-level collaborative design studio that merges Interior and Graphic Design courses with the intent to design and brand a hotel and restaurant. It has led to a four-year collaboration in pedagogy and professional practice.

Learning to Teach: After years in professional practice, we found ourselves in an academic setting; one that was much different from the design firms we left. Practice is more collaborative than the academic silos in which design studios are traditionally taught. Why do we teach one way and practice another? Can we create a studio that is more like the design world our student will enter? Can empathy be taught by allowing designers to see more viewpoints than a single discipline can offer? Experiential Design Studio: Originated by merging an interior and graphic design studio, over time it has transformed into a single experiential design studio, blurring the lines between where one discipline ends and the other begins. Graphic Design work becomes more spatially driven, while Interior design work communicates more holistically. For example, product mock-ups, identity standards and way-finding systems align with spatial constructs and visualization outputs. Additionally, full-scale mock-ups are created to simulate actual user experiences, including material-spatial interactions — further demonstrating that collaboration can yield more actual, therefore meaningful, results than either single discipline can offer.

Practice: In addition to teaching, we both maintain our own private design practices. While simultaneously developing comprehensive problem solving methodologies with our students, we also developed a new process of working in our professional practices, thus forming a symbiotic relationship that informs the architecture, interior and graphic identity of a project. Developing the project identity in conjunction with the built environment gives us the ability to incorporate graphic elements permanently into a space, thus building on the brand identity identified in the preliminary design phase. Identity: By developing the identity of a project early in the design process, a stronger connection is realized, leading to broader understanding of the project goals.

Architecture can be a symbol of progress, but can have a life beyond the built environment. Branding, social media and marketing can play a role in the success and community perception.
and acceptance of a project. By connecting the intended audience emotionally, a project’s value increases and fosters a more invested connection. Back to the Classroom: A collaborative approach to design is a successful experience on multiple levels. By incorporating the lessons from the classroom into our professional work, students see the process applied successfully in real world scenarios. This comprehensive approach to project ideation and development has proven to be a successful model and has increased the knowledge base of our graduates.

References

Play is essential for healthy child development. Through play children mature cognitively, cultivating prosocial and conflict resolution skills (Ginsburg et al., 2007). Outdoor play involving physical activity helps combat childhood obesity. Recess is an important opportunity for outdoor physical play yet many U.S. schools lack adequate play areas. According to a study on the condition of U.S. public school facilities, 27% of public elementary schools have play areas/playgrounds rated as fair or poor (Alexander & Lewis, 2014). Respondents included 1,020 elementary schools representing 275 play areas in fair or poor condition. The estimate of 62,600 public elementary schools eligible within the study universe implies a projected 16,000+ play areas in fair or poor condition. Of great concern is the impact these conditions have upon children’s play and consequently on their physical and emotional well-being. Painting paved surfaces with colored markings serving as visual prompts for games is a relatively easy and low-cost way to strengthen school play areas promoting physical activity and socialization (Stratton & Mullan, 2005). Environmental modifications such as graphics for structured games encourages group play, reduces physical isolation, and can increase supervision helping diminish bullying behaviors (Veenstra et al., 2005). This presentation tells the story of a successful collaboration involving a team of graphic and interior design faculty and students (the “university team”) who partnered with local public elementary school students and administrators (the “school team”) to design environmental graphics for existing parking lots serving as playgrounds. Initially the university team interviewed school administrators and conducted on-site observations of children during recess. Precedents were researched for preliminary ideas. The university team hosted an ideation session with the school team. During recess, the children sketched pictures onto printed plans and discussed ideas with the university team. A charrette was conducted using the drawings as a foundation for designs. Faculty consolidated the charette outcomes, created a master plan, and assigned individual elements for university students to design. The master plan features three distinct play zones: an Active Zone for games involving vigorous physical activity; a Transitional Zone featuring a discovery path; and a zone for Relational Play focusing upon one-on-one, small group, and solitary play. Design meetings were held with the school team for review and final approval. Diagrams were developed for pricing and to clarify stages for painting. Painting will be
complete by school start in August. The painting team includes a professional mural painter, a university painting major, and volunteers from the school and university communities. This pilot project benefitted faculty, university students, and the elementary school community. The faculty formed positive relationships. By working with each other, university students were exposed directly to the strengths of the others’ discipline. Connection with elementary school students energized the university students. The elementary school students felt pride and empowerment in seeing their ideas come alive. This presentation includes details of design process, drawings, and photographs of the finished project. The team will report observations regarding use of the new play surfaces. By telling our story, we encourage others to take on environmental graphics projects as a launching point for positively impacting location communities through interdisciplinary service learning.

Reference


Needle in a Haystack: The Search for Web-based Video Resources for An Interior Design Course

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At times one starts off on a path that veers off in an unexpected direction ultimately landing in unknown territory. Such was the case with this project, which began as a plan for a flipped classroom for an Introduction to Interior Design course. In the flipped model information delivery occurs outside of class, opening up class time for more meaningful learning activities. The author planned for video to be a key medium with which to disseminate course content. Video can be a useful and effective tool for delivering material in academic settings and an easy way for students to take in information outside of class (Bergman & Sams, 2012). Before embarking upon the time-consuming task of creating videos from scratch, a series of searches for existing online videos were initiated. Certainly, plentiful resources must exist! The mission was to simply find them and organize them. Searches were conducted using the following terms: 1) Interior Design, 2) Interior Designer, 3) Professional Interior Designer, 4) Interior Design Education, 5) Interior Design Degree, and 6) Interior Architecture. Considering that a recent search for “Interior Design” using YouTube yields over 5.5 million results one imagines abundant resources yet, minimal useable content was discovered. An overview and general categorization of search results yielded: 1) professionally produced “HGTV-esque” content, 2) semi-professional and/or amateur-produced content of varying quality, 3) sound-bytes and reporting (i.e. “Here we are at NeoCon. . .”), and 4) advertising. Beyond popular video-sharing sites, the author pursued usable content through the websites of: 1) education-focused organizations, 2) professional organizations 3) interior design regulatory and accrediting bodies, 4) websites of professional design firms, and 5) respected interior design publications. Challenges faced included the sheer number of entities to search (such as sites of individual design firms) and the problem that one actually had to “dig” for the information. In the end, these probes yielded minimal video resources for the course, but brought to light the void in reliable, easily accessible online video content about the profession of interior design. Online video creation, sharing, and viewing continues to increase rapidly, projecting that by 2019 video will account for 82 percent of consumer internet traffic (Cisco, 2016). The discipline of interior design has yet to capitalize upon the power of online video as a marketing and educational tool. The lack of readily available videos accurately depicting the profession of interior design provokes questions and poses conundrums about its impact upon interior design
education and practice. How much of public perception of the profession is cultivated through video? How do the “most-viewed” videos influence perception of skill, knowledge, and value that interior designers bring to the table? How does the medium of online video contribute to high school students’ perceptions of the profession as it pertains to determining interior design as a course of study? This presentation shares details of data collected from the search, prompting discussion surrounding the question: As the world of online video continues to explode, where is Interior Design’s voice?

References


Current interior design interns, usually from Generation Y, possess different needs from their work than previous generations. Gen Yers and Baby Boomers both respond that being a hard worker is the most important work trait; however, Gen Yers want to know why they are doing the work and how it contributes to the bigger picture (PrincetonOne, n.d.). In keeping with the conference theme, evaluating work-related dispositions with iterative data from subsequent years can provide evidence for understanding the dynamics of student-faculty-employer perceptions. New thinking about the internship process and the student’s total development may result. Problem A component of assessing the intern’s job performance is an evaluation of his/her work dispositions. Dispositions include the prevailing tendency of one’s spirit, natural mental and emotional outlook, or characteristic attitude (Dictionary.com, 2018). It is expected that the internship experience will foster the student's development of successful work behaviors and attitudes. Danko (2003) explored methodology in which higher education leads a design student to develop as a whole person. This approach involves both intellectual development (information, skills, analytical abilities) and emotional development (values consciousness, self-awareness, and social-awareness). Danko built upon the work of Goleman, Boyatzis, and McKee (2002) who identified emotional intelligence as a core competency for effective leadership. The disposition survey in this study engages students in assessing their personal values, self-awareness, and social awareness as faculty and supervising employers join to nurture the design leaders of tomorrow. Process A data collection instrument of 11 work-related dispositions with two to seven indicators each provided a survey of 38 items (see Table 1). The disposition categories included Collaboration, Honesty/Integrity, Respect, Reverence for Learning, Emotional Maturity, Reflection, Flexibility, Responsibility, Adaptability, Professionalism, and Skill. At the conclusion of each student’s 200-hour internship, the three groups involved--student, employer(s), and faculty--completed a disposition survey on the intern. A sample intern self-reported survey is provided in Table 2. Three research questions guided the study: 1. Do the three groups of respondents agree in their assessment of the student intern? 2. Do demographics such as age, gender, ethnicity, college classification, location of internship, type of internship, or employer gender impact work disposition responses? 3. Does change exist across years in disposition responses among the
three groups? Results Table 3 presents demographic data for the study’s first year of interns. Data analysis of disposition responses from the three groups yielded one significant difference; faculty members rated the statement "Utilizes social media to benefit work environment" higher than the interns with $\chi^2(2) = 6.169$ and $p=.046$. No significance emerged between faculty and employer in rating this statement. Since faculty and employers are generally older than interns, they may perceive potential work enhancements available through social media while younger interns value social media simply for maintaining friendships and social status. Data from years two and three of the study will be available at the end of August 2018 when current internships conclude. Data will be aggregated and the three-year study findings compiled for presentation at the Fall 2018 regional conference.

References

An Exploratory Study Comparing Multidisciplinary Group Dynamics between a Hackathon and a Design Charrette

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Design charrettes are used as a teaching tool for interior design education so that students retain a better understanding of a design concept and/or course content (McLaughlin, 2013). A charrette is an event with multiple diverse teams solving a design problem in a short amount of time – usually a weekend. Charrettes allow design students to work in a team with other individuals of various backgrounds and levels of experience. A charrette streamlines the design process resulting in multiple design solutions and ideas, usually for a common goal or project. Since multiple disciplines and stakeholders are involved in solving a complex issue in a short amount of time, the design process is skewed leading to innovative design solutions (Sutton & Kemp, 2002). A hackathon is similar to a design charrette. A hackathon is a face paced innovation event lasting several days with a large number of participants in multiple disciplines. Participants come together to solve a problem and create or build functional software that will get additional future development in a quick manner (Mulholland, & Meredig, 2015; Page, Sweeney, Bruce, & Baxter, 2016). Most hackathons use virtual and augmented reality to solve the problem. (Mulholland, & Meredig, 2015). Virtual Reality (VR)and Augmented Reality (AR) tools have the potential to not only support different types of skill sets, but also help promote synergistic interconnections between team members (McLellan, 1994). While these two events have many similarities there are also some differences such as the design problem and the focus on technology, however, both can contribute and enhance interior design education because both encourage innovation, design thinking and high levels of collaboration. Since little is known about how a hackathon can contribute towards design education and how the group dynamics differ between these two events, this exploratory study examined the group dynamics between participants in a hackathon compared to group dynamics of teams in a design charrette. Both of these events were held on two separate weekends in January and February, 2018. These events were hosted by the Design Department on a university campus in the south central Midwest. Twenty-five multi-disciplinary undergraduate and graduate students participated in each event. In each event, the research team deliberately selected the 5 team members for each group to support different skillsets and disciplines. Observations of group dynamics as well as pre and post surveys were gathered. While the results of the participant surveys between the events were
similar between the events, the non-participant observations resulted in significant differences between group dynamics in collaboration, teamwork, work style, and group presentations between these two events. The most team member collaboration occurred during the design charrette while more independent work and delegation occurred at the hackathon. Differences in technology use between these two events may explain the differences in group dynamics between events. Details and results of the events will be shared in detail during the presentation.

References


Looking Back and Looking Forward: Designing with Memory and Place

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In Thinking Architecture, Peter Zumthor describes different kinds of knowledge that he uses in the process of design. The first is professional, stemming from his training as a designer. The other, a type of knowledge gained in childhood, in a time when he “experienced architecture without thinking about it.” (1) This knowledge, contained in memory, represents what he describes as the “deepest architectural experiences.” Since memory is both emplaced and collective, it can be fertile ground for designing meaning-filled “places” for an individual, or a culture. Several strategies for collecting and tapping into collective memory have been proposed in the past. Drawing can be used as a process of teaching design students how people engage environments through sensory experience and memory. Referencing the work of Janet Donohoe in Remembering Places: A Phenomenological Study of the relationship between Memory and Place (2), this paper explores the relationship between memory, and design through a series of drawing exercises leading to a final design project. The series begins with an exploration of how we describe our own direct experience; opening insights into how people construct an understanding of their perceived reality. The second exercise investigates how people form place-memories through the documentation of a remembered place. While both used the sensory experience of form, scale and materiality as the means of understanding, students in the memory drawings made different choices and described the environments utilizing different graphic and verbal tools. A critical analysis of the outcomes of each reveal a role for multiple means of recalling place, atmosphere and detail that speaks to both individual and collective memory. Building on previous research (3), the line of investigation comes to fruition as a product of design in a project that reflects the effect of remembered experience on design decisions. Place-making involves developing attachment on the part of the user. Understanding the mechanism and role of collective place-memory can allow the designer to tap into a reservoir of memory for developing places that are meaningful to both the designer and the user.

References

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ENGAGING REGIONAL ARCHITECTURAL HISTORY THROUGH INTERIOR DESIGN AND COLOR: A Case Study of Creative Collaboration for an Architect’s Retrospective Exhibit

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Sanders and Stappers discuss in 2008 that co-designing or co-creation is a source of collective creativity - a design process that is shared by two or more people (trained designers) and users (people not trained in design) to engage in the participatory design. In their words, “Designers have been moving increasingly closer … to the next new thing in the changing landscape of design … co-designing with your users”. This presentation examines a co-designing effort between multiple academic institutions to co-create a retrospective architectural history exhibit of the work of A. Hays Town. The exhibit is installed at the University Art Museum and showcases an extensive collection of the work of Town (1903-2005) who practiced in a state for more than 40 years. The. A highly collaborative project, makings of the exhibition brought together faculty and students from across the state, providing an opportunity for students to gain experience in exhibition research, design, and production. Town’s work is evocative of the vernacular residential architecture of the south that many consider a distinct Cajun style. Important to the interior design students involved was architects’ attention to material details and color, and while this attention is known to architectural historians, an opportunity for in-depth analysis was the focus of students. This case study of co-creation details a story of dynamic interplay between interior design students, architecture students, and a curatorial and fabrication team. Students were asked to engage with notions of historical vernacular, the very specific interpretive work of the architect, and importantly their own twenty-first century interpretations. The collaborative process explored here is rich with close engagement with architectural history, making it relevant in students’ own educational growth. The students also found their own special place in the process as experts in color. The process allowed to see the important role of color and take a “color foremost” design approach. Color was a major element of Town’s legacy, but the lack of previous research on the topic allowed for interiors students to forefront color research, extensive analysis, and experimentation afforded by an act of co-creation – each institution providing students with various sources, understanding of methods, and access to Town’s artifacts and textiles. This case study examines the specific collaborative efforts of the retrospective exhibit, following third year interior design students through a four-week long project that included the creation of spatial exhibit zones using color and understanding the movement of exhibit attendees.
through viewing positions. Each of the aspects is analyzed though documentation of student research, design process, and the final exhibit itself. This research shows that removing students from traditional single discipline studio and placing them in a cross-institution, cross-disciple collaboration produced powerfully innovative results. The documenting of color, material selection, and the process of creating an experience of the history of color in tandem architectural displays leads to an enriching, visceral student engagement with architectural history. History, for these students, became relevant.

References
The lives of designers and the lives of users are storied experiences that are constituted in the built environment where memory and imagination are constructed, shifted, adapted, and re-imagined. Thus, it is important for students to consider that the construction of the environment is not done in isolation, in a vacuum apart from the way that it will be experienced beyond their own spatial manifestations. This requires empathy, and while many students show a willingness to extend empathy to their peers, and future clients and users, they need more structure for developing empathy in the design process and manifesting it in their design solutions. One way to instill empathy in student designers is to engage in collaborative process making with a focus on narrative. This presentation describes the pedagogical background, process, and materials used to foster reflective, collaborative, and empathic ways of knowing and relating in a first-year undergraduate design studio. While the project foundational to the studio has been presented on before, this presentation will focus specifically on student work and outcomes from projects and assignments that were utilized to address these larger ideological beliefs. These include: reflections and class discussions in response to assigned readings regarding innovation and collaboration through the texts Ten Faces of Innovation and Wabi-Sabi; the introduction of how to work collaboratively and with diverse groups through readings and discussions in community engagement modules; project descriptions and examples of work for individual and team assignments on storyboarding and color palette manipulation, as well as video fabrication of personal and team narratives on design exploration. Together, this work highlights an increased attentiveness to the power of narrative to convey empathic and relational aspects of experience in the students, which was observed at the time of the course offerings, and in projects that they developed in studios the following year. The overall curricula as it is adapted for this first-year studio is developed from the core beliefs of the faculty and the department, grounded in a social belief that fostering the capacity of students to comprehend diverse viewpoints is crucial to the progression of the profession, and the service of designers to the communities in which they will practice. Faculty beliefs are supported by the theoretical underpinnings of Systems Thinking, higher education as human development, and reflective educational practices. The materials for the course have been reviewed under several action research cycles but will be presented under the epistemological and methodological views of narrative inquiry.
References


Modeling Serendipity in the Design Studio: A Description of ‘Space Scrabble’ and Other Innovative Teaching Strategies

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Practitioners recognize that serendipity plays an important role in the evolution and development of design concepts. It results from chance factors (logistical, psychological, and environmental) that influence the outcome of a design proposition in an unpredictable way (Refs. 1, 2, 3). These chance factors are arguably more important in determining the nature of an interior space than the given function or other programmatic aspects of the brief (Ref. 4). How can we recognize this effect and model it in the teaching environment? My presentation will describe several techniques developed at the author’s school of design under the collective title ‘Space Scrabble’. Each version adopts a game-playing format to generate multiple designs that are governed by both defined rules and chance events. The created forms are then interpreted in a way that places spatial experience at the heart of the design process, demonstrating that the qualities of interior space are not immutably fixed, but instead are the product of individual interpretation (Refs. 1, 5). Space Scrabble uses a limited alphabet of simple shapes (or plan fragments) that can be rotated, reflected, and overlaid to create an infinite array of plan forms. Each fragment is identically sized, and placed within a grid layout – the extent and scale of the grid is determined at the beginning of the project. Individual squares within the grid can also be left blank. In preparing their designs, students are permitted either to generate a random layout of fragments which are then be interpreted as spatial constructs, or to compose a plan in a traditional way. The choice between these two approaches tends to differ depending on whether a manual or electronic interface is used. In the manual version students generally revert to traditional compositing, whereas the opposite is true in the electronic version. My presentation will discuss these differing outcomes in detail using previous student projects as examples. The presentation will conclude with some thoughts on how this Space Scrabble approach can be developed in the future. Previously, all students were given the same alphabet of shapes to ensure a consistent learning outcome, but in the coming semester they will be permitted to create their own set of plan fragments. This may enhance the sense of student ‘ownership’ over the process and encourage them to think about the modular nature of our interior environments. We will also introduce a follow-up exercise in which groups of students are asked to give their own
particular interpretation of a Space Scrabble layout. This will result in multiple narratives, demonstrating how the same space can be understood in significantly different ways depending on how students envision the unseen qualities of light, materiality, inside-outside space, viewpoints and function.

References

A Sustainable approach for designing long-term facilities "Improving the quality of life among elderly"
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Long-term care facilities are one of the most critical places to design for elderly which provide care and support for this population. However, this type of facilities can cause some main issues for its user; such as loneliness, hopelessness, and boredom; which could lead to mortality. The literature on evidence-based design aims to provide efficient solutions for the issues mentioned above. In addition, the sustainable design solution and connection to nature has been proven to have impact on the problem. The empirical evidence clearly supports the effect of physical, social, and psychological aspects of the environment on loneliness, helplessness, and boredom. One of the important evidence is the therapeutic effect of connection to nature on the healing process for elderly. A review of literature was conducted to investigate the types of connection to nature and its impact on occupants’ health and well-being, and to create a high-quality living environment; taking into consideration the main psychological issues in elderly in long-term facilities. Some examples of the nature connections are: visual contact, physical engagement, access to daylight, blue and green space applicability, etc. The findings indicated several design and sustainable recommendation that have positive physical and psychological enhancement to the building and its users. These recommendations might lead to a compelling physical design which leads to the well-being of the population and their family members, and creates healthier environment with sustainable design consideration. Passive solar cooling, heating and ventilation, thermal comfort, bioswale, and LEED standards are some of the sustainable design applications that have been accomplished to achieve the study goal. The main goal of this study was to answer the following research questions: Q. How the design of long-term facilities can improve physical, social, and psychological aspects of elderly lives through evidence-based design & sustainability?

References


Wayfinding Considerations For People With Colorblindness

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Colors as means of wayfinding help facilitate navigation for people. Color wayfinding is more uncomplicated, less time-consuming and less obscure for individuals. However, considering colorblind population, restrictions in using colors for wayfinding will make it legible for this population, too. This is also the objective of the Universal Design. Disregarding the influential factors will cause complications in understanding the direction and perceiving the space by this population. The aim of this study is to clarify these factors by reviewing features of colorblind people and design considerations for this community is outlined in different articles. As a result, some appreciable instances will be introduced and presented to assist the wayfinding process for the colorblind population, while using color as an accommodating element in wayfinding.

Keywords: Colorblindness, Wayfinding, Navigation, Colors, Universal Design

References

The main aim of this study is to improve children’s educational performance and wellbeing by providing a natural outdoor environment. Background: Providing natural outdoor environment is associated with several positive educational, social, psychological and physical outcomes. For instance, in a study it was found that children who were exposed to the outdoor environment had higher grades in reading and math tests. Moreover, natural environment affords several group activities which help children to develop social skills and also nature has a stress reduction effect which can improve children’s psychological state. Natural environment is a behavioral setting that can afford several activities, hence children can be engaged in more activities compared to playing in an indoor environment. Thus, having access to nature can have an obesity reduction effect. Method: A literature review was conducted and several design principals were identified in order to achieve the outcomes of interest. Affordance theory was used as the framework of this project. The main design principals are providing gathering spaces, multipurpose lawns, natural loose parts, natural play structures, shade and looped circulation and etc. Findings: Based on the affordance theory and the evidence found in the literature, a 30,225 square feet landscape for a kindergarten was designed in the site of a university in west Texas with the aim of improving the outcomes of interest.

References


An Environmental Design to Improve Children’s Wellbeing by Providing them Personal Space

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The aim of this study was to develop a design solution to modify existing classrooms to improve preschool children’s psychological state by providing them personal spaces. Background: Children spend about one-third of a day at schools, thus, providing a supportive environment can have a significant impact on their psychological state. Evidence in the literature showed that children prefer places for their own where they can physically or mentally keep themselves separated from adults. Children use these spaces in times of stress, tiredness, or for privacy. The more the children spend time in their personal space, the more they will be attached to space. Developing place attachment associated with desirable outcomes in children (e.g. self-esteem, social development, development of emotional bond in adulthood). Method: This study hypothesized that providing personal space and motivating children to use this space by involving them in fun activities can help them develop place attachment. A review of the literature on place attachment was conducted, and an evidence-based design was developed to enhance children wellbeing through improving place attachment in a classroom environment.

References
Interactive spaces: Improving customers' satisfaction by interaction design in restaurant

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The restaurant industry is getting larger more universal. As National Restaurant Association (NRA) reported in 2004, Americans spend about $426 billion on food consumed outside the home (National Restaurant Association, 2004). The main reason for the growth of the restaurant industry is that the American way of life has been changed over the decades. People don’t have enough time to prepare homemade food to consume anymore. Mogelonsky (1998) stated that people don’t plan the meals and the meals are more of an afterthought. The result is the growth of the restaurant industry. Due to changing in social and economic factors, the dining expectation has been changed over the years. Customers are more sophisticated and are willing to try new experiences, especially when technology is involved. The new experiences will satisfy customers' ever-changing expectations (Markovic, Raspor, and Šegaric, 2010). Furthermore, the designers and business owners need to come up with new exceptional ideas including all aspects of technology and bring interactive design strategies in the dining experiences. So, it is crucial to understand these expectations both for designers and restaurant owners as they need to consider customers’ needs and demands in order to stay competitive in the industry (Singh, 2006). Creating a unique experience for the customers’ needs the recognition of the importance of aesthetics, user engagement, and interactive design elements. Interactive spaces focus on the impact of all-natural senses to create new opportunities for satisfaction. Objectives This study tries to investigate the impact of new technologies and interactive spaces for customers’ experiences and satisfaction in restaurants. This research emphasizes the importance of preparing interactive spaces on customers’ journey from entering the restaurant until they leave the place. Method A review of the literature was assisted by the Texas Tech University library for acquiring the article. The databases used for this review was Google Scholar and Science Direct. The search was based on keywords such as interactive design, customer experience, restaurant design, UX/UI, and so on. Most of the articles documents in this literature review were peer-reviewed empirical studies. Conclusion According to the fast growth of technology and changes in dining habits and expectation, using interactive strategies are crucial for the business owners and designers. Considering the need for new means of communication and interaction, and to support customers’ unique demands of services, it is important that to understand how interactive spaces influence customers experiences in restaurants. This study tries to give a better
understanding of the importance of interactive design in restaurants to create a memorable and pleasurable experience for the customers.

References


Improving physical activities for visual impaired people by design

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A considerable number of people have impaired vision around the world. They usually get less physical activity than normally sighted people and rely on other people for their mobility (Imrie 2012). Having enough physical activity during the day is crucial for maintaining health, physical and mental, and quality of life (Imrie 2012). Increasing physical activities needs deep understanding of possible factors that limit or facilitate it. Study showed that different factors including environmental, personal (psychological and physical health), and social factors can affect physical activities of visually impaired people (Lee et al. 2014). There are limited number of comprehensive studies that show how environmental factors and design can treat or increase physical activity of people with low-vision. The hypothesis of this study is that built environments factors affect physical activities and mobilities of visually impaired people and designing more accessible and walkable built environments can increase their physical activities. Making environments more accessible and walkable for visually impaired people requires thoughtful design in different design scales including urban environments, and indoor environments like shopping malls, schools, and residential buildings. Wayfinding as an integral factor of walkability that should be considered in designing accessible and walkable environments. The goal of wayfinding is to reach a particular destination with the help of environmental information and cognitive mapping. The objective of the current study is to find the environmental factors that limit or facilitate the physical activity of visually impaired people and to propose design solutions by considering the limitations and characteristics to aid them to be more active and improve their wayfinding experience.

References

A Framework to Implement Biophillic Design in Millennial Workspaces

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Workspaces in the past were a system of available services for a group of people, in order to produce tasked work, in a given period of time. In the 21st Century, a paradigm shift is changing how people perceive the workspace. Shifts in technology, urbanization, and workers’ age-groups have changed the expectations of the workers from their workspaces (L.O’Malley, 2012). Millennials, born between the 1980 and 2000, perceive their daily life activities differently and are more aware of their health needs. The desired connection to nature and its elements is referred to as Biophilia (Wilson, 1986). Architecture, interior design, and biophilic design should work as an integrated force to create workspace for millennials where they can thrive in their professional activities. The goal of this research study is to create a framework for implementing biophilic design features in workspaces to improve the performance of the millennial generation. Research goals: 1. Identify factors influencing the performance of millennial generation in office spaces. 2. Identify the effect of biophilic design on performance, concentration, innovation and collaboration. 3. Identifying the connections in which biophilic features affect the millennials in the workspace. 4. Implement the identified features in a workspace environment. 5. Validate the design from millennials, using virtual reality. The objective is to provide a framework for implementation of such standards in modern day workspaces, to improve the performance and productivity levels. Survey of millennial generation will be conducted on their preferred workspace setting. As research confirms, humans in general respond better to spaces with biophilic design features more positively than built spaces. The expected outcome of the study hopes to prove that millennials react more positively in workspaces with integrated biophilic design features.

References
STAYING POWER: Millennial Travel Behavior, Instagram use, and Sustainable Hotel Design

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The presented research is a human centered examination of sustainable hotel design rooted in environment and human behavior theory. The rising challenge for sustainable design is addressing the needs of current generations without compromising future groups all while aligning ideas of economic prosperity, social equity, and environmental integrity. Hospitality design is currently addressing this issue of sustainability with eco-friendly concepts and methods. A problem with this approach is that these measures are not going to be enough to demonstrate ideas of social equity and economic prosperity for the communities in which they serve. The Millennial generation is maturing and their behaviors are now part of the concentration for the way we design environments. Social media has provided the influential power shape Millennials’ travel consideration based on peers posted content. For designers to deliver sustainable environments they should consider this trend by creating an experience that is in line with this group’s lifestyles and travel behaviors. Millennials are more environmentally conscious, social, and active than preceding generations which is ushering a need in the hotel industry for personalization, choice, and an individual guest experience shaped to them. Social media, particularly Instagram, is an overlooked dynamic. Therefore, the proposed thesis statement considers that Millennial travel behavior is affecting the design industry’s approach to sustainable hotel interiors through Instagram content. Based on holistic human-environment categories, this research examines the interior elements, which may influence Millennials to share their travel experiences on Instagram. The E-B theories of Choice & Control and Place Attachment are foundational for Millennial behavior demarcation and boutique and business hotel categories are the units of analysis for evaluation. A multiple case study of ten United States hotels, two from each region, frame the research to compile intensive qualitative data for examination. The design consists of an online cross-sectional survey of Millennial hotel guests. A hashtag unique to the study will be used to track hotel images posted by participants for analysis. Business cards containing information describing the study, qualifications, hashtag, survey, and incentive will be distributed to potential participants by random selection in public spaces of each hotel. Also provided, a QR code will allow participants to scan the code with their smartphones for survey access. A five-level Likert scale is used to rank the influences of each factor identified. As this research intends to explore
behaviors of a technically charged generation, data collection is exclusive to smart phone participation. Aimed at designers and educators of the built environment, the anticipated research ultimately intends to explore how imagery found on social media, particularly Instagram, can influence people in a way that can be practically applied. Implications of this developing research could be used in determining the sustainability of new design concepts as well as adaptation possibilities for existing hotel brands to allow these environments to thrive as a part of the community and provide environmental, social, and economic benefits.

References


Diffusion of innovation among older adults: A framework of gerontechnology acceptance for aging-in-place

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Gerontechnology has been studied and developed to support older adults’ desires regarding aging-in-place, providing independence, autonomy, quality of life, and also reducing costs with health services (Lesnoff-Caravaglia, 2007). In the past few years, a number of gerontechnologies have emerged to aid aging-in-place at home. However, the literature does not make clear what influences older adults to adopt or reject the use of gerontechnology in the interest of aging-in-place at home. This study explored a conceptual framework that reflects on the variables for the diffusion of gerontechnology among older adults for aging-in-place, based on the Diffusion of Innovation Theory by Rogers (2003). The predictors for the first three stages of his five stages model – knowledge, persuasion, and decision – were examined to understand the innovation-decision process for adoption of gerontechnology by older adults living in non-institutionalized residences. During the innovation-decision process, the decision-maker experiences three stages until he or she reaches a decision to adopt an innovation. According to Rogers’ model (2003), knowledge is the first stage of the innovation-decision process. This is when the decision-maker is first exposed to the innovation’s existence and some of its functions. Some variables, such as the need for a product with such functionalities, work as prior conditions for the first stage. In addition, the characteristics of the decision-maker such as socio-economic characteristics, personality, and communication behavior directly affect an individual’s knowledge about an innovation. The second stage, persuasion, is the point at which the perspective adopter is open to the idea of acceptance. At this point, the decision-maker is actively seeking information, which will substantiate their future decision. The third stage is the decision stage. After gathering enough information, the decision-maker will decide if the innovation will be adopted. Throughout all of the stages, there are communication channels, which are the channels from where the decision-maker gets information on the innovation. The channels can vary from friends, Internet, TV, etc. To reflect older adults’ characteristics, desire for aging-in-place, and the challenges of technology use (Parasuraman & Colby, 2014; Zhang et al., 2015; Ziamou & Ratneshwar, 2003), this study modified the Diffusion of Innovation model by Rogers (2003). The proposed framework of gerontechnology acceptance focused on three stages – knowledge, persuasion, and decision. The knowledge stage, considered as perceived knowledge, is influenced by characteristics of
older adults such as aging attitudes and fear of falling. The persuasion stage includes attitudes towards gerontechnology and attitudes towards benefits of gerontechnology, while the decision stage deals with purchase intention. In addition, desire to age-in-place, technology readiness, and interior design aesthetics are added as prior conditions, which influence the both knowledge and persuasion stages in the innovation-decision process. All of the three stages are influenced by the communication channels, which are the sources and/or people who inform older adults and impact them towards gerontechnology acceptance. This proposed model can be tested to find out predictors for gerontechnology acceptance, and the modifications in the original model that will bring a new perspective to research on gerontechnology adoption, helping researchers, designers, and marketers to understand the gerontechnology acceptance process.

References
A Human Centered Design Project: A multi-cultural and cross discipline design thinking exercise

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Design Thinking is a collaborative, human centered approach to identifying and solving problems using methods attributed to designers. It’s a flexible process that has been used to solve a wide variety of problems and can be learned by people of all cultures and disciplines. (Brown)

In May 2018 I coordinated a group of interior design and engineering students to Cap Haitian, Haiti to administer a week-long design thinking project. The students volunteered for the project and it was not affiliated with a specific course. This project was administered in two parts, facilitating a three-day design thinking workshop and a two-day student only synthesis session following the workshop. The Field Guide for Human Centered Design by IDEO was used as a reference for the project. (IDEO)

Workshop Schedule: Day 1: Intro to Design Thinking using Stanford D-School wallet exercise (Stanford), Brainstormed community service opportunities. Day 2: Worked in teams to address the top three opportunities from day one. Day 3: Focus on the elderly care problem and use the design thinking model to empathize, define, ideate, prototype and test solutions. The goal of the workshop was to teach local members of the Pelton Church of Christ in Haiti the thinking process and use the method to address a service opportunity. The workshop attendees included 25 men and women of various ages, education and backgrounds. I directed the workshop and students introduced concepts and lead discussions. The student team observed and took notes, videos and photos during the process. The problem the church chose to address was how to best care for the elderly and improve their lives. A plot of land was donated adjacent to the current property that they plan to use for this service. The group followed the design thinking process and at the end of the session each workshop group prototyped a plan for the elderly complex using a scaled drawing of the property created by the students. Following the workshop the Harding design team discussed the information generated by the Haitian members. This information was organized and prototypes reviewed for insights and patterns. The students formed teams of one interior design and one engineering student and each team created a design solution. The teams shared their solutions with each other and these proposals along with the summary of important findings from the workshop were shared with our Haitian host. The design thinking workshop provided the Haitian members with the tools to collaborate and solve problems with empathy for those they hope to serve. For the students who participated in the
exercise they successfully practiced the design thinking process, gained a deep understanding of Haitian culture, and worked across disciplines to analyze information and create a solution.

References


Design Thinking Workshop in Pelton, Haiti

Example of Prototype during Design Thinking Workshop
Student Assessment and Synthesis of elderly care project in Haiti

Example of Student Work
Office Animal: Exploring the Untapped Market of Furniture Design for a Pet Friendly Office Environment

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Friday, June 22, 2018 was the twentieth anniversary of “Take Your Dog to Work Day,” part of a special week that encourages employers to open their offices to their employees’ furry friends. Some companies have found that allowing pets in the workplace all year round is a highly effective way to attract good employees and increase productivity. As the types of occupants in a modern workplace shifts, an untapped market for innovative furniture design is revealed. Studies have found that pets in the workplace help reduce stress, encourage communication and collaboration, and create opportunities for exercise throughout the day increasing employee productivity. U.S. companies permitting pets have grown to 7%, up from 5% five years ago (Noguchi, Y. 2016). Several Fortune 500 companies such as Bissell, Amazon, and Google allow their personnel to bring their pets to work, with some going so far as to offer pet insurance packages, free pet training seminars, and even “doggie daycare” options (Shoot, B. 2018). According to a survey conducted by ORC International, 44% of 1000 pet owners polled would consider a career move if they could work in an office that allows pets, while thirteen percent would even give up vacation time (Burkes, P. 2018). This creative scholarship project highlights the research and development of Office Animal, a line of furniture that caters to employees who can bring their pet to work. This presentation will show exploration of existing products along with observational research conducted with target market groups. It will include extensive ideation done through drawing and sketch model production as well as multiple design iterations that resulted in the final mock-up of the Percheron 034 desk. The style of the pieces incorporate a modern take on Mid-Century forms, and the configuration combines office workstation design with guidelines used for developing pet products. Components of the desk interact in an exciting manner that can also be highly customizable. The desk offers unique storage capabilities for pet related items, areas for a pet to rest and retreat, places for a pet to explore, and the opportunity to secure a pet safely. All of these features, combined with a large work surface, built-in shelving, storage for paper and office supplies, as well as secure, discreet cord management, create a sleek, modern piece of office furniture for pet-friendly work environments. Nearly 70% of all U.S. households own a pet (Henderson, S. 2013), and many people consider their animals to be members of the family. Pets are so important that the pet products industry is a significant segment of the economy. In 2016,
Americans spent $69 billion on their pets (American Pet Products Industry, 2016), an increase of over 25% from five years earlier. With the booming pet industry, and more offices allowing pets to accompany their owners to work, office interiors and furniture must evolve to accommodate new requirements. The Office Animal line works to meet the unique needs of a pet-friendly office with distinct features that benefit everyone.
Office Animal: Exploring the Untapped Market of Furniture Design for a Pet Friendly Office Environment
Early observational research watching how people and pets interact in a variety of environments.
Sketches and early ideation first exploring residential furniture in a multitude of approaches that provide areas for retreat, ways to play and explore, and a wide variety of materials.
Based off of target market feedback, the design direction becomes more polished, and a line of pieces is developed that includes several pieces including a desk. The desk becomes the focus with more research revealing the growing popularity of pets in the workplace.
Out of the earlier designs, the desk proved to be the most interesting taking the project into a whole new direction exploring commercial office furniture that would accommodate pets and people. Here are working drawings, a hand rendering, and digital 3D models produced in Rhino and rendered in KeyShot of the final design direction.
The final mock-up made of Varia Ecoresin by 3Form shows how the unique features of the desk accommodate both pets and people. From left clockwise: The 3Form leg configuration allows a leash to be easily fastened to help secure a pet; the built-in shelf offers exploration; the lower drawer can be removed to provide a place to rest and retreat; the lower drawer features a removable and adjustable tray for food and water bowl storage.
The purpose of this research was to gain understanding of the design process that guided the development and infrastructure of outdoor furniture products. The designs involved model building of a prototype with materials that could be recycled at the end of the products life cycle without losing original quality. Design for the Environment (DfE) approach was involved due to economic and environmental impacts. Decisions were made during the design process for the outdoor furniture that included material selection, textiles fabrication, treatments, and finishes to construct a sustainable prototype.
Outdoor Furniture Prototypes Completed with Design for the Environment (DfE) process
Development stage of DfE
The challenge: A young professional family debated the issue of an historic home versus new construction. Their previous homes were located in prestigious historic neighborhoods in large metropolitan areas. The squeaky wood floors, crystal doorknobs, and mature landscaping were some of the prominent characteristics that they desired but could find in new construction. However, the existing floorplans of historic homes created a series of challenges in the way today’s homes must function for a young family with two active boys. After living with these challenges for several years, the family decided to purchase an available lot in their historic neighborhood to build a new home that would meet their needs. The challenge was to build a home with traditional construction techniques so that the new 5000 square foot home would blend seamlessly in the neighborhood. Overall scheme: The exterior stucco over brick exterior is paired with geometric forms to create the modern Spanish exterior. In the interior, the concept of transparency is implemented through the open floorplan that blends seamlessly with the outdoors. The extensive use of glazing allows transparency from the front door through to the exterior living spaces. Rooms are tied together through basic forms, repetition, color, and pattern. The predominantly neutral colors with accents of blues, corals, and golds create a fresh interior. Investment quality rugs and artwork provide the emphasis for spaces. Living Spaces: A variety of living space options were incorporated into the home. These include: - Great Room: The first floor living space combines the living, kitchen and informal designing spaces to overlook the pool and outdoor living spaces. The kitchen is equipped with high end, integrated appliances and luxury finishes including a marble arabesque mosaic backsplash. - Gameroom: The upstairs living space is equipped for a variety of activities: three televisions, ping pong, fuse ball, game table and refreshment area can accommodate guests. - Outdoor living spaces surrounding the pool: o Kitchen: Equipped with infrared grill, smoker, granite countertops and eat at bar. o Loggia with outdoor living and dining spaces. An outdoor fireplace anchors the outdoor living area. Five bedrooms Six Bathrooms Separate Dining Room with adjoining butler’s pantry
Modern Spanish Transparency

During Construction:
AFTER:
ENTRY/DINING
Great room
Details

Tile on Stairs

Kitchen Backsplash
Photos of Private Spaces will be included if this presentation is accepted
In an increasingly technological world, our experience of life is more fast paced than ever. We live in a time where slow processes are often under valued. Commerce puts emphasis on fast thinking and production. This need for speed begins at a very young age. Early childhood education includes double the courses that it did ten years ago and young teenagers are pressured to specify their interests in order to prepare for their future. This fast-paced life leaves little time for authentic identity development and reflection. How can we design for our needs when we don't have time or a practice for self-reflection? This project is a series of case studies on developing personal methods to create awareness and acceptance. Each of these studies utilizes traditional design practices of mapping, documenting, and analyzing to look inward and study the human psyche and experience. Each project is centered around a meditative process of repetitive documentation. The rigor of the repetition is what brings awareness to the reality of daily thought and the experiences that affect the psyche. The specificity of the lens of study allows agency and change to feel accessible. The idea is that these successful case studies can become model processes for individuals and communities to better understand their authentic identities and needs. This could be an interactive model for the client consultations and programming phase of the design process. This process-based work begins with making intuitive decisions about what should be studied to improve the well-being of the subject. Once the field of study is identified, a framework is built to collect factual data over time. The act of collecting and recording the facts pushes the subject to face their reality and understand their agency. For example, one hundred days of documenting my reflection, my prominent negative thoughts, and my not so prominent positive counter thoughts, led to a shift in perspective and a method for manifesting self-acceptance. This work proved that we almost always have agency over our choices and pushed me to think about which choices are right for my wellbeing and my needs. A different study involved a year-long mapping of my physical journey, connections, and activities. This study led to a greater understanding of daily practice and the continuous adjustments needed to create a healthy work, life, and self-care balance as a creative in the 21st century. This work can be utilized to build community and inspire agency in individuals. This innovation can inspire the way we think about our practices and the spaces in which they are housed. Our daily lives, customs, and belief systems are shifting and changing faster than we are prepared for. It is in our best
interest to use our design thinking skills to restructure and rebuild methods for human existence. This project proves that sometimes rehabilitation begins with the individual and the psyche while also modeling a creative method for reflection and revision.
100 Days of Perspective, 2018
Vellum, Ink, Silk Thread, Monofilament

A Case Study in The Agency Project
By Alex Goldberg
I did not put enough care into my relationships with my elders.

There is only so much time in the day today I look in the mirror again my eyes are full of tears.

I do not take care of my body.

My outlook and becoming positive.
I oversleep and then feel the anxiety.

A. Goldberg, 100 Days of Perspective, 2018
I overshare and then feel too exposed.

I do not understand my own needs. I am masked in the other.