Panel

*Undergraduate Research as an Experiential Forum for Exploring the Design Process: A Panel Discussion of Pedagogical Methodology, Outcomes, and Student Perspectives*

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**ABSTRACT**

Members of an interdisciplinary research partnership including an Assistant Professor of Interior Design, three undergraduate interior design students and the Director of the University Writing Commons (WC) will present their design process, project results, and educational experience in this panel discussion. Our research team embarked on a four-month ethnographic interior design study exploring people’s preferences and behaviors while working together in collaborative and consultancy settings with a diverse student population at a University Writing Commons (WC). The multifactorial studies included field based observational research, personalized interviews, focus groups, and surveys with strategic questions aimed at deconstructing the process of how people work. Analysis of results revealed qualitative and quantitative themes for organizing spatial layouts and an aesthetic palette of place. Research data provided a holistic view of the efficiency deficits for the staff and working preferences for the varied user demographic including millennials, deaf or hard of hearing students, and people identified along the autism spectrum. Analysis of the existing physical environment and work protocol exposed common cultural denominators and emergent themes regarding contextual issues that impacted focus, attention, privacy, and productivity. The research offered conclusive results validating the design direction and selection of furniture, fixtures, equipment, and a brand aesthetic for creating an atmosphere conducive to learning and engagement. Project implementation is in process and future research will analyze the effectiveness of the design solution. Pedagogically, this project aimed to provide the interior design students with an experiential learning opportunity by actively engaging them, as contributing partners, in the design process from inception to implementation and post occupancy evaluation. The students collaborated with their faculty mentor and the WC Director to co-design the research, manage the project timeline, and actively participate in a professional service scenario by interacting with a real customer, manufacturer vendors, facilities directors, and stakeholders. Working
closely together we rebranded the WC while redefining functionality for a substantive interior design proposal on a predetermined budget. The research produced a robust data set enabling the team to continue analyzing the results for further scholarly activities. For example, our student team recently submitted an abstract, currently under peer review, for acceptance to the University’s 2016 Undergraduate Research Symposium. For this panel discussion, we will present our research and design process for this project. The faculty mentors will highlight the ways the research and design process drew on students’ emerging disciplinary learning, knowledge, and expertise, and how the complementary backgrounds of the interior design and writing faculty fostered interdisciplinary teaching and learning opportunities in the context of an authentic, inquiry-based design project. Student presenters will discuss how participating in an interdisciplinary research project cultivated opportunities to engage in qualitative research, including the creation, collection, and analysis of survey and ethnographic data, and how these experiences informed their understanding of and interest in developing and branding collaborative workspaces for a diverse population. We contend that this design project provided students unique opportunities to participate on a highly collaborative research team and fostered the development of professional identities.

REFERENCES


Design Reasoning and Critical Thinking—Intersecting Dimensions

Researchers agree that critical thinking (CT) is an imperative cognitive skill across all domains and is a disciplined-based reasoning approach to problem solving. Thus the foundation level design studio is the catalyst to develop students’ skills to design with reason and to prepare them for their advanced studio courses and eventually professional practice. Critical thinking (CT) and the processes that encompass how designers work in the studio environment were the focus of a research study in a foundation level color theory course. The central questions examined in this study were how to assess and develop critical thinking and which pedagogical approaches introduce and facilitate CT in the studio environment? For a period of three years, the pedagogy developed and introduced to students was a strategy focusing on four key concepts. The first step to understanding a design problem involved a research driven foundation. Students were introduced to design research and were required to begin the design process with knowledge that was relevant to the topic and provided new perspectives to their preconceived assumptions. In addition to the research, the sketchbook was used as a tool to develop ideation drawings and concept mapping. Only the sketchbook in the early stages of program development (PD) was used for each project. The sketchbook served as an observational and experimental tool for analysis, and later as a method of communication in concept development. The sketching process itself played a significant link to the interrelationship to critical thinking and the design process. From the sketches, the students mapped concepts that illustrated 2 key critical thinking processes – the relevance and logic behind their initial ideas. Moreover, the sketching and mapping further validated whether research conducted facilitated initial design concepts and clearly identified the design problem. For each project, the design process followed the same sequential method. As color theory and application knowledge increased throughout the semester, the students also became aware that a systematic approach to creative problem solving is the “design process.” Moreover, an understanding of the imperative link of color to creative problem solving became apparent. This course for many students was the first exposure to the studio environment and group dynamics. To further facilitate CT, group discussions, collaboration and providing feedback became an integral
activity for each design problem. Upon data analysis, it became evident that when critical thinking takes the place, logic and relevance are the key characteristics in the early phases of the design process. The research driven process broadens students’ perspectives’ at the beginning of PD and serves as a foundation to approach design with reason. Certainly, the active design studio environment is a creative thriving hub where great ideas are formed and challenging design problems become well thought out design solutions by students. Continued studies in the studio on the design process and the intersecting relationship to critical thinking are vital in education. The question remains how can we as educators fully develop CT skills in the educational studio environment and prepare students to design with reason?

REFERENCES


ABSTRACT

Events of the decades of the 1960s and 1970s in America and abroad provoked a cross-cultural examination and reevaluation of our societal beliefs and values: the Generation Gap, Cold War, Civil Rights Movement, Vietnam Conflict, Sexual Revolution, Mass Media, Woodstock, Watergate, the Space Race, and the implications of the Pill and the Bomb required us to reexamine our cultural priorities and institutions. This atmosphere of radical change inspired the formation of an alternative design culture that challenged the Establishment model of the insular, specialized, hierarchical design practice. During this period in architecture and the applied arts, there was a parallel questioning of the traditional roles of designer and client, and of the role of design in establishing a new world order. Publications like Shelter (1969), The Whole Earth Catalog (1968-72), and books like Architecture Without Architects (1964), Community and Privacy (1963), Design with Nature (1969) and Design for the Real World (1971) critically examined the ways that we conceive and practice design, and sought to expand its focus to address a broader variety of concerns and interests. Many prominent designers began to reconsider the ways they conducted their work, proposing new models for collaborative practice that kept pace with technological advances, acknowledged cultural differences, redefined the designer-client relationship and altered our perceptions of the past and future. This presentation will focus on the efforts of four interdisciplinary artist-designer partnerships to reform the process of creative collaboration: the Eames Office, and its principals Charles and Ray Eames, an architect and painter; Lawrence Halprin Associates with its partnership between landscape architect and choreographer Lawrence and Anna Halprin; the creative partnership of composer John Cage and choreographer (and domestic partner) Merce Cunningham; and BMD, a multidisciplinary design consulting firm under the directorship of Bruce Mau, a graphic designer and founder of the Institute Without Boundaries. In each of these cases, the traditional studio model was reinvented to provide an atmosphere that encouraged debate, dialogue, inquiry, speculation and experiment, incorporating research, development and historic precedent and expanded the domain of design to include the social, behavioral and environmental sciences. The structure and guiding principles of these approaches were
articulated in a series of drawings, texts and statements by each team of designers. (Refer to Appendix for examples) Common goals emerged: the desire to eliminate boundaries between disciplines and develop methods of working that were more dynamic, democratic, inclusive and responsive to user needs. This required the creation of new tools and strategies that combine work, play, research and experiment, invite chance and change, integrate established and emerging technologies, and encourage debate between diverse and potentially conflicting interests and agendas. The hope is that a reexamination of these pioneering models of creative collaboration will provide inspiration for a new generation of designers and serve as precedents for the formation of a new design culture that more effectively serves a broad and diverse global clientele and assists designers in responsibly addressing the complex challenges facing us in the post-industrial world.

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Presentation

*Library Design: Maintaining relevance of a building typology in a technology revolution and an exploration of user observation driving empathy*

Jamie Lynn Slenker

**ABSTRACT**

In a digital society the public library is at risk. What keeps it from devolving into a Redbox prototype supplying Kindle files? Our cities and towns have dedicated landmark structures to these facilities. They represent free access to public knowledge. How do we perpetuate this standing testament to a democratic society? How do we maintain the relevancy of the library as a building typology in a technology revolution? This presentation will explore teaching strategies used to develop a leading edge library where attention is given to new technology and innovative design thinking. The facilitated design process goes beyond precedent studies and criteria matrixes. User observation methods, social theories, rapid prototyping, and non-traditional programming techniques reveal unexpected results in student inquiry and design application. A ledge is covered with sharp spikes to prevent people from sitting, gathering, or sleeping on them. An activist glues a mattress over the spikes and installs a case of books, at once, a library. While defensive architecture isn’t under attack here, critically observing an environment and reflecting upon signs of struggle and work-arounds is the target. Creating opportunities for students to unearth their own data set, rather than rely on case studies alone seemed to trigger not only a deeper emotional connection to the project, but also empathetic design solutions. Project results grew from precedent Kindle reading lounges to dedicated career building work centers. Among a wide variety of other focuses, issues effecting the transient population and unemployment surfaced. Conglomerates like Starbucks have long implemented Third Place theory in the design of their branded shops. Yet, the high-top group table near the vestibule of every Panera Bread is consistently empty. While case studies indicating the theory’s design tactics can be copied, students were instead sent stomping around familiar grounds where Third Places grew organically – in their mom and pop coffee shop, local dive bar, and even the dog park. Using a Steelcase user observation workshop methodology, students documented user data and unveiled aspects central to community vitality. When asked to observe as a social scientist, the interactions of those around them gave rise to design interventions relatable to each individual user group. With topics surfacing in
their own exploration, this allowed for instructor assists to research ranging from phototropism to stoop culture and privacy in public. These experiential based insights are developed into design ideas through a rapid prototyping process. Students map the users experience using an inspiration board where images are linked using yarn as they navigate adjacencies, taking their mind’s eye into 3-dimensionality. This is further developed through building a physical model and programming directly within. This process drew greater awareness of volumetrics as compared to traditional bubble/block diagram and other 2-dimensional techniques. The combined experiences generated a deeper understanding of the emerging design problem and potential solutions. Students were placed within related contexts to uncover their own information about the human experience, driving empathy. Robust results maintain the vitally important role of the public library for all users in a community.

REFERENCES


ABSTRACT

Iteration is the basis of the design process. Making something repeatedly, incorporating ideas that are generated from previous versions, produces an environment for investigation and discovery. Each iteration has the potential to advance the design relative to spatial and formal composition, representational technique, and conceptual intent. The progressive stages of the iterative process are the vehicle for design evolution and advancement. (Eckler p, 26) This paper presents the outcomes of two sequenced design studios that incorporated prescriptive model making and required multiple iterations. Guided iteration is a systematic approach to the design process that uses a series of divergent (explore) and convergent (assess) phases (Curedal, p. 314). This prescriptive guided method provides a strong paradigm for students to learn iteration’s impact within a design process. One may think that a prescriptive process would restrict ideation, but instead, allows students to focus on exploration rather than identify a specific process and can maximize course objectives. Design in general, can be described as a prescriptive activity, one where designers do not regularly address what is, how and why, but rather what could or might be (Lawson p. 92). Each iterative stage will provide new information to be used as a generator for the subsequent versions. Consequently, each stage should not be thought of as a redesign but rather as variations of a single design investigation. (Eckler p, 26).

The main problem addressed within this abstract is that first and second year students do not always understand iteration as an effective part of the design process. If this is not learned early in a design education, students miss this crucial design tool and design ideas may not be fully realized. Students are often possessive about their solutions and often cling to ideas and reject iteration, because they do not foresee benefits from variations. Iterative design is a design methodology based on a cyclic process that includes testing, analyzing, and refining a work in progress (Zimmerman). Guided iteration is an effective pedagogic tool that empowers students to succeed by requiring reworking design problems as part of the design process. Additionally, Professor Pat Hildebrand has extensive teaching and accreditation experience, and identified that many beginning student’s struggle with three dimensional concepts (Ankerson p. 226). In combining prescriptive three dimensional model making with required iterations, these two areas are strengthened. Presented outcomes will be based on student work from two
sequenced courses that exhibit elevated resolution from prescriptive iterative model making exercises. Students were asked to use divergent thinking when creating models, and convergent thinking to pinpoint ideas for a new iteration. (Curedale p.312). Iterative model making proved useful for students to identify and discuss failures and strategies for each new iteration. Our model design investigations included at least 3 iterations, resulting in students having copious material to witness major progress through iteration. It strengthened their understanding of the power of iterative process and they learned that repetition yields results successively closer to a desired result.

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Physically visiting built space provides students of interior design with lessons that cannot be replicated in the classroom through photographic imagery. Because of the obvious limitations of learning about geographically distant case studies, design is by necessity taught through photographic or other analogous representations — and less frequently through visiting the actual material space. The students who physically experience a space not only learn more about that space, but are better prepared to understand the material reality of their own design decisions. This paper will examine why it is so relevant for a student of interior design to actually visit real space. The problem being addressed by this paper is that design education in the classroom depends on teaching case studies through photography and other analogous media — but so much more can be learned through visiting the artifact itself. Actual space offers more substantial and different lessons than classroom studies of photographs. The framework of the paper will present an analysis of the literature on the subject as well as an analysis of on-site student work and first-hand observations to offer evidence of these conclusions, which include observations about material, light and time. A pedagogic presumption that is embedded in this presentation is that the student is interested in learning to make actual buildable space. This presumption assumes that good design results from the inherent qualities of the material that something is made from, how the design changes in different light conditions and how it is experienced as a three-dimensional sequence of experiences that unfold over time. While these lessons are frequently emphasized through conventional design methodologies, they are implicit in the actual artifact and so it offers a more direct opportunity for learning than two-dimensional representations. Robin Evans has argued that the lessons offered by visiting actual space can be veiled by idealized photographic or other two-dimensional imagery (Evans). Other writers emphasize the critical role of sensory input beyond perspectival vision to experience space (Pallasmaa, Levin). Still others have argued that the nature of the photographic image has fundamentally changed architecture itself (Zimmerman) and that “today everything exists to end in a photograph” (Sontag), thus changing the nature of a promotional practice. The conclusions of field studies show several differences between imagery and experience. One difference is the character of material: the complex play of sheen, reflections and translucencies is difficult to convey in still images. Another difference is light: photography captures a moment’s light differently than the eye and sometimes what makes
something a good photograph is different than what makes a good space. Another difference is time: both in the unfolding of sequential spaces but also the amount of time dedicated to a visit. Adolf Loos wrote, “It is my greatest pride that the interiors I have created are completely lacking in effect when photographed.” It was his intention to create great interiors, not great photographs of interiors. This experiential knowledge, embedded in the object itself, is often fully accessible only to students who visit the space.

REFERENCES


Engaging with Public Health to Produce Structured Research Outcomes in Design

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ABSTRACT

The Center for Health & the Designed Environment (CHDE) is an interdisciplinary center made up of faculty from Interior Design, Public Health, Engineering and Science, Technology & Society who are addressing urban inequities through novel health and design research. In 2015 the University was selected in a competitive application process as one of the inaugural members of the American Institute of Architects Design & Health Research Consortium to advance basic research on how the designed environment affects public health. The main goal of CHDE is to develop a shared process between our different disciplines in order to produce structured research outcomes and to inform each other’s practices. The presentation will introduce our team process and framework through discussion of two current interdisciplinary works that intersect with education, research and outreach in the urban community. The projects fostered the growth and development of our interdisciplinary research team and informed and expanded our understanding of design process. We will review the initial phase of a collaborative research project evaluating behavior in public space. The presentation will conclude with discussion of a joint course focused on housing insecurity for design and public health students developed around this collaborative work. Faculty and students are working in partnership on a research project to design and measure the impact of an outdoor space at the McMichael School. The research provides an opportunity for student teams from public health and design to learn together. The project goals were to use informed design to create a safe and sustainable outdoor space, to build social capital while creating a sense of place and space for increased physical and social opportunities, and to evaluate the impact of this newly designed place on children’s social behavior and physical activity. Research indicates that there are significant links in the proximity of public recreation space and playgrounds to social and physical activity (Davison and Lawson, 2006). This presentation will describe the process developed to quantify children’s physical activity and social behavior on the schoolyard before and after construction. It highlights the ongoing collaboration between interior design and public health, the adaptation of an existing instrument, the system for observing children’s activity and relationships during play or SOCARP (Ridgers et. al, 2010) and the creation of an online data collection tool to facilitate evidence-based design. With funding from the
Scattergood Foundation, CHDE piloted a course entitled Design and Health Research, in spring 2016. Team-taught by faculty in Interior Design and Public Health, the course is a prototype for further offerings from the center and merges social determinants of health with design processes for innovation. Students in this cross-listed course developed problem-solving solutions in multidisciplinary teams, based on real-world public health issues that are associated with housing insecurity and the preservation of the urban residential environment. The team is currently compiling a guide for further scholarship of trans-disciplinary teaching and learning around this topic.

REFERENCES


The Design of Everything Exploring Creativity & Innovation in a freshman course for non-majors was the focus of course development. It is designed to demystify the creative process by introducing students to creative practice as a disciplined approach to problem solving -- a process requiring research, persistence, and grit. Students will be encouraged to synthesize existing ideas, images, concepts, and skill sets in original ways, embrace ambiguity, and support divergent thinking and risk taking. This course explores a selection of the genius personalities and creative work in 5 distinct areas of human creative endeavor; art, science, nature, technology and the built environment. The course explores the underlying similarities in the process of their discovery, invention and creativity across the disciplines. Studying such names as Newton, Warhol, Hawking, Jobs, Gaudi and Banksy, students will uncover the process of design through research, analysis, synthesis, iteration and error. In a presentation format the author will share syllabi development, online tools and course pedagogy as well as student outcomes from the first semester class. “DESIGN IS A NOUN Unless you live in the wilderness, you are a resident of a human-made environment. Everywhere you look, you can find something that is designed. From the time you wake up to the time you go to sleep, you are sure to encounter design in your everyday life. We are surrounded by design, whether it be objects, spaces, landscapes and streetscapes, or communications or transportation systems. Design is not an instantaneous act or event. Someone is responsible for all the things we consume, use, and interact with everyday. Every moment, we encounter a set of solutions to a problem that has been considered by someone. DESIGN IS A VERB “Design” does not only refer to places and things; it is also the process of planning, evaluating, and implementing a plan or solution to a problem. Designers often start with a problem.” Quote by Paola Antonelli, senior curator MoMA Upon successful completion, students will know/understand: 1. the context of the various disciplines that utilize the problem seeking and problem solving methods 2. the role of critical thinking in the investigation, analysis, and synthesis of a problem 3. the skills needed to work in teams, to manage time productively, and assemble the necessary resources and technical information. 4. be able to demonstrate an understanding of the interdisciplinary nature of innovation students will be able to: •Think critically about the creative design process •Work independently as well as in teams toward creative solutions to hypothetical problems •Organize and utilize effectively materials and technical resources necessary for investigating
design solutions (process) • Effectively communicate ideas both visually and verbally How the student will be assessed on these learning outcomes: Class Excercises / Homework Assignments as defined in the weekly course outline, including: • Drawing assignments • Ideation exercises: Concept mapping Brainstorming • Observation exercises: Info gathering: primary & secondary • Synthesis projects: Making info visual; • Case Studies • Oral presentation Experiential learning through tours and guest speakers. Team projects: • Prototyping: virtual or actual • Socially responsible Design/Build project

REFERENCES

ABSTRACT

The paper provides outcomes of an experiential learning exercise on the importance of the consensus building process among client stakeholders in professional practice. Consensus building is the process of reaching a goal by achieving widespread levels of participation and agreement in a group setting (Hartnett). By engaging students in experiential consensus building exercises, professors can present information that relates to the profession as well as assist students in better understanding future key dynamic relationships and enhance their skill set. The challenge addressed here is the concept of collaborating with the client. This idea is often too abstract for students to grasp. Traditionally, a client write-up is issued and students propose a design solution or interpretation of the client’s needs. In some cases, a real client might participate, but overall interaction with the client is minimal. Unfortunately, this is not an accurate portrayal of the designer-client relationship, and overlooks the design process.

According to CIDA’s 2017 standards and many industry professionals, students are expected to be strong collaborators usually on an interdisciplinary level. This focus on collaboration does not address the different viewpoints and priorities among client representatives. Designers are stronger professionals when they can provide leadership and clarity to clients early in the design process. This added value can increase approval from clients with a multilayered approval process (Woodhouse). A classic approach to consensus building is Robert’s Rule of Order, which dictates a series of steps for a goal to be achieved through a majority solution. Today this approach has been adapted to be more dynamic. Facilitators encourage a group to start at one point and follow the energy of the group wherever it may take them as consensus builds (Atlee and Zubizarreta). When the consensus building process is integrated into the classroom, students are able to discover new ways of communicating and engaging who they often believe to be one of the more intimidating players within the design process - the client.

Outcomes presented will be based on discussions and photo documentation of an exercise that was implemented in a senior professional practice course in collaboration with a design firm. Consensus building provides students the opportunity to experience interactive presentation tools that can be modified and utilized to bring a diverse group of stakeholders together. These tools create a collective understanding among all stakeholders and begin to lay the groundwork...
for the continued design process. The exercise is organized into four parts: an interactive dichotomy diagram, image association exercises, and trends contributing positively and negatively toward the project. Students are assigned various roles as client stakeholders. After the exercise, the collaborating firm, and students discuss the student role-playing experience and connect their experience to real life responses. In the following weeks, students develop and present their own exercise. Professional practical outcomes from this exercise address the following: Efficiency in process - clients are less likely to rethink decisions made through collaboration. This could provide practitioners with a more manageable schedule and higher profit margins. Cultural integration and acceptance - change is often met with resistance among end users. Overall engagement is increased when a broad opportunity for input is provided. Value added services - when clients view designers as providing not only design services but also critical strategic leadership (Woodhouse). Students engaged in consensus building begin to understand the potential design challenges and complex team dynamics that might arise by stakeholders or clients. Learning these adaptable tools as part of the educational process enriches the student’s overall design skill set.

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ABSTRACT

With a proliferation of multinational interior design firms and the increased shift of interior design organizations such as ASID and CIDA towards globalization, design educators must evaluate how best to prepare students for the commonality of international and intercultural collaboration within structures that support the process of significant learning. Such inherent applications train students to not only collaborate internationally on ideas and issues but also develop skills to value and be inspired by culturally diverse opinions. This presentation will review a four-day charrette in response to the IFI’s World Interiors Day through a collaboration of three undergraduate interior design programs from universities in the US and the Gulf Region. Forty-four students with varied skill sets, ethnicities and cultures, including the deaf and hard of hearing were teamed in groups of four with members from at least two universities. With faculty serving as mentors only, brief instruction was given on teaming, communication methods and a broadly formatted topic was assigned: “Create a biomimetic living environment respecting the culture of all participating parties.” Left intentionally vague, the program encouraged a variety of interpretations with emphasis on process over product. Students developed context and content. Projects were required to demonstrate higher levels of biomimetic thinking, cultural sensitivity, express sustainable concepts and elicit a sense of place with goals supported through evidence based design. The final artifact, a poster, had to be expressive of the goals and intent of the design without verbal enhancement. Learning objectives focused on significant learning through the six-part-taxonomy of Fink. Students were required to exhibit creative critical thinking and develop self-directed learning and inquiry skills. They developed in-depth knowledge on concepts of biomimetic thinking through a self-directed process. Human dimension and social connectivity through learning about self and others were an integral part of the experience. Developing communication methodologies and collaborating with differing educational backgrounds at extreme distance created a great challenge to the students. This experience supported several CIDA 2017 standards with particular emphasis on global context, communication and the value of risk taking. In-process student interviews and
post project feedback surveys supported the evaluation of student experiences and successful learning outcomes. Initially, students had concerns about communication at both the cultural and technical levels; they were missing inherent aspects of communication including body language. Eventually stereotypes were overcome with a realization that the other is not all that different from the self. Some teams developed a social connection beyond the project and continue their connection through social media. The value of experience in international collaboration within the educational environment sets the stage for successful application within the global professional setting. Such ventures polish communication, time management, fast paced creativity and cultural sensitivity. The specific topic on biomimicry was valuable to expand knowledge on a current trend in sustainability. Pedagogically, the integration of the highest levels of Fink’s taxonomy ensured a significant learning experience and all students expressed interest in taking part again in such endeavors.

REFERENCES


ABSTRACT

You cannot find out anything about things that you don’t know, if you just think in a pragmatic, objective way. You have to let the dream occur – you have to have a dream intersecting. So it is critical that the subjective has to penetrate the objective thinking (Stephen Holl, edited by Meyers and Gerstman). This paper presents outcomes from a modeling exercise designed to generate innovative ideas to assist in closing the synthesis gap, or the void between the completed program and design for students working on a thesis (Ruggeri & Hahn). The idea of implementing probing model exercises to generate ideas through analysis (objective) and conceptual (subjective) offer a rewarding strategy to assist students to close this gap. To solve complex problems, designers must incorporate a range of perspectives, exposing different ways to view their ideas (Curedale p. 21). The thesis studio began with creating a modeled synthesis derived from an intersecting analytic model and a conceptual model. This technique of exploring ideas can be considered heuristic ideation, one that attempts to not only uncover new concepts, ideas and solutions but also to connect them (Curedale p.326). The question addressed in this abstract is, how can we guide students struggling to close the synthesis gap before designing a thesis? I redesigned a thesis preparatory class with content included lectures supporting research and programming techniques, activities and readings to assist student’s thesis development. Projects included analyzing precedents with a summary identifying strategies and a site and building analysis. Students worked on all of the appropriate materials, but many still lacked a strong design investigation. One problem being addressed is that many students aren’t able to transform their ideas into a valid thesis investigation before beginning the design phase. A second problem addressed in this abstract, is that many students have trouble beginning the design phase of a thesis. Students can best close this gap through analysis, exposure of information and the synthesis becomes an illumination or insight. (Pena, Marshall and Kelly p. 19). In beginning a thesis studio by modeling a specific building and/or component, and then model a conceptual idea, students are exposed to resources allowing them to synthesize information generating an original thesis idea. An analysis of the outcomes will include results from probing modeling exercises that aided with student thesis development. The goal of these investigations was to produce several innovative ideas and
generate concepts to assist design. The results offered information used to develop spatial and material strategies, and created a stronger dialogue with building and site. In looking at a few parts of the project, though separation and breaking up the whole, it helped reinforce strong theses and rework theses in crises (Pena, Marshall and Kelly p. 91). The first model was an inspection or analysis into a specific component of the student’s building and/or site lending an opportunity for a deeper understanding of the physical opportunities and limitations. The second model was a conceptual investigation, one that directly related to challenging an assumption or design principle, phenomenology, exploration of materiality, or any topic that a student had interest in. Students were asked to make a third model, one that represented a convergent synthesis of their first two models. The results became an ingenious tool to begin designing a thesis.

REFERENCES


Jacqueline Carmichael holds a Bachelor of Science (BS) in Family Studies Psychology with a minor in Gerontology, and a Masters of Fine Arts (MFA) in Interior Design. Also, inducted into the “Who’s Who” in American Colleges and Universities. Credential as both a certified Kitchen Designer (CKD) through National Kitchen and Bath Association (NKBA), and a certified Interior Designer through the National Council for Interior Design Qualification (NCIDQ).

**NARRATIVE**

Purpose There are unique challenges in designing spaces for the visually impaired. A current commission involves a design renovation of an existing kitchen for a very demanding family faced with differing needs. The home is shared by the client, two very active teenage sons and a sightless spouse. The stated focus of the project was to tackle the complete disrepair of cabinetry and the lack of functionality. The initial client interview excluded all the family members. This impeded the ability to determine the personal needs and wants of the entire family dynamic. Upon close observation, the kitchen is a very territorial domain for the client. Further observation revealed that the client, while aided with eyewear, views and holds items such as hand held devices or documents in close proximity to compensate for gradual vision loss. The client refuses to mention any challenges with visual acuity during the initial and subsequent meetings. My challenge as designer is to make the redesign functional but also consider the special needs of the family while also demonstrating sensitivity to their emotional needs The purpose of this abstract, through a visual representation, illustrates how practical, universal and accessible design solutions positively impact the needs of both the visually impaired and able-bodied within a family system. By showing how the integration of specialty products and the use of design elements optimizes the use of space and heightens sensory engagement specifically in the kitchen – the heart of the home. This six-month study provided the basis for conclusions on sound interior design principles. Process/Context An important goal of the design project is to maximize functionality, usability and storage capacity. Moreover, an essential metric for any successful design is to create spaces that improve the quality of life, promote independence, and add meaningful experiences. Persons with gradual and existing impairments are frequently unaware of their own coping mechanisms and strategies as to how
they engage their living spaces. Therefore, design practitioners must investigate beyond the standard questioning process to determine a more accurate project scope. Practitioners must note any personal attributes of the client and other expected users impacted by the design. The case study, performed through careful assessment and observation, reviewed to understand how the family’s physical challenges, engagements and perceptions have been shaped over time, we will: • Provide a comprehensive questionnaire that addresses every aspect of the client’s expectations, aesthetic preferences, lifestyle, physical/mental challenges, including any medical concerns; • Provide open-ended interview questions to obtain insightful and inspirational responses; • Conduct careful observation of how the client interacts within the space; and • Collaborate with social scientists and health professionals; Summary Although limited in scope, conducting the case study has enabled us to: • Determine how an Interior Designer investigates and addresses unidentified visual or other physical impairments of clients who ignore or otherwise use coping mechanisms; • Understand how the design community can improve and possibly reestablish inquiry methodologies regarding interviews and questionnaires during the programming aspect of the design process in assessment of client's expectations; • Conduct extensive/holistic interviews addressing the undisclosed needs relating to physical challenges while establishing functional and aesthetics goals; and • Develop and identify how the elements of design from lighting, color to texture can assist in creating spaces that increase the well-being and promote good design practice.
Creative Scholarship

Bootstrapping Creative Learning through Collaborative Design

Prof Ilona Anderson Prof Susan Nichter Prof Dominic Thomas In alphabetical order

NARRATIVE

We have been teaching/ exploring the many possible interpretations of the design process through our joint collaboration over the past 3+ years. We gain inspiration in part by cross-boundaries. Teaching, cultivating, and inspiring are processes. We learn best when we have chances to revise and try again while crossing boundaries in a safe environment. We began with this foundation of teaching Design Thinking, centered on “Creative Confidence” as our textbook. Across the semester-long duration of the design collaboration, methods of interaction and integration shifted and developed in 5 different projects. The progression dynamically required art students and business students to collaborate and share expertise and feedback to produce, experience, and improve their designs. As a result, this collaboration produced 100+ designs from ~70 students in cross-disciplinary teams. At the core, the collaboration reproduced the actual real-world demands for effective, applied design work involving materials, site, knowledge, and other constraints. The 5 projects were all exploratory and engaged mind-expanding activity hitting on all aspects of Design Thinking. For example, in the first project art students built evocative environments that divided up known spaces using basic materials such as string and light. The business students then joined and provided feedback and collaboration in making changes and augmentations to the spaces. This led to a format shift as art students then photo captured 2D representations of the 3D spaces and furthered the design process to form interconnected grids, which were then shown in the local gallery. The second project began with making art from multiples of non-art materials (e.g. cups, ice cream cones, utility pipe clasps, straws etc.). Business and art students created forms, utilizing balance and counter balance, light source and site-specific constraints. The installations were taken a step further by making iterations in 2D. The installations were photo captured with the intent of transforming the images by experimenting with light, color, transparency and composition. These became variations on a theme in Photoshop. The actual 3D pieces were installed gorilla style in the site-specific locations around campus culminating in a campus-wide “Art Week” event. These projects were student-based and faculty-facilitated. Both groups gained confidence in Design Thinking, divergent thinking and self-evaluation. The result, art students gained pragmatic as well as creative habit skills. Business students became less fearful
and were able to envision more diverse possibilities while applying core concepts from their coursework. The President of the University selected one of these projects as an installation for her office. The Head of Entrepreneurship center asked that the installations at the center and as did the library installation. The Provost and Deans recognized this collaboration as the single most successful cross-disciplinary activity at the University. Hundreds of people viewed the works and interacted with them, engaging a larger community in the design process. For further information, see these articles:
http://www.suffolk.edu/news/59777.php#.V3LpY1dI0n0
http://www.suffolk.edu/news/65297.php#.V3LxHVdJ0n0
IMPACT OF DESIGN - DESIGNING THROUGH THE VEIL - A VISUAL REPRESENTATION
PROPOSED:
CABINETRY

PERIMETER INSET
CABINETRY
PAINT GRADE MATERIAL
• BISQUE PAINT
• ADVISE CAUTIOUSLY
MAY HAVE TROUBLE
OPENING DEPENDANT
ON HARDWARE

ISLAND INSET
CABINETRY
CHERRY WOOD
• SADDLE BROWN
STAIN
• OFFERS CONTRAST.
AND LINE OF
DEMARKATION TO
GUIDE THRU SPACE.
COUNTERTOP

QUARTZ
• ANTIMICROBIAL PROTECTION
• EASY TO MAINTAIN
• HEAT, SCRATCH AND STAIN RESISTANCE.

OFFERS CONTRAST. AND LINE OF DEMARKATION TO GUIDE THRU SPACE.
APPLIANCES

GAS COOKTOP
• CONTRASTING RED KNOB
• CONTINUOUS GRATES
• CONCEALED BURNERS

ELECTRIC OVEN
• FRENCH DOOR
• EASY TO READ INSTRUMENT PANEL

PULL OUT TAMBOUR TABLE, INSERT DIRECTLY BELOW OVEN AS LANDING SPACE
MICROWAVE DRAWER
• EASY-TO-READ CONTROL PAD
• TOUCH PAD OPERATION
• POP OUT ACCESS

WARMING DRAWER
• CONVENIENCE
• AUTO SHUT-OFF TIMER
• SOFT SMOOTH CLOSING
CABINET ACCESSORIES

TILT OUT SINK FRONT
• KEEP CLEANING SPONGES AND BRUSES WITHIN CLOSE PROXIMITY

UNDERSINK DRIP TRAY
• TO MAINTAIN AND CONTAIN POSSIBLE SPILLS OF CLEANING SUPPLIES OR PLUMBING MISHAPS
CABINET ACCESSORIES

PULL OUT RECYCLED WASTE BASKET
• RECYCLE PAPER, PLASTICS, AND/OR GLASS
• COMPOST VEGETABLE SCRAPS
CABINET ACCESSORIES

BASE PULL OUT KNIFE ORGANIZER
• CONVENIENCE OF KEEPING COOKING UTENSILS IN ONE LOCATION
CABINETRY ACCESSORIES

SWING UP MIXER CABINET

PULL OUT CART
• TO KNEAD PASTRIES
• CONTAIN MIXING BOWLS
ROLL OUT TRAYS
VS
DRAWER UNITS
EASE OF ONE OPERATIONAL ACTION

FILE DRAWER UNITS
TO MAINTAIN RECEPIES, FILES AND MANUALS
CABINET ACCESSORIES

TALL PULL OUT PANTRY

PERFECT FOR INDIVIDUALS WITH LIMITED MOBILITY.
KITCHEN CLIENT INFORMATION SURVEY

Do you reside at the jobsite to be remodeled or is this an alternate residence? 
When would you like the project completed? 
New construction or remodel? 
Are you currently working with a/an: 
General Contractor? _ Architect? _ Interior Designer? _ 
If yes, please list their name and phone number. 
Were you planning on using CAI Installation services? 
What portion of the job will be your responsibility? 
Has anyone assisted you with design plans for your kitchen? 
How did you learn about CAI? 
What do you like least about your present kitchen(s)? 
What do you like most about your present kitchen(s)? 
What are your plans regarding the home? 
1. Long-term investment/ Change in lifestyle 
2. Short-term investment/ Resale 
3. Rental property 
How much would you like to invest in this project? 
Who will share in the final decision-making process? 
How many members of each group currently reside in the home? 
Adults _ Teens _ Children _ Pets _ what type? 
What, if any, special design considerations need to be addressed? (Physical challenges, elderly adults) 
Any Visual Impairments or dexterity issues? 
Who are they and what type of cooking do they do? 
Is the secondary cook left or right handed? 
What type of cooking is the kitchen used for? 
Daily on-the-go meals 
Daily full-course “scratch” cooking 
Weekend family meals 
Weekend quantity cooking, preparing for the week ahead 
Other 
Special cooking hobbies? 
At what time of the day is the kitchen most frequently used?
KITCHEN CLIENT INFORMATION SURVEY

Is the kitchen a socializing place? ___________________________________________

Would you like a dining area in the kitchen? __________________________________

If yes, will it be adjacent to another room? ___________________________________

What type of dining area would you like?
____ Separate table? ____ 36” high dining counter? ____ 30” high ____ 42” high

Number of seats needed? ______________

What secondary activities take place in the kitchen?
_____ Computer work area _____ homework _____ Other _____ laundry _____ crafts

What type of shopping do you do?
_____ Fresh produce to be used within days of purchase
_____ Frozen foods purchased for stock
_____ Boxed, canned or pre-packaged goods for stock

Do you purchase items in bulk? ______________

Do you store these items in the kitchen or another room? _______________________

Do you desire a recycling area in your kitchen? ______

Which item does your family recycle? ________________________________________

Check any features and benefits you would like inside your kitchen cabinetry:
____ roll-out trays _____ tilt-out tray _____ trash can _____ other
____ lazy susan _____ cutlery divider _____ sliding towel bar _____ other
____ tray dividers _____ spice rack _____ pull-up mixing shelf _____ other

List any features you may be seeking for storage or decorative use: ________________

List the small specialty appliances used in your kitchen: _________________________

Are you planning to remove any walls in your existing kitchen? ___________________

Are you planning to replace any windows? __ Removing windows? _________________

Adding windows? _____ Removing doorways? _____ Adding doorways? ______

Which colors would you like used in your new kitchen? _________________________

Which colors do you dislike? ________________________________________________

Do you have pictures from magazines or photos of kitchens you have seen and admired? ___________

List any items here that have been selected or that your client is interested in: ______

Cabinetry- (vendor, door style, finish, molding, etc.) _____________________________

Countertops, sink and faucet: ________________________________________________

Appliances: __________________________________________________________________

Lighting and tile: __________________________________________________________________

CLIENT INTERVIEW CONDUCTED BY: ___________________________

DESIGN NOTES: __________________________________________________________________
IDEF 2016 Conference Submission

Designers/Artists: Ilona Anderson (ianderson@suffolk.edu, 617-872-7476), Susan Nichter (snichter@suffolk.edu, 617-994-4286), Dominic Thomas (dthomas@suffolk.edu, 617-573-8442)

Abbreviated Biography:
At Suffolk University, two Art Professors (Susan and Ilona) and a Business Professor (Dominic), developed design projects that tested new techniques for inspiring and motivating undergraduate students to exceed their current levels of learning and creativity. Both Ilona and Susan teach Creativity and Innovation Courses and were each Fulbright Recipients. Dominic is Co Director of the Center for Innovative Collaborative Leadership. Ilona and Susan actively create and show art nationally and internationally. Dominic actively consults nationally and internationally on systems architecture.

Project Title: Bootstrapping Creative Learning through Collaborative Design

Presentation Category: Design as Idea

Design Statement:
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