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Second Place
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An Explorers Tool-Pouch For Going Nowhere
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Second Place
Bohdan Townhouse
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POSTERS
SCHOLARSHIP OF DESIGN RESEARCH

Exploring the Myths, Realities and Mysteries of Creative Workplaces: A View from the “Net” Generation

Susan Sung Eun Chung & Sheila Danko

Cornell University

ABSTRACT

The concept of creativity in the workplace is in constant flux as the nature of work changes and technology rapidly advances. Organizations are increasingly seeking a competitive advantage through hiring creative individuals, implementing creative processes in both management and problem-solving, and striving for creative performance or products as the outcome (Amabile & Khaire, 2008). Organizations have long acknowledged the fundamental role of the workplace for competitive business, but they are now increasingly paying close attention to the design of physical workspaces to promote creativity (Moultrie, Nilsson, Dissel, Haner, Janssen, & Van der Lugt, 2007). In practice, the term ‘creative’ is consistently—and assumingly—used to describe many newly designed spaces that focus on technology and innovation, which particularly cater to the Net Generation, and many will refer to Google or Pixar as leading examples for a ‘creative workplace.’ Although these workplaces provide atypical work environments that embody design thinking, are they based on misinformed perceptions and beliefs (myths) of what creativity is, or the reality of what a creative workplace entails?

Research highlights the significance of the role of the physical environment in supporting creativity through the 4Ps—Person, Process, Product and Place —a prominent systems approach for elucidating creativity (Davis, 2004). Studies on creativity are prevalent in understanding the first three elements of a creative system: creative person, process, or product; but in contrast, research focused on the creative environment is far less extensive in its breadth or depth. Although studies acknowledge ‘place’ to be an essential ingredient to creativity (e.g. Shalley, Zhou & Oldham, 2004), the empirical support is weak. Research is not only limited, but the few studies that have been conducted provide a weak explanation of the physical attributes being observed in the study and only consider a few particular

attributes rather than viewing from a holistic approach. A clear disconnect exists between what is being done in practice and what has been found in research.

To better understand the current gap between perception, practice and research informing creative workplace design, and to ensure that research informs practice and practice informs research, students from an undergraduate course focused on design thinking were surveyed. These students and their perceptions represent the next work generation and therefore, were asked to 1) identify descriptors of a hypothetical creative workplace (through an adjective checklist and a semantic differential scale), 2) rate images of actual workplaces that were recognized to be creative by multiple sources (through a Likert-type scale) and 3) indicate specific physical attributes within the workplace images that were thought to contribute to its creativity (through an attribute checklist and written description). An environmental analysis of each image, using items from McCoy and Evans' (2002) study, was conducted to depict the objective qualities of the workplace environment, and then compared with the survey results. This yielded differences between perceptions of the Net Generation and the direction of creative workplace research and practice. This study provides insight into future research areas and evidence-based design considerations for practice.

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A Pilot Study: Exploration of Living Room Décor from Young Women's Perspectives

S. Seda Dazkir and Marilyn A. Read

Oregon State University

ABSTRACT

This qualitative study focused on how women shape their living rooms. Studying home interiors provides rich information on a range of cultural, socio-demographic, and psychological dimensions regarding the inhabitants (Lawrence, 1987; Wilson & Mackenzie, 2000). The living room is perceived as a place of comfort for self-expression (Marcus, 1995) serving as a symbol of both how people see themselves and how they want others to see themselves (Rechavi, 2009; Smith, 1994).

Four married, female graduate students, in their late 20s, were interviewed in their living rooms. Semi-structured interview questions, observation, notes, sketches, still photographs, and video-footage were utilized as data collection methods. The respondents answered questions about their likes and dislikes, their childhood living rooms, their future living rooms, material, brand and sustainability concerns, and how they used their living rooms. The interviews were transcribed verbatim and were then coded to create a theme map (See Figure 1).

Each living room had different characteristics (See Figure 2). One of them was modern and fun. The owner of a more traditional space spoke of how the leather couch gave her a studious, cultured feeling. Another respondent described her living room as cluttered and quirky, but also at the same time comfortable. None of the respondents expressed a high level of emotional attachment to their living rooms. Budget limitations, not spending much time in the room, not owning the place, seeing it as a temporary environment, personality, and respondents' young age (fewer memories) could be some of the reasons for lack of emotional bond to the space. Some objects were markers of important events in their lives such as those representing their wedding, Christmas, travels, and childhood memories (See Appendices).

The researcher also utilized a technique introduced by Cooper-Marcus (1995) that involved the participants drawing a picture of the living room to reflect the feelings and thoughts about the place. One respondent (ID1) described the room as fun and she drew Snoopy, the cartoon character, when she was asked to express her feelings and thoughts about the room in a picture. However, the same respondent revealed very little emotional attachment to the room. It was later revealed that she had marital problems and eventually was separated. Another respondent (ID2) wrote down the words: coffee shop, retreat, library, and transition to family. The owner of the cluttered living room (ID3) doodled a sketch (See Figure 3).

The meanings attached to the gifts, souvenirs, and family heirlooms or how they obtained the object (i.e. whether having an expensive leather couch or obtaining an armchair from someone's dumpster) also influenced how they perceived the place. The way the respondents shaped the rooms revealed information about not only their aesthetic taste but also about their feelings, personality, marriage, shopping habits, and social relations. This study provided some insights on how the objects they had in the room helped them personalize the place and reflect their identity.

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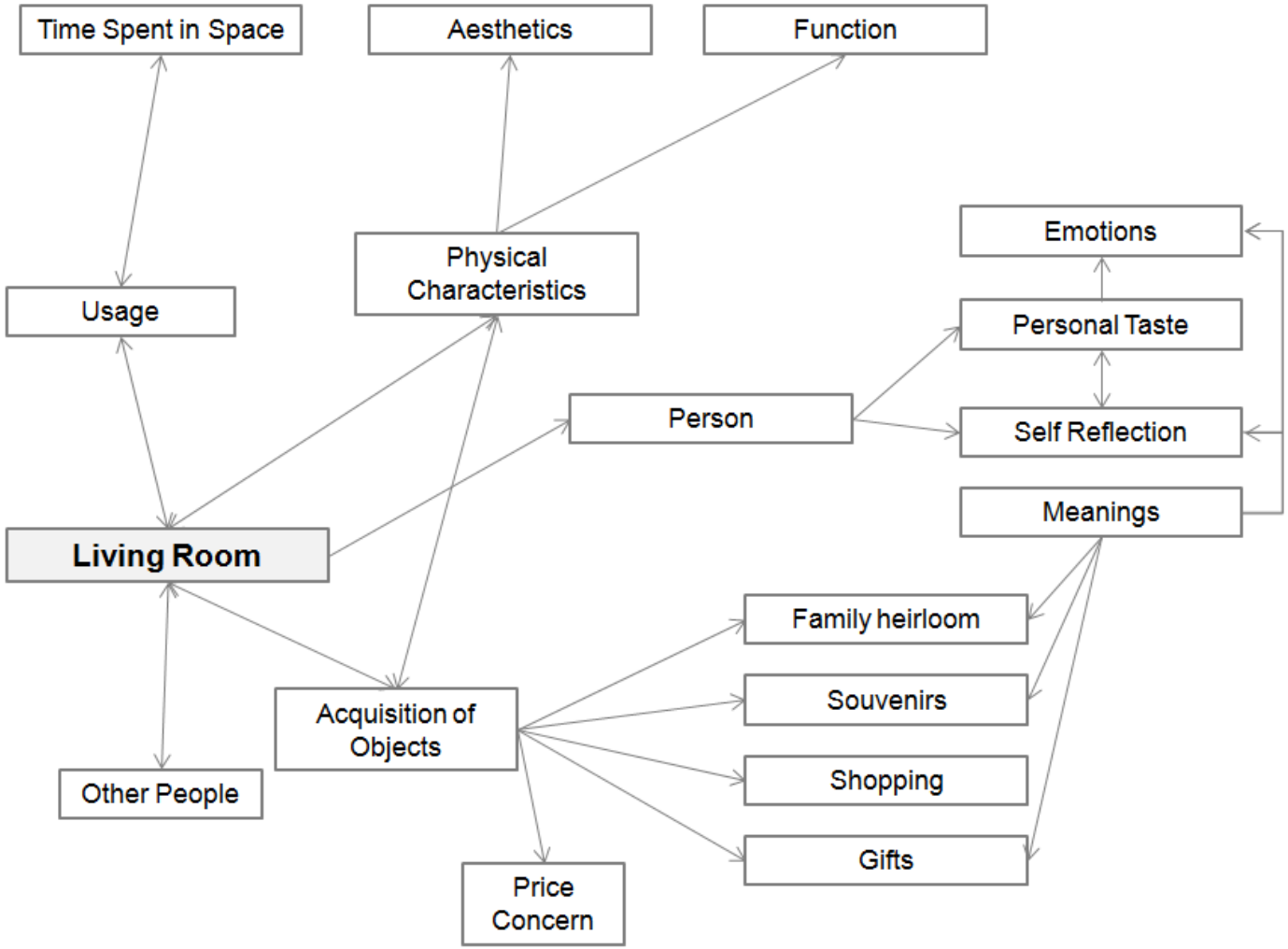
APPENDICES

Figure 1: Theme Map (theme_map_2.pdf)

Figure 2: Living Room Pictures (living_room_pictures_final2.pdf). Pictures are also available in jpeg format as: (DSC00389_3.jpg; DSC00393_2.jpg; IMG 0304_2.jpg; IMG 305_2.jpg; IMG 2258_2.jpg; IMG 2271_4.jpg; P1070282_2.jpg; P1070291_2.jpg)

Figure 3: Pictures Reflecting Feelings and Thoughts about the Living Room (drawings.pdf). Pictures are also available as jpeg: (drawing1.jpg; drawing2.jpg)

Interview quotations (interview quotations.doc)


Time Spent in Space
Aesthetics
Function
Emotions
Physical Characteristics
Usage
Personal Taste
Person
Self Reflection
Meanings
Living Room
Family heirloom
Souvenirs
Acquisition of Objects
Other People
Shopping
Gifts
Price Concern

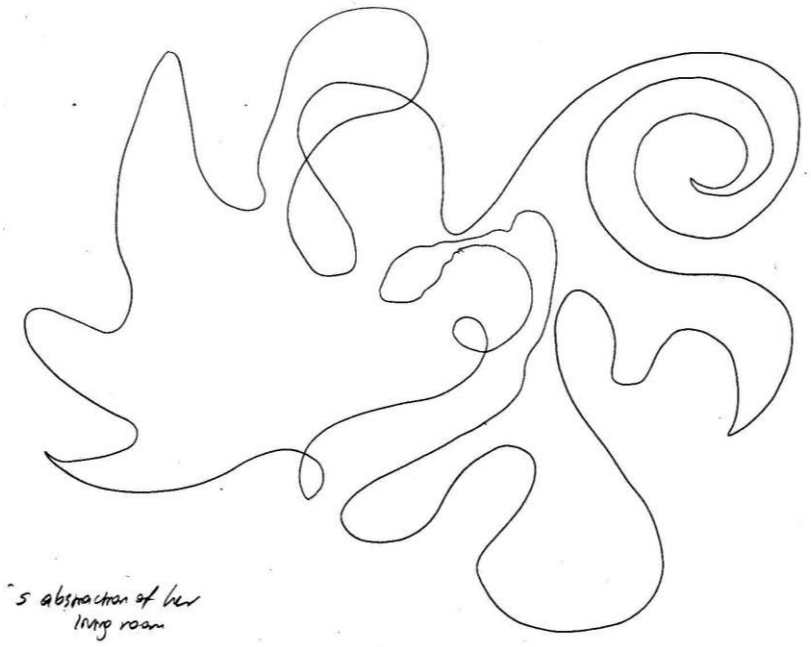
ID1

ID2

ID3

ID4

ID 1: The respondent explained that she wanted to create a fun environment. Snoopy and nature (flowers) were what she had in mind when she decorated the room.



ID 3: The respondent explained that this drawing reflected the messy and cluttered nature of her living room.

APPENDIX IV

INTERVIEW QUOTATIONS

ID1: I like the fun redness of the room. I like how the clock matches the bookshelf and the home theater [all red]. We decorated it red because I really liked Snoopy a lot growing up, and I always thought that having red furniture would be fun and warm.

ID1: Right now I'm young and so, I don't mind having a very fun and affordable type of environment but later on hopefully if I make more money, then I would like to decorate it more simple and elegant. I think elegant would be the key word here.

ID2: I fell in love with this couch…I always wanted a leather couch since forever … it seems so Friends like, and the coffee house and I loved it… [I like leather because] it's more masculine. I don't know, it just seems like smart people have leather couch.
Interviewer: So, do you see [leather couch] as a kind of status symbol?
ID2: Uhmm, not necessarily wealth but more studious - more educated and cultured.

Interviewer: Do you think it would make a difference if you owned this place?
ID3: I think so. The part of the reason I have too much stuff on the walls is the walls are white. I know nothing about interiors but I feel like white walls are so boring that calls for excitement. If we had a different colored wall, I would put one piece and highlight that piece. Right now it's very crowded I know that…I also feel that this place is temporary… I don't want this to be my house long term..it's just weird and quirky… If the carpet was nicer, I know I would like this place more – it's gross… It's kind of a messy and comfortable place.

Lighting and Seating Effects on Restaurant Revenue and Time Spent Dining

Kayla Enterline and Joan Dickinson

Radford University

ABSTRACT

"Restaurants employ 12.7 million Americans in 945,000 locations, and in 2010, sales were estimated to reach $580 billion" (National Restaurant Association, 2010, paragraph 2). While the food served is the main predictor of restaurant success, restaurant owners must have a planned environment that not only reflects the mission and values of the food served, but that will make them profitable. As a result, some studies have focused their attention on increasing restaurant revenue. According to Kimes and Robson (2004), "Restaurant revenue management examines the most effective ways of balancing restaurant demand and supply to maximize revenue without compromising customer satisfaction" (p. 333). The main goal of managing restaurant revenue is to handle the restaurant's capacity and customer demand in a way that maximizes profit for the restaurateur (Thompson & Sohn, 2008). While several studies have focused on the effects of design elements on the amount of time and money spent by restaurant patrons (Robson & Kimes, 2009; Shields, n.d.), few studies have investigated both seating type and exposure to natural light. Using a survey methodology, customer checks, and observations, the purpose of this study was to determine how seating type and natural light affected patron spending and time spent in restaurants.

Once manager permission was granted, customer checks, observations, and a questionnaire given to hostesses were collected from a locally-owned, one-of-a-kind, mid-priced restaurant. Results from the questionnaire indicated that most people prefer to sit near a window, while customers spend more time at booths. Customer checks revealed that patrons in booth seating spent an average of $56.67, while customers who sat at freestanding tables spent an average of $38.92. Whether the freestanding table or booth was located adjacent to a window did not seem to affect spending habits. In revenue management, three measurements are considered: duration, average check, and revenue per available seat (Thompson

& Sohn, 2008). In the first round of data collection, duration could not be collected from the hostess questionnaire or customer check. In order to close this gap, the investigators observed the amount of time patrons spent at booths near a window, booths away from a window, tables near a window, and tables away from a window. Results indicated that patrons spend the most time at booths away from windows (14 more minutes on average). Overall, the more natural light people were exposed to, the less time they spent dining.

Designers can take the information from this poster session (i.e., graphically presented through charts, floor plans, and results) by providing a wide variety of seating options in order to accommodate all preferences and to allow for maximum revenue through the fast table turns that free standing tables provide, and the customer satisfaction and increased spending that booths offer. Another implication is that day lighting can maximize restaurant revenue. Day lighting not only has the ability to increase table turns and spending, but also can reduce costs through decreased electricity use.

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Well-being, How the living environments of others may improve it.

Sabrina Frey

Florida State University

The topic of people's overall health and happiness has been gaining increased attention and press in recent years. The proof that 'happy people live longer' has been given by many studies that investigate the contributions of subjective well-being (SWB) to health and longevity. Some studies have explored areas that may contribute to SWB such as health care systems, eating habits, and physical attributes among other factors.

In the past the well-being of a country was measured merely by its Gross Domestic Product (GDP). Many scholars define good cultures as those in which health and happiness flourish, so many economists are now incorporating findings from psychology and the behavioral sciences into SWB research. Thus, well-being is now increasingly recognized as a legitimate and important topic to understand and promote and is also being considered as a measure of a countries well-being.

As one of a designer's primary responsibilities is to promote the welfare of its clients, it is reasonable to assume that it is also a designers' responsibility to investigate and add useful information to the body of knowledge about SWB and its potential connections to the built environment. As advocates for healthier environments it seems logical to research the living environments of societies who report an elevated state of SWB to evaluate how their values are expressed in their living environments. Further, could the manifestations of those expressions be a contributor to their elevated sense of well-being?

Global-scope surveys of SWB consistently identify residents of the Nordic countries as the happiest and healthiest in the world. These elusive societies are often noted as the most progressive in areas such as technology and education, however little is published about how they live. These posters will reveal findings from exploratory research into Nordic peoples' traditions and habits that are related to their welfare and elevated SWB. The research specifically evaluates how these traditions and habits are expressed in their living environments. In so doing, the study identifies residential elements that contribute

to the perceptions of elevated SWB. The literary findings coupled with the qualitative research findings should help add to the interior designer's body of knowledge regarding improved welfare, an important but also sometimes neglected element of the health-safety-welfare paradigm.

The posters will showcase living environment features and norms gathered from extensive interviews. The interviews with Nordic residents and the photographic documentation provided in answer to the research questions can be used by design educators to teach their students about global populations and the contributors to an elevated state of well-being. The posters will showcase examples and conclusions from the study and the author will also be able to discuss the findings to help educators expand their understanding of SWB and the living environment.

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Creating Sustainable Energy Practices Through Eco-Visualization

Clifford Gentry, Hannah Deering, and Paul Mangiamele

Iowa State University

ABSTRACT

Can real-time monitoring and feedback impact household energy conservation? Can such monitors be used to educate individuals on better sustainable practices? This system aims to empower user groups by utilizing *eco-visualization*, a concept that provides individuals real-time consumption statistics in a way that emotionally resonates and empowers the user. The developed system can encourage users to take on more sustainable practices (Holmes, 2007). A study conducted Seligman and Darley (1977) shows that daily feedback of electricity usage in residences reduced overall electrical consumption in tested homes. This system narrows the granularity of feedback from house-wide to individual outlets and devices in the home.

The system is comprised of three key components: (a) wireless-enabled electrical meters that plugs into any standard power outlet to measure the amount of energy consumed; (b) the meters send real-time statistics to a bridge device that aggregates readings from each meter within range and sends it to a cloud-based server; and (c) individuals can then see energy consumption from each monitor over time through a software application.

An interdisciplinary team of researchers is developing and testing the smart real-time electrical meters, in order to make them a more practical and user-friendly product for the residential household. In addition to displaying statistics of energy consumed through each monitor, the application will act as a training and educational tool for all members of the family to promote a multi-generational understanding of sustainable energy practices.

Additionally, this technology can be applied on a larger scale, comparing the energy consumption levels between neighborhoods and larger geographic scales. Households that use this system could also set up rewards for achieving their goal energy savings, either through applying monetary savings to a physical reward or through social rewards by publicizing their conservation amounts to their community.

By increasing the real-time visualization feedback of energy consumption, this system promotes a more sustainable lifestyle, educates users about better energy practices and enables individual control of one's health, safety, and welfare.

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Multifamily Housing Design Targets Baby Boomers

Hyunjoo Kwon, Kathleen Parrott and Julia O. Beamish

Virginia Tech

ABSTRACT

Multifamily housing residents own or rent units which are contained vertically and/or horizontally in one building, and share public areas, amenities and services (Bookout, 1998). Single-family, detached housing is still considered a contemporary housing norm in the U.S., yet multifamily housing is an attractive housing option for residents who are single, couples, and older adults (Bookout, 1998; Rossi, 1980). Contemporary multifamily housing is preferred by more people because of advantages such as advanced services and amenities, flexibility in choosing location as well as better housing quality with less upfront fees (Goodman & Scott, 1997; Joint Center for Housing Studies of Harvard University, 2003; National Association of Home Builders [NAHB], 2004, 2009). In addition, Fair Housing Accessibility Guidelines impose accessibility features on multifamily housing, not a requirement for single-family, detached housing, providing ease-of-use living environments especially for senior or physically disabled residents. Thus, multifamily housing can be considered a form of retirement housing for Boomers. Boomers, about 30% of the U.S. population, are an increasing part of the senior group age of 65 and older (U.S. Census Bureau, 2009), and show different housing preferences for later life compared to previous generations (Schriener & Kephart, 2010). A recent Del Webb (2010) survey shows 30% to 40% of Boomers planning to move when they become empty-nesters. They are seeking a right-size home with housing and community features associated with multifamily housing characteristics (Haughey, 2003; Lynn & Wang, 2008; Schriener & Kephart, 2010). For example, Boomers prefer indoor/outdoor maintenance services, “lock and leave” features, and community amenities such as gyms and pools. Boomers consider aesthetically pleasing residential design an essential part of choosing a house (NAHB, 2009). They look for luxurious features such as high ceilings, open floor plans with spacious comfortable bedrooms and bathrooms, a well-appointed kitchen, and multiple storage options (Goss, Beamish, & Sirota, 2009; Mitchell, Beamish, Goss, & Kwon, 2009; Schriener & Kephart, 2010).

The proposed poster will present a prototype multifamily housing design project for Boomers. The purpose was to study Boomers' multifamily housing preferences, and apply these preferences to the design of housing units in a multifamily housing building. Asheville, North Carolina was the chosen site an attractive retirement community for its climate and easy accessibility to local services. The design presentation will offer one, two and three bedroom housing units in a six story garden style multifamily housing building. There is parking on the first floor, three bedroom housing units on the second and third floors, two bedroom housing units on the fourth and fifth floors and one bedroom housing units on the sixth floor. This project was focused on two major design concepts, luxury and universal design. The pleasant design features such as open floor plan, generous bedrooms and bathrooms, ample storage, balconies and garage parking are expected to appeal to Boomers' lifestyle. The universal design features such as an elevator, wide door openings, and universal design kitchens and bathrooms would be ease-of-use factors for Boomers as they older.

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The New Transportable Home: Effective and Attractive Designs

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Kenneth Tremblay, Jr., Ph.D., Colorado State University

Katharine Leigh, Ph.D Colorado State University

Introduction

Societal and market factors could give way to a potential prefabricated housing boom. The American workforce has become more mobile, holding 11 jobs on average between ages 18 & 44 (U.S. Bureau of Labor Statistics, 2010). Meanwhile, the burden of traditional home ownership is increasingly demanding, and cash strapped potential home buyers could reap the benefit of economies of scale offered by mass production (Beamish, Goss, Atiles, & Kim, 2001). The potential for the boom, however, has several obstacles: many potential homebuyers do not want the perception of being “second class citizens,” designs are often lack luster and neglect thought to the context where they are placed, and the houses are typically not built to the same efficiencies as conventional single-family homes (U.S Department of Housing and Urban Development, 2011). This poster presents cost effective and attractive prefabricated house designs adapted to five U.S. geographical regions.

Design and Perception

There have been two dueling histories of the prefabricated house—one of vernacular mass market design and the other of theoretical design by industry thought leaders. Conceptual house designs never garnered high sales and failed to be profitable ventures while their vernacular counterparts began as poorly crafted and sometimes even unsafe dwellings. These houses were commonly marked by a low sloped roof, a relatively high elevation, and an absence of any meaningful entry designation (Dawkins & Koebel, 2010). Despite improvements to these design standards, a negative perception of prefabricated homes persists. Mass market appeal could alleviate unfavorable connotations and maintain homeownership as an attainable goal; however, the industry struggles with how to make homes more physically appealing while maintaining low costs (Beamish et al., 2001).

SODR Poster; 496 words

Building Standards

Another significant problem surrounding prefabricated houses is that they consume nearly double the energy per square foot than their conventional single-family counterparts (U.S. Department of Energy, 2011). These increased costs strap individuals who often can least afford high energy bills. Despite increasing energy costs and a significant drain on our nation's aging energy infrastructure, the U.S. Department of Housing and Urban Development code currently only specifies minimum prefabricated house insulation levels and vague requirements regarding lighting. Despite a resurgence of prefabricated house designs in the popular press, little research has been conducted on adapting regional ancestral vernacular design strategies and modern sustainability practices to prefabricated housing units.

Designs

This poster graphically represents a designed interior and exterior "kit of parts" which can be applied to a basic prefabricated house plan dependent on its location within the continental U.S. (i.e., Northeast, Southeast, Upper Midwest, Northwest, and Southwest-See Figure 1). The designs were developed based upon qualitative and quantitative data of climate research, building best practices, and visual analysis of vernacular precedents. The poster can be used to illustrate regional contextual design opportunities to interior design students studying passive and active sustainable design measures in the areas of building form, energy and water usage, and interior/exterior materials.

The goal is to increase student awareness for regional sustainable practices not only in prefabricated housing but in all built environments.

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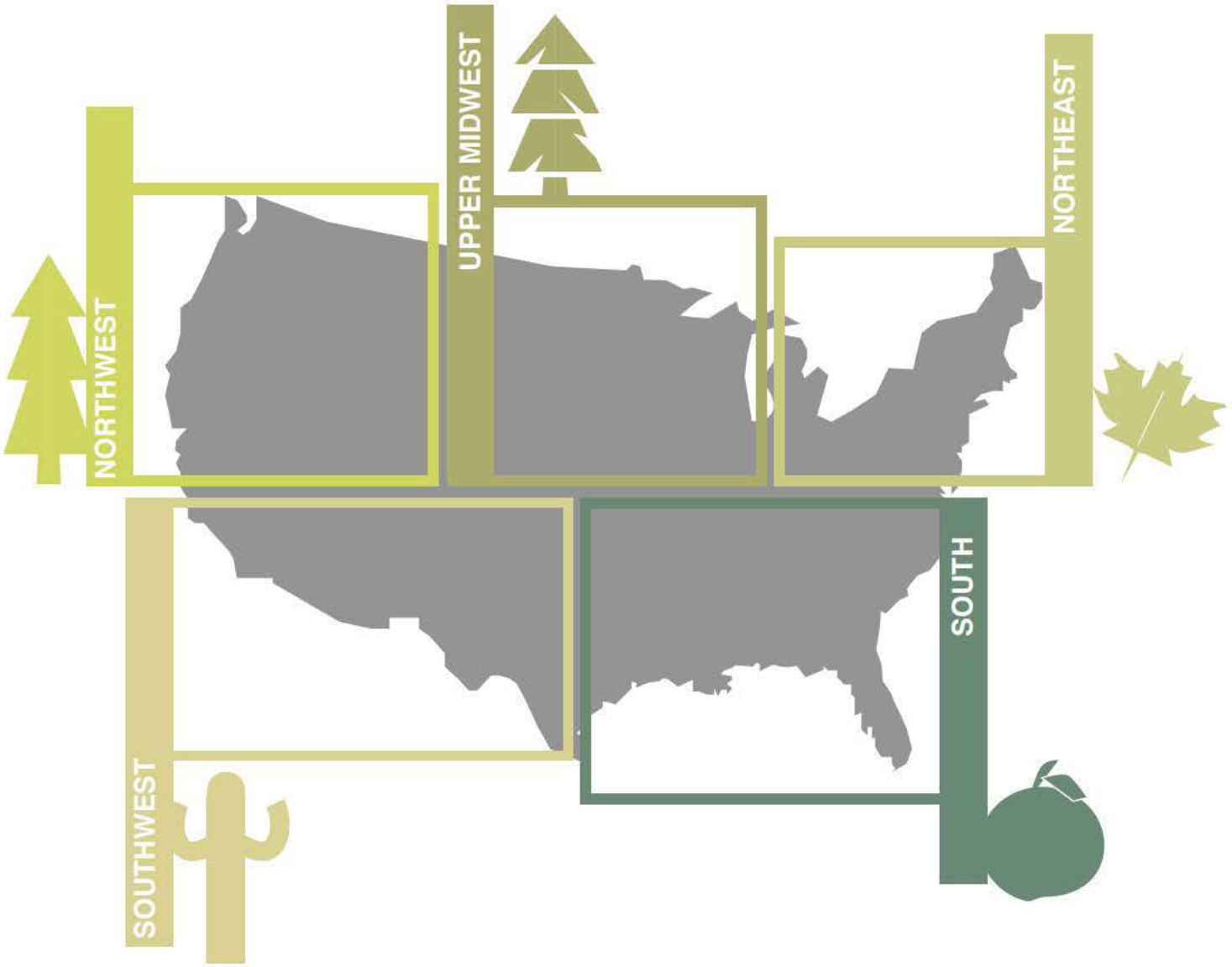
Appendix

Figure 1. Climate zones and considerations.


NORTHWEST
UPPER MIDWEST
NORTHEAST
SOUTHWEST
SOUTH

Earthquake Resistant Housing:

A Study of Bhunga Houses in the Kutch Region of India

Dhrumil Patel

University of North Alabama

ABSTRACT

A devastating earthquake, measuring 7.7 on the Richter scale, struck the state of Gujarat in India on January 26th, 2001, leaving more than 20,000 people dead and millions homeless. (Pinge, 2009). The worst hit was the desert-region of Kutch.

In interviewing a local craftsman Mr. Bhimji Mistry said after the 1819 earthquake in the Kutch region building craftsman developed the circular house-form called

Bhunga. In the 2001 Gujarat earthquake, bhunga houses stood firm while modern concrete and brick structures collapsed (personal communication, July 24, 2010).

This study focuses on design of the bhunga houses and their ability to withstand a catastrophic earthquake. The sites selected for this study are among the most highly devastated during the 2001 Gujarat earthquake. Content analysis of reports produced by Non-Government Organizations (NGO), urban planners, and architects who worked on rehabilitation projects after the Gujarat 2001 earthquake were used to conduct the study. Telephonic interviews were conducted with a civil engineer, and a local craftsman of Kutch region in India to discuss the construction technique and local materials.

Kutch is located in a Zone V seismic zone, which is very high risk for damage according to a report from SAARC Disaster Management Center (2006).

Earthquakes impart lateral forces on structures. The circular design ensures that one half part of a bhunga always acts as an arch against the forces applied from any direction that the earthquake waves hit the structure. Thus, the circular shape of a bhunga offer a maximum advantage against the lateral forces of an earthquake. Structures with corners are the weakest because corner does not offer protection against lateral forces of an earthquake. Since there are no corners in a bhunga, it makes the structure more stable in earthquake situation according to local civil engineer Mr. Satyaprakash Joshi,

(personal communication, July 10, 2010). The walls of a bhunga are very low. Conical shape of the roof of a bhunga comes quite low at the periphery while still forming high ceiling near the central usable space. This also helps the stability of the structure during an earthquake (United Nations Development Programme, 2001).

Traditional bhunga house has circular mud walls and a thatched roof. The typical diameter of these houses is approx 18-24 feet with a foundation depth of 24 inches. The roof is made of wooden top dome where bamboo sticks are tied together with a dried grass rope which weaved with thick layer of grass is then placed on the roof and securely tied down. The walls are made of bamboos sticks with a layer of grass tied to it. Mud and cow dung are used as wall plaster over the grass (Vastushilpa Foundation for Studies & Research in Environmental Design, 2001).

Catastrophic earthquakes often leave un-imaginable destructions to property and claim thousands of lives. Building materials and structural design plays vital roles in the stability of the structures during earthquakes. The circular form, monolithic construction, small openings, lightweight conical roof and low slenderness ratio of the walls renders bhungas earthquake resistant.

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Retail Space Design in a Cultural Center applying MR Theory as a Factor in

Design Thinking and Decision Making

Authors:

Tina Patel – South Dakota State University & Cigdem Akkurt- Iowa State University

Abstract:

Issue

The most common question that retailers, marketers, psychologists and store designers try to answer is: why people prefer some shopping environments to others? The academic and empirical research conducted in the marketing and consumer behavior areas show several factors that affect the store preference decision. To list a few: locations of the stores, store image, sales personnel attitude, merchandise quality, sales and promotions of the store. Joyce & Lambart (1996) in their research found that the environment setting is considered one of the prominent factors influencing people to enter, remain in, and utilize environment. Mehrabian and Russell's model commonly known as MR model or MR theory demonstrates a framework that explains and predicts emotional response of people in a given environmental setting (See Figure 1).

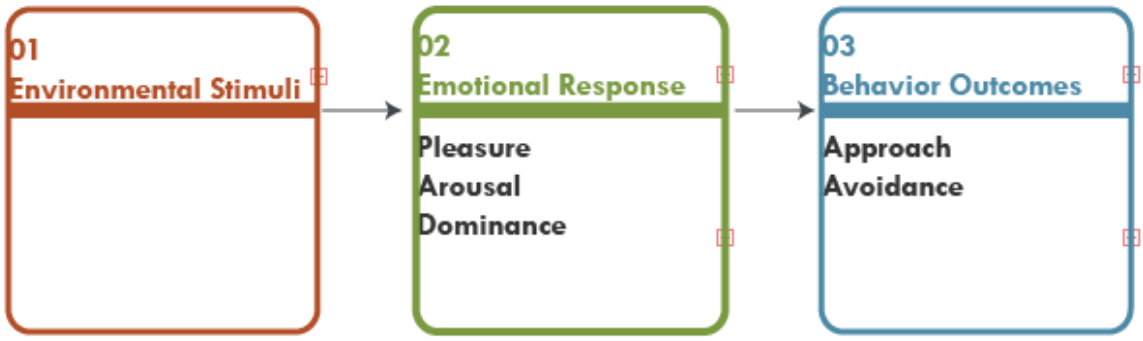

Figure1: MR Model or MR Theory

Baker & Grewal (1992) in their research categorized environmental stimuli in a retail setting as ambient, social and design factors. Several researches indicate that design factor is considered one of the

important environmental stimuli, which significantly impacts consumers' cognitive and emotional behavior. Thus, it becomes important for designers to be aware of design factors affecting consumer behavior. One might expect that there are several guidelines apart from effective use of space or changing trends in visual merchandising fixtures to help achieve this. However, there is a considerable lack of academic research in the fields of marketing as well as interior design on what design factors influence the consumers' behavioral response to retailing.

Process

The purpose of this poster is to propose a framework that can explain the relationship between design factors and the consumer's emotional responses. This, framework is developed from the Mehrabian and Russell theory and empirical findings based on it and the design (architecture and interior) theories by Kevin Lynch and Roberto Rengel. Grounded theory, one of the methods of qualitative research, is adapted to critically analyze the theories, research and empirical findings mentioned above. The findings are synthesized, and a new framework is proposed, which explains how interior design factors influence consumers emotional response and behavior outcomes, (See Appendix A).

The proposed framework is applied, in a case study, to analyze and design retail – mixed-use space of a cultural center, located in a small mid-western town. The images in Appendix B & C are visual references to the proposed framework. After the completion of design development phase, the space (computer simulation) was shown to the participants, members of the association involved in development of the cultural center. A self-administrated questionnaire along with an interactive session was conducted to understand the influence of improvements of design on patron's emotional state and behaviors.

Implications

The results indicate that the proposed design was successful in inducing positive emotional reaction and behavioral outcome among participants. This reflects a great potential for further research in both interior design and marketing fields especially with the rise of Internet shopping. The framework can be used as a guideline to analysis and design development process thus improving design thinking in interior design studio focusing on retail design.

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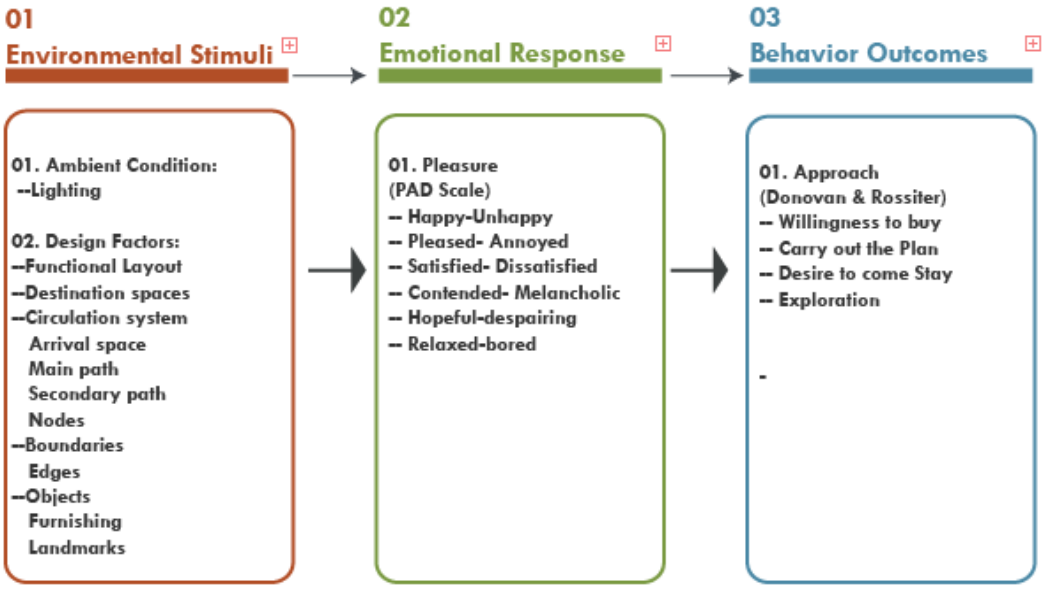
Appendices:

Appendix A: The New Frameworks *(IDEC Poster Abstract Appendix A.pdf)*

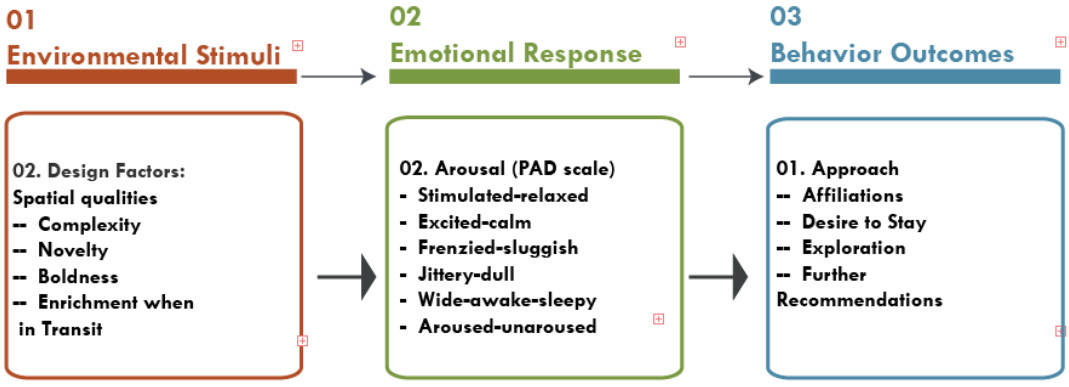
Appendix B: Design Analysis and Development for Pleasure *(IDEC Poster Abstract Appendix B.pdf)*

Appendix C: Design Analysis and Development for Arousal *(IDEC Poster Abstract Appendix C.pdf)*

APPENDIX A: THE NEW FRAMEWORKS

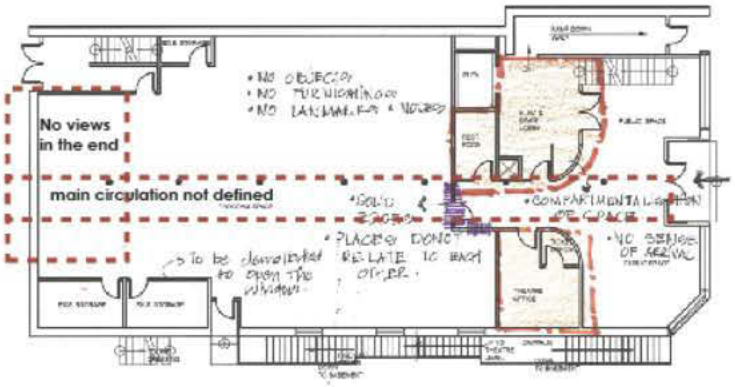


FRAMEWORK FOR PLEASURE



FRAMEWORK FOR AROUSAL

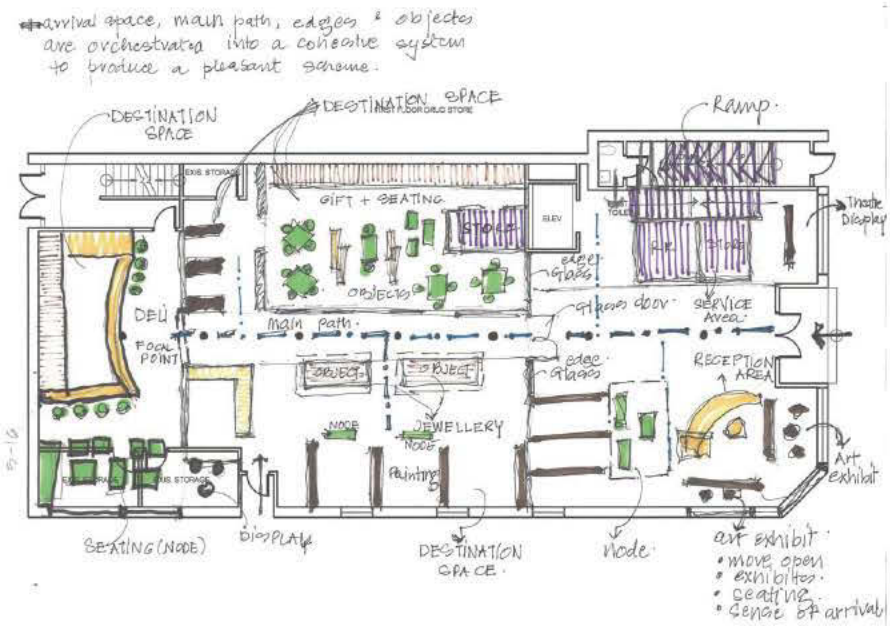
APPENDIX B: DESIGN ANALYSIS AND DEVELOPMENT FOR PLEASURE



-- Compartmentalization of the Arrival Space
-- Destination Spaces need to be defined
-- No Spatial Qualities developed right now

Existing Images

ANALYSIS OF THE FLOOR PLAN BASED ON THEORITICAL FRAMEWORK



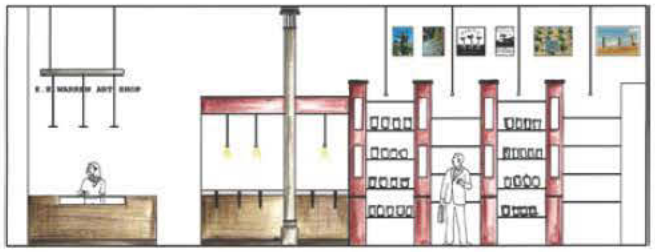
DESIGN DEVELOPMENT FOR PLEASURE

APPENDIX C: DESIGN ANALYSIS AND DEVELOPMENT FOR AROUSAL

Elevation of the Art Shop

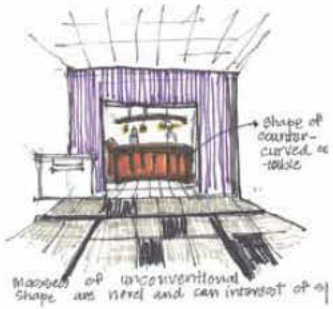
Reception Area

Retail Area



Elevation of the Retail

Elevation of Retail Area



View in the end of the cafe

DESIGN DEVELOPMENT FOR AROUSAL

Analysis of technologies for effective design communication

Lindsay Tan
Auburn University

One of the challenges of interior design education is keeping pace with the evolving needs of the profession, including the need for effective design communication skills. Design communication technologies have changed significantly over the last ten years (Clark & Clark, 2010) and the emerging technologies of today will be commonplace in higher education within the next five years (Johnson, *et* al, 2010; Johnson, *et al*, 2011). New design communication tools become available "almost daily" (Martin & Guerin, 2005, p. 94), but the question remains: *how effective are these tools in comparison with manual drawing tools*?

The works of Meneely & Danko (2007) and Meneely (2010) communicate relevant models for incorporating digital sketching into the interior design curriculum. However, their findings rely heavily on casual observations and user self-reporting. Other recent studies – Coyne, Park & Wiszniewski, 2002; Dickinson, Yu, Zeng & Antunes, 2005; Maldonado, Lee & Klemmer, 2006; Şenyapili & Basa, 2006; Stones & Cassidy, 2007; Dorta, Pérez & Lesage 2008 – do not specifically address the needs of interior designers. The works of Bilda and Demirkan (Bilda, 2001; Bilda & Demirkan, 2003), while valuable, do not include many of the technological advances of the last ten years. Still other works, like that of Brothers (2010) or Lawson (2002), base their work on personal experience and anecdote, without support from empirical data. Interior design education would clearly benefit from a current, empirical study of the effectiveness of design communication technologies specific to the needs of interior designers.

The goal of this study is to enable interior design programs to meet expectations for program accreditation[1] as well as the needs of the profession by advancing empirical research into the effectiveness of pen-based digital drawing tablets in regard to:

- Technical image quality – Line quality, variation, and sharpness
- Aesthetic quality – Interpretation of artistic refinement and creativity in expression

[1] Standard 6. Communication (Council for Interior Design Accreditation, 2011)

- User experience – Preference and usability

Study participants, interior design students and faculty members, will complete planned exercises using (1) manual paper and drawing pen, (2) digital-manual hybrid paper and drawing pen, (3) portable tablet computer with stylus, and (4) stationary drawing tablet with stylus. See Appendix, Figure 1 for key to digital drawing hardware.

Empirical measurements of technical image quality for each tool will be collected via analysis of drawing output. Quantitative and qualitative descriptions of user experience will be collected via use pattern monitoring and one-on-one interviews to cross-validate studies conducted in other professional fields (Coyne, Park & Wiszniewski, 2002; Dickinson, Yu, Zeng & Antunes, 2005; Maldonado, Lee & Klemmer, 2006; Şenyapili & Basa, 2006; Stones & Cassidy, 2007; Dorta, Pérez & Lesage 2008). A panel of interior design professionals will evaluate drawing quality.

As this investigation will be ongoing at the time of the conference, preliminary findings from this study will be shared along with lessons learned and challenges overcome. The poster presentation format has been selected to foster one-on-one discussion of the study's method and implications in preparation for further study.

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Appendix

Table 1. Key to digital drawing hardware. Filename: Tan_Appendix.pdf

Appendix

Technology	Description	Image of Hardware
Wacom Inkling	Stylus/pen and receiver (requires desktop or laptop computer)	
Apple iPad 2	64 GB tablet computer with smart cover	
Boxwave Capacitive Stylus	Stylus for use with iPad 2	
Wacom Cintiq 12 WX	Display with direct pen-to-screen input (requires desktop or laptop computer)	
Note: All images this page property of their respective manufacturers.		

Table 1. Key to digital drawing hardware.

POSTERS
SCHOLARSHIP OF TEACHING + LEARNING

Exploring Design Students' Inspiration Process

Sibel Seda Dazkir, Jennifer M. Mower, Kelly Reddy-Best, and Elaine L. Pedersen

Oregon State University

ABSTRACT

Design projects usually start with an inspiration. Inspiration is everywhere, but locating an inspiration to apply to a design product can be tricky for beginning design students. We examined students' inspiration processes to better understand their design process and to develop effective tools for teaching design methods.

As a part of an introductory design class, students are required to make a three dimensional product inspired by a specific culture. This class is offered three terms a year, and students learn about the elements and principles of design related to apparel, housing and interior design. A total of 219 students participated in the study. Data were collected over a two year period for a total of six quarters.[1] Students in three of the six terms were assigned a specific culture for inspiration. They watched a presentation on the assigned culture's material environment and were given a list of sources. In the other three quarters students were free to select a culture of their choice as inspiration for their project. After completion of their project, the students voluntarily completed a questionnaire about their design process. We asked them to describe their inspiration process. They were also asked about the difficulty finding inspiration using a five point scale (1 = *very easy*, 5 = *very difficult*). Descriptive statistics and qualitative data analysis methods were used. The responses were transcribed and coded.

The majority (68.5%, *n* = 150) of the students thought finding an inspiration was not difficult. One student explained that she can find inspiration easily; the problem was deciding if she wants to stick with it or not. About 20 percent (*n* = 46) of the students expressed some difficulties. Among the reasons students gave for why finding inspiration was difficult were: difficulty deciding what to make, difficulty narrowing down many inspirations, and difficulty transferring the abstract idea to something tangible or

[1] The data used for this presentation is a part of a larger scale study in-progress.

applying their inspiration on a product. Twenty five percent (n = 55) of the students said they found their inspiration quickly. Some of the inspiration sources that students identified were color, shape and form, motifs and patterns, nature, architecture, dress, and textiles. While most students indicated that locating an inspiration was not difficult, some students were more concerned about choosing something interesting or original compared to others who were more interested in completing the project quickly. Whether the students chose their own cultural inspiration or were assigned a specific culture by the instructor also influenced the inspiration process.

This study can help future students learn from others' experiences. Our findings highlight the areas that need to be addressed to improve students' success at the design process. For example, students can practice abstraction (how to apply a tangible inspiration source on a product by altering it). Though some patterns were found among the reasons related to the difficulty in finding inspiration, further research is required.

APPENDIX A: ASSIGNMENT HANDOUT I

(Students were free to select their own cultural inspiration)

DHE 245 -Design Project : Winter 2010
Due: Week 8, Monday, May 18.
Points available: 75
65 points for designed object, due May 11, week 8 *(to be turned in to the instructor in class)*
10 points for paper, due May 11 *(to be turned in to the instructor in class)*
Presentations will be in Week 8 & 9 (*Presenting your project in class is a required part of the project*)

- ⊡ You will turn in a designed three dimensional object and a paper explaining your project in week 8.
- ⊡ You will present your finished project in class in week 8 or week 9.
- ⊡ Your piece should show an understanding of the design elements and principles (i.e. how did you use color, line, shape, form and etc., to create balance, rhythm, or unity?).
- ⊡ Your piece should demonstrate inspiration from the culture's design environment.

One aspect of the design process is inspiration. Inspiration is something the designer finds that is influential in motivating or stimulating their design ideas. It may be something tangible such as a color, a photograph, a designed object from another culture, and so forth. It can also be something intangible. When a tangible object or intangible idea inspires a designer the designer moves from the inspiration to thinking about the form and other design aspects that the inspired piece will have. The designer begins to define the new piece and think about its purpose or function, and any limitations or requirements that may influence the design such as *who is the client?* and *what are their needs and desires?* Inspiration is an important aspect to design, and successful designers constantly look for new sources of inspiration.

Objectives

- ⊡ To create a 3-D actual product that represents the elements and principles of design using your cultural inspiration.
- ⊡ To record the design process in written form, describing the steps from inspiration to creation of a designed entity.
- ⊡ Effectively communicate your project through in-class presentations

Instructions and Project Requirements:

a) Select a culture theme for your design project such as Mexican, Japanese, Indian, French, Arabic, and etc. Select only one culture. You may choose any culture you want. Do research on the motifs, ornamentation, textiles, interiors, and built structures from this culture.

b) Using the inspiration/s you located from your own research determine what form your project is going to take. (NOTE: You have total creative freedom regarding the form your project takes. If you need ideas see the projects from previous terms (will be presented in class), consult the instructor, or talk to friends and classmates.)

c) For your project you must emphasize elements and principles of design. These are the elements and principles you will discuss in your paper. (See below for details about the paper.)

d) In your paper and during your class presentation you should discuss:
   i. A minimum of 3 design principles
   ii. Color use: you can discuss color interaction or use of color harmonies
   iii. A motif or ornamentation

e) It is not a requirement of this project to use supplies others than those purchased for your 245 lab, but depending on your decision in step 1, further materials may be necessary. (NOTE: Consider supplies you have on hand, or visit Good Will.)

f) Quality of presentation is important. Your goal, along with representing the culture's inspiration and elements and principles of design, is to turn in a professional-quality product; something you would like to photograph and put into your professional portfolio.

Instructions and Requirements for Paper:

a) No more than 2 pages, double-spaced with 1" margins.
b) Single-spaced in the upper right corner, type your name, the project name and date.
c) The first two paragraphs should express a detailed explanation of your inspiration for the project. What images, garments, etc. inspired you? How did you envision using that inspiration in your project? Where is that inspiration evident?
d) Your paper should explain Aspelund's seven steps of the design process you used as you worked on your project. This should also tie into explaining the inspiration.
e) Your paper should also explain the three elements of design and three principles of design that you have chosen to emphasize in your piece. How did you utilize the elements of design to create unity, movement, or balance?
f) Use an academic language.

Grading Criteria:

- *Use of culture inspiration*
  - Are motifs/ornamentation/colors/patterns, etc. used that clearly illustrate the inspiration? Is the connection between the finished project and the inspiration evident?
- *Elements and Principles*
  - Are design elements and principles used appropriately in the project?
- *Creativity/Quality of workmanship*
  - Is this a creative solution to the project parameters?
  - High-quality work? Is the project and the presentation neat, clean and professional looking?
- *Written paper*
  - Discussion of design process, elements and principles of design: Are they correctly identified and described? Are there minimal grammatical and spelling errors?

Final Presentation

Week 8 & Week 9

- You will present your actual project in class starting in week 8.
- Each presentation will be limited to three-four minutes. Be prepared to talk about all the presentation requirements listed below in a short period of time.

Presentation requirements

⊡ You should explain your project; what is it, how can it be used, who is going to use it, what is it that makes it a successful design? etc.
⊡ Explain your inspirations; how and where did you use them on your project? Show your culture inspiration pictures.
⊡ Explain your design process; what is your concept? How did you develop your design? How did you produce it?
⊡ Explain elements and principles of design on your project; how and why did you utilize those elements and principles on your design?

APPENDIX B: ASSIGNMENT HANDOUT II

(Students were assigned with a specific culture by the instructor)

DHE 245: Design Project Spring 2011

- Final Project due Monday, May 16, in Week 8 (65 points)
- Project Paper due Monday, May 16 (10 points)
- Presentations: Week 8 & Week 9 (Presenting your project in class is a required part of the project)

⊡ You will turn in a designed three dimensional object and a paper explaining your project in week 8.
⊡ You will present your finished project in class in week 8 or week 9.
⊡ Your piece should show an understanding of the design elements and principles (i.e. how did you use color, line, shape, form and etc., to create balance, rhythm, or unity?).
⊡ Your piece should demonstrate inspiration from the traditional Chinese culture's design environment.[2]

One aspect of the design process is inspiration. Inspiration is something the designer finds that is influential in motivating or stimulating their design ideas. It may be something tangible such as a color, a photograph, a designed object from another culture, and so forth. It can also be something intangible. When a tangible object or intangible idea inspires a designer the designer moves from the inspiration to thinking about the form and other design aspects that the inspired piece will have. The designer begins to define the new piece and think about its purpose or function, and any limitations or requirements that may influence the design such as *who is the client?* and *what are their needs and desires?* Inspiration is an important aspect to design, and successful designers constantly look for new sources of inspiration.

Objectives

⊡ To create a 3-D actual product that represents the elements and principles of design using Chinese cultural inspiration.
⊡ To record the design process in written form, describing the steps from inspiration to creation of a designed entity.
⊡ Effectively communicate your project through in-class presentations

Inspiration

During the second week, we will have a guest lecturer to present Chinese design environment. You are also encouraged to seek out your own design inspiration by looking through books in the library, pictures on the Internet, or through other sources. Make sure your sources are reliable.

Instructions and Project Requirements:

g) Using the inspiration/s you located (from the lectures, in class presentations, books, your own research, and etc.) determine what form your project is going to take. (NOTE: You have total creative freedom regarding the form your project takes. If you need ideas see the projects from previous terms (will be presented in class), consult the instructor, or talk to friends and classmates.)

h) For your project you must emphasize elements and principles of design. These are the elements and principles you will discuss in your paper. (See below for details about the paper.)

i) In your paper and during your class presentation you should discuss:

iv. A minimum of 3 design principles
v. Color use: you can discuss color interaction or use of color harmonies
vi. A motif or ornamentation

j) It is not a requirement of this project to use supplies others than those purchased for your 245 lab, but depending on your decision in step 1, further materials may be necessary. (NOTE: Consider supplies you have on hand, or visit Good Will.)

[2] The students were assigned Indian culture in fall term, Moroccan culture in winter term, and Chinese culture in spring term.

k) Quality of presentation is important. Your goal, along with representing the culture's inspiration and elements and principles of design, is to turn in a professional-quality product; something you would like to photograph and put into your professional portfolio.

Instructions and Requirements for Paper:

g) No more than 2 pages, double-spaced with 1" margins.
h) Single-spaced in the upper right corner, type your name, the project name and date.
i) The first two paragraphs should express a detailed explanation of your inspiration for the project. What images, garments, etc. inspired you? How did you envision using that inspiration in your project? Where is that inspiration evident?
j) Your paper should explain Aspelund's seven steps of the design process you used as you worked on your project. This should also tie into explaining the inspiration.
k) Your paper should also explain the three elements of design and three principles of design that you have chosen to emphasize in your piece. How did you utilize the elements of design to create unity, movement, or balance?
l) Use an academic language.

Grading Criteria:

- *Use of culture inspiration*
  - Are motifs/ornamentation/colors/patterns, etc. used that clearly illustrate the inspiration? Is the connection between the finished project and the inspiration evident?
- *Elements and Principles*
  - Are design elements and principles used appropriately in the project?
- *Creativity/Quality of workmanship*
  - Is this a creative solution to the project parameters?
  - High-quality work? Is the project and the presentation neat, clean and professional looking?
- *Written paper*
  - Discussion of design process, elements and principles of design: Are they correctly identified and described? Are there minimal grammatical and spelling errors?

Final Presentation

Week 8, Wednesday, Friday; Week 9, Monday

- You will present your actual project in class starting in week 8.
- The presentations will last three class sessions. Due to time limitations, no power point presentation is allowed.
- Each day 10-11 students will briefly present their projects.
- Each presentation will be limited to three-four minutes. Be prepared to talk about all the presentation requirements listed below in such a short period of time.

Presentation requirements

⊡ You should explain your project; what is it, how can it be used, who is going to use it, what is it that makes it a successful design? etc.
⊡ Explain your inspirations; how and where did you use them on your project? Show your culture inspiration pictures.
⊡ Explain your design process; what is your concept? How did you develop your design? How did you produce it?
⊡ Explain elements and principles of design on your project; how and why did you utilize those elements and principles on your design?

Library Books

- A historic Chinese textile as a source of inspiration for color schemes, line, and design motifs in women's costumes / by Gertrude Vilate Browne., Call No.: LD4330 1958 13

- Chinese folk design, a collection of cut-paper designs used for embroidery, together with 160 Chinese art symbols and their meanings., Call No.: NK1483 .H3
- Epochs of Chinese & Japanese art, an outline history of East Asiatic design., Call No.: N7337 .F4 1913a

ADA 2010

Seunghae Lee

Oregon State University

The revised regulations for Titles II and III of the Americans with Disabilities Act of 1990 (ADA) were published in the Federal Register on September 15, 2010 (U.S. Dept. of Justice, 2010). Although new construction and alterations can comply with either the 1991 or 2010 standards currently, starting on March 15, 2012, new construction and alterations must comply with the 2010 standards. Thus, it is critical for interior design educators to be aware of changes and capable of preparing students to be competent interior designers in the near future. Professional organizations such as the American Society of Interior Designers (ASID, 2006) guide their members to comply with the building codes in their membership standards, since compliance with codes directly affects the public's health and safety.

This poster presentation will discuss changes in the ADA 2010 standards compared with the ADA 1990 standards. In addition, this presentation will introduce a code analysis project that evaluates compliances of the ADA 2010 standards along with the International Building Code (IBC) 2009. The U.S. Dept. of Justice listed major changes in ADA2010 which may be helpful for designers. This presentation will focus more on changes related to interior designers. For example, the toilet clearance regulations have been reinforced to allow more clearances around plumbing fixtures (U.S. Dept. of Justice, 2010). Door maneuvering clearances are demonstrated more clearly with the table, depending on the direction of approach and the side of the door. Students are required to refer to the IBC 2009 website (International Code Council, 2009), the ADA 2010 website (U.S. Dept. of Justice, 2010), and the textbook (Harmon & Kennon, 2011) to evaluate compliances of the project. Both the IBC 2009 and ADA 2010 websites are freely accessible to the public. Students use the criteria, which include various code issues such as use or occupancy classifications, types of construction & building sizes, means of egress, fire resistant materials and assemblies, fire protection systems, plumbing & mechanical requirements, lighting, electrical &

communications requirements, finish & furniture selection, and accessibility (see Appendix 1 below). Students demonstrate their evaluation results in the forms of a notebook and presentation boards (see Appendices 2 and 3). Student understanding of the subject matter is evaluated with five quizzes on a blackboard and a code exam. Students' code analysis projects demonstrate their understanding of the building code and ADA 2010, encouraging them to analyze a plan based on various codes. Although the code analysis project requires students to analyze a building plan more comprehensively using building codes, the accessibility code, and the textbook, this presentation will focus on ADA 2010 instructions. The instructor evaluates students' abilities to understand and apply various code issues to an interior design project and to demonstrate their analyses in both visual and written formats.

References

APA Style, 6th ed.

American Society of Interior Designers. (2006). ASID code of Ethics and Professional Conduct. Retrieved September15, 2011 from http://www.asid.org/about/ethics/

Harmon, S. & Kennon, K. (2011). The Codes Guidebook for Interiors, 5th ed. John Wiley & Sons Inc.

International Code Council (ICC). (2009). International Building Code 2009. Retrieved September 7, 2011 from http://publicecodes.citation.com/icod/ibc/2009/index.htm?bu=IC-P-2009-000001&bu2=IC-P-2009-000019

U.S. Dept of Justice. (2010). 2010 ADA Standards for Accessible Design. www.ada.gov/2010ADAstandards_index.htm

Appendix 1. Student handout

A&D 430 – Interior Design V: Code Project
FALL, 2011

CODE ANALYSIS/EVALUATION PROJECT (250 Points)

DUE DATE: Monday, September 26, 2011

Project Requirements:
Code Analysis Booklet and Presentation Boards Submissions

Using references including "The code guidebook for interiors," "ADA 2010," and "International Building Code 2009", we will discuss each of the areas below in class.

A. Use or Occupancy Classifications
B. Types of Construction & Building Sizes
C. Means of Egress
D. Fire Resistant Materials and Assemblies
E. Fire Protection Systems
F. Plumbing & Mechanical Requirements
G. Lighting, Electrical & Communications Requirements
H. Finish & Furniture Selection
I. Accessibility

Lecture Schedule: It is required to read the chapters as scheduled –see the course schedule. (Five quizzes should be taken –see the dates in the schedule also.)

PowerPoint Presentation files for the lectures are available on blackboard.

To better understand the purpose of these sections of the International Building Code and know how to apply them, use the plan handed out in class and do a "code check" on it. Address the nine areas above in both written and graphic form to visually point out both "**non-compliance**" and "**compliance**" areas of the code and compile suggestions. The floor plan is available in V: Drive, AD430 folder.

Your presentation should reflect your "Senior" status and your own "professional" standards for presenting to a client. Presentations **MUST** be in color.

Grading Criteria

Creativity in information organization (booklet and boards) 100 Points
- Understandability, Reader-friendly design

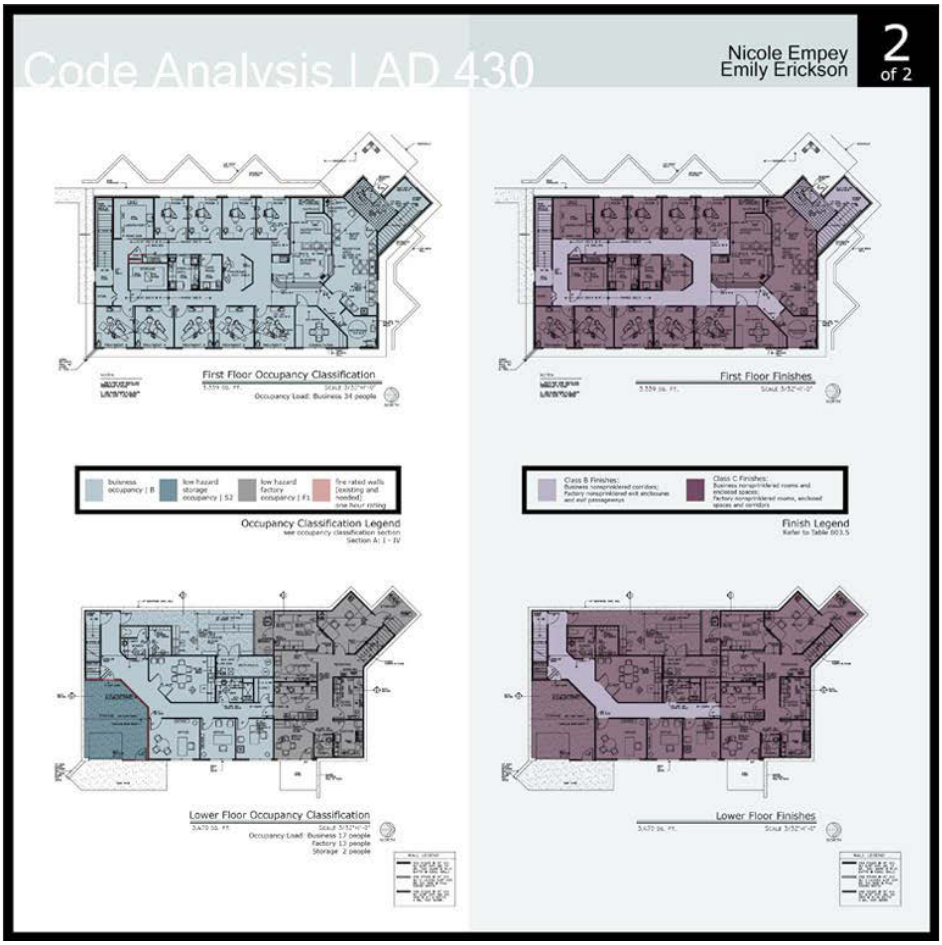
Visual Presentation Quality (boards) 50 Points
- Quality in design, visibility, creative design

Accuracy of content
- Compliance with codes, accurate application of codes 100 Points

Appendix 2. Code analysis notebook example

Item	Section	Compliance	Requirements/ Remarks	Solutions
IBC 2006				
Ch. 5. General Building Height				
General Height & Area Limitations	503	Compliant	503.1 General. The height and area for buildings of different construction types shall be governed by the intended use of the building and shall not exceed the limits in Table 503 except as modified hereafter. Each part of a building included within the exterior walls or the exterior walls and fire walls where provided shall be permitted to be a separate building. For buildings that are classified at Group E, Type II, 'A' the max. height is three stories., with a max. area of 26,500 square feet per floor.	Refer to plan on boards #1
				The area was 12,000 sqft and the # of story was 1: the building is complied.

Appendix 3. Code analysis board example



Opportunity for Academic Service Learning: An Interior Design Project

Rosa Otero, PhD, Salem College
Gisele Taylor Wells, MS, LEED AP, Forsyth Tech Community College

In the new millennium, academic service learning is a pedagogy that many colleges seek to incorporate into their programs. For that reason, a significant number of educational institutions claim that their curricula include opportunities of this nature. However, are they instead facilitating opportunities for experiential education without fully incorporating the criteria needed to ensure successful service learning?

Howard (2001) established that “three criteria serve as the litmus test for whether a course may be considered service-learning: 1) relevant and meaningful service with the community, 2) enhanced academic learning; and, 3) purposeful civic learning” (p. 12). Additionally, service learning experience could be discipline-based. Wolf (1996) emphasized the importance of these experiences and considered their inclusion a major factor in the success of any interior design program.

Academic service learning develops from the pedagogy of experiential learning. Sterling’s (2007) case study was an excellent example of a traditional interior design, service learning project. Nevertheless, when seen through Howard’s model, it did not fulfill the criteria for a true service learning project. Although it provided a relevant service to the community and enhanced academic experience, it placed little attention on purposeful civic learning. Was this apparent lack of consideration the result of a difficulty in assessing this type of skill?

Our research was the result of an ongoing interinstitutional effort between two faculty members from two different degree programs.

A fundraiser for Habitat for Humanity provided us with the opportunity to address some of these questions. The challenge was to design a room with used and donated items, which were transformed to increase their value and raise funds for building homes (Figure 1). The nature of this event made Habitat an ideal community partner, consistent with Howard’s first criterion. The project allowed students to build upon existing knowledge while providing them with an opportunity to gain experience in team dynamics and time management; thus, it met Howard’s second criterion. Howard’s third criterion seemed to be more difficult to assess. This study made us aware of our lack of specific objectives, other than exposure to volunteer experience, for demonstrating this fundamental aspect of service learning.

Jacoby (2009) established that civic learning occurs when individuals act upon a heightened sense of responsibility to their community through civic engagement. For this reason, this year, we established additional learning objectives to intentionally develop students' citizenship values (Figures 2 and 3). The changes to our project requirements, including ongoing journaling and directed readings, indicate our commitment to assessing this goal (Figure 4). Our poster will provide us with an opportunity to share our developing research and illustrate how our revised model can provide students with a genuine academic service learning experience. We anticipate that students' outcomes will reveal this change through reflective activities, which will transform this experience into knowledge (Kolb, 1984).

The graphic presentation will consist of four 20 x 30 $in.^2$ poster boards supplemented by a computer monitor showing images of the process and media coverage.

References (APA)

Howard, J. P. F. (2001). *Service-learning course design workbook.* Ann Arbor, MI: Edward Ginsberg Center for Community Service and Learning at the University of Michigan.

Jacoby, B. (2009). Civic engagement in today's higher education: An overview. In B. Jacoby & Associates, *Civic Engagement in Higher Education: Concepts and Practices* (pp. 5-30). San Francisco, CA: Jossey-Bass.

Kolb. D. A. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Sterling, M. (2007). Service-learning and interior design: A case study. *Journal of Experiential Education,* 29(3), 331-343.

Wolf, R. L. (1996). Service learning. *Journal of Interior Design,* 22(2), iv.

Appendix

Figure 1. A collage of completed competition rooms from both schools. File name: IDEC12_Figure1.pdf

Figure 2. 2007-2010 Iteration of Project, as interpreted through Howard's Diagram for Academic Service Learning. File name: IDEC12_Figure2.pdf

Figure 3. 2011 Iteration of Project, as interpreted through Howard's Diagram for Academic Service Learning. File name: IDEC12_Figure3.pdf

Figure 4. Comparison of Past and Future Project Requirements. File Name: IDEC12_Figure4.pdf

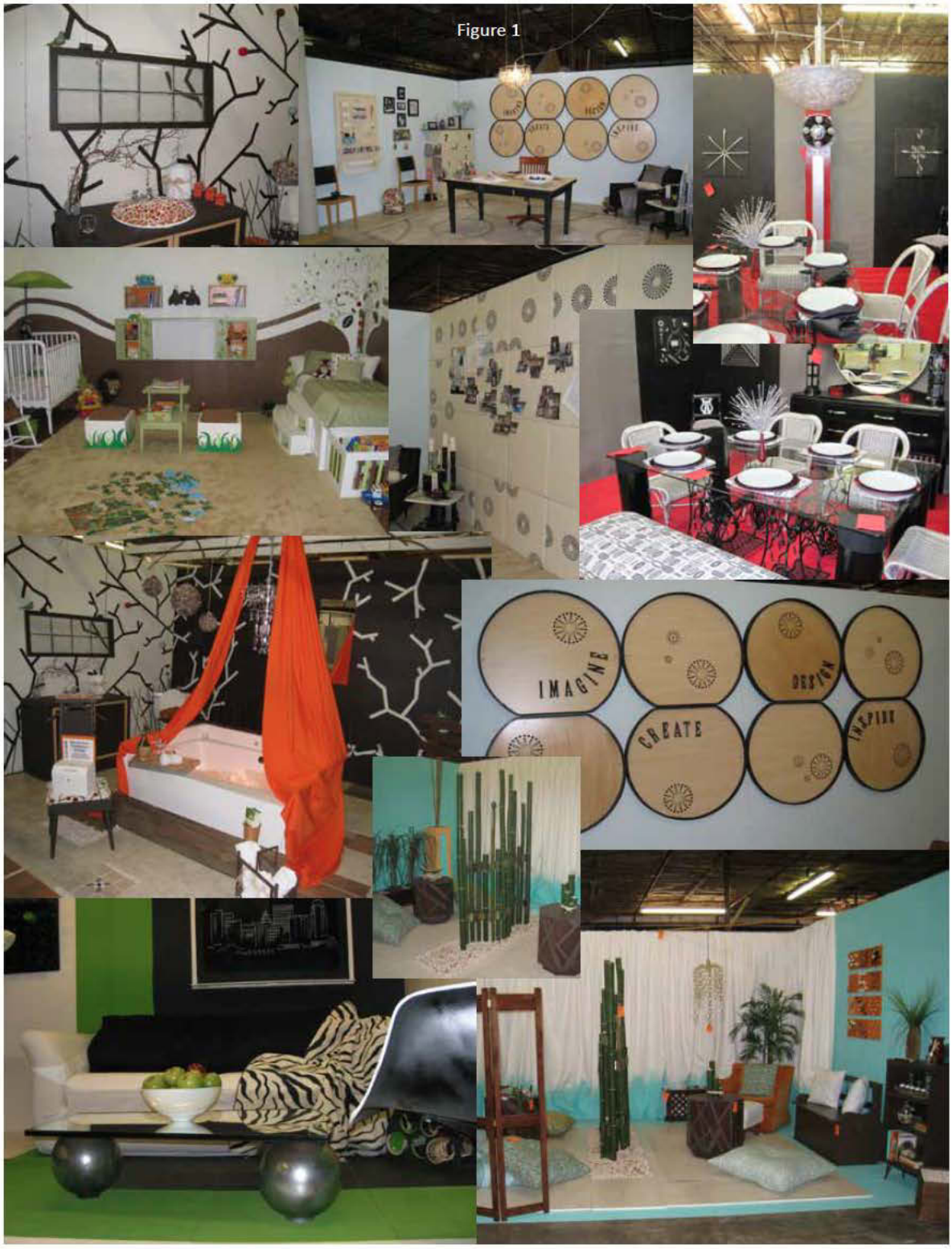
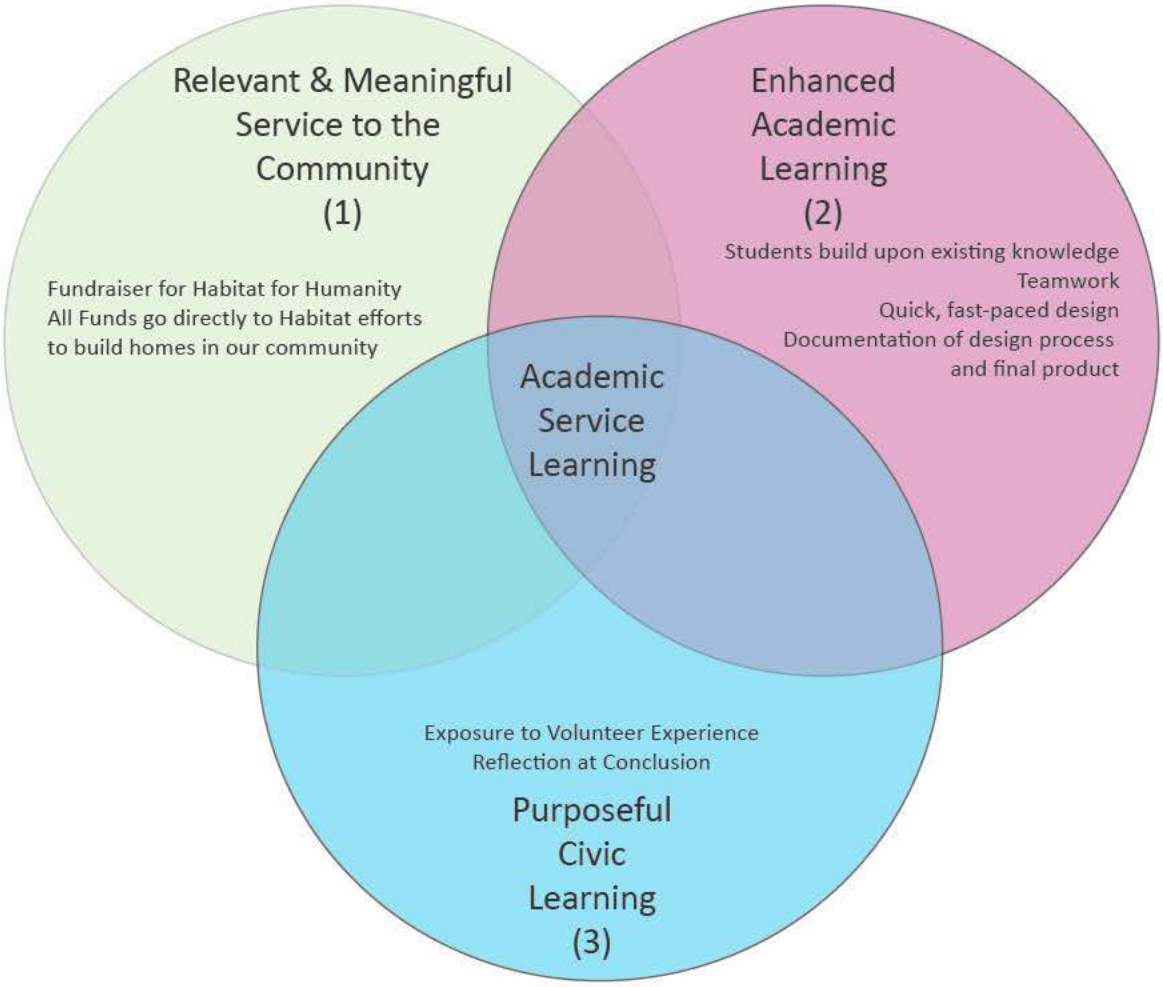


Figure 1
IMAGINE
CREATE

2007-2010 Iteration of the Project

Figure 2

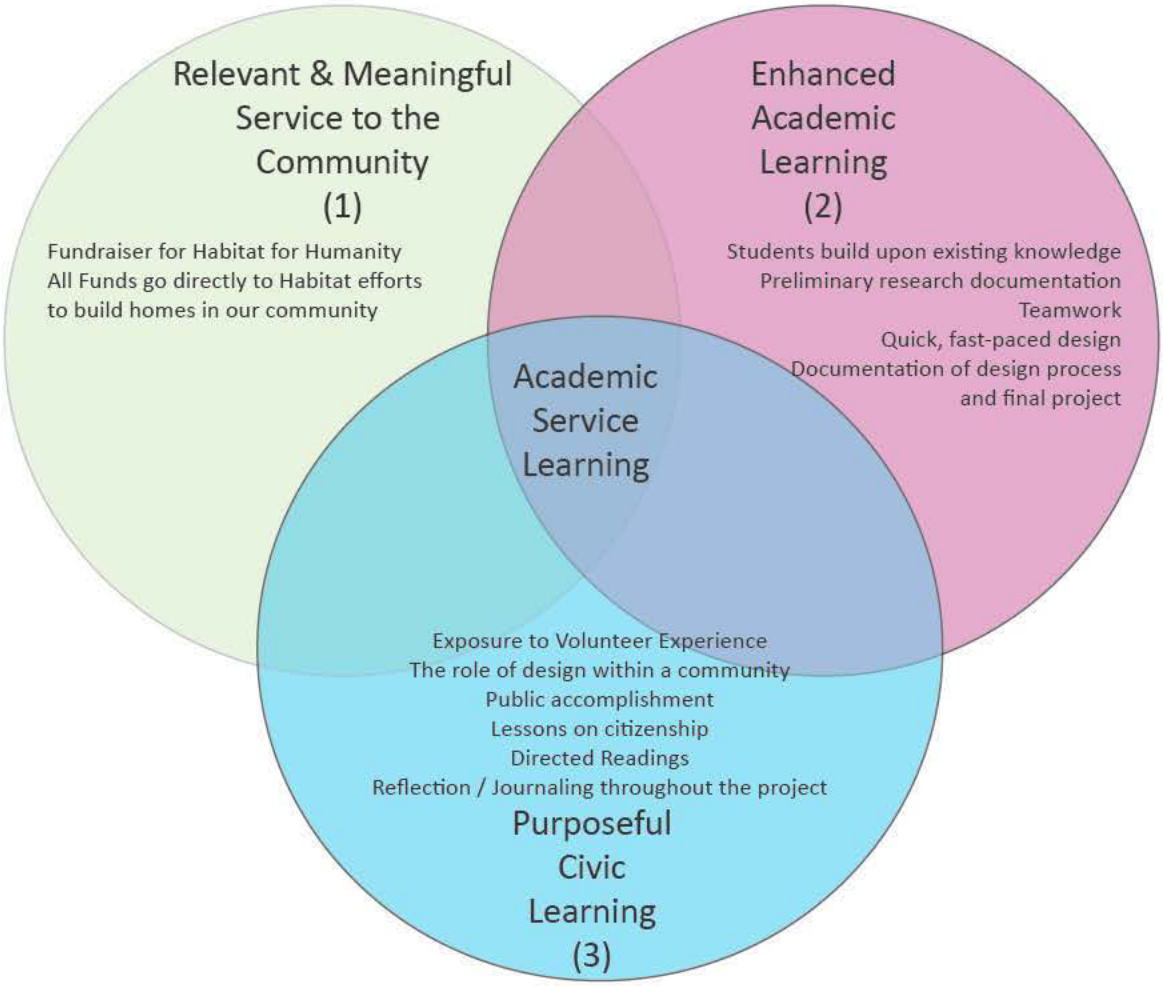


Howard's Diagram for Academic Service Learning

2001

2011 Iteration of the Project

Figure 3



Howard's Diagram for Academic Service Learning

2001

Comparison of Past and Future Project Requirements

Figure 4

2007-2010 Project Requirements

Project Outline:

- Participate in Habitat for Humanity's Event
- Only second year studios participate
- Instructors select the room type
- Students develop the theme, design concept
- Students are responsible for at least one project that relates to the design goals of the room

Submission Requirements:

- Project Binder (individual): Submitted after event
  - Inspiration Images
  - Conceptual and brainstorming Notes
  - Research on Recycling, Refurbishing, refinishing
  - Floor plan (rendered) with key
  - Documentation of personal project(s), formatted
  - Photographs: process and final room
  - Journal: timesheet, reflection on the experience (250 words min)
- Storyboard (Group): submitted before the public viewing
  - Room theme (not type)
  - Images of before / after for the most dramatic transformations
  - Material samples
  - Designers at work (optional)
  - Conceptual sketches and images (optional)

2011 Project Requirements

Project Outline:

- Participate in Habitat for Humanity's Event
- Only second year studios participate
- Instructors select the room type
- Students develop the theme, design concept
- Students are responsible for at least one project that relates to the design goals of the room
- Each team paired with a Habitat Family to interview and draw inspiration from.
- Assigned Research on Habitat for Humanity, Service Learning, Civic Engagement, and precedents – Completed before work begins at Habitat.

Submission Requirements:

- Project Binder (individual): Submitted after event
  - Pre-visit – precedent images, conceptual brainstorming, research on recycling, refurbishing, refinishing, notes from meeting with the Habitat Family assigned to our team, and research on Habitat for Humanity
  - Newspaper, magazine, and other advertisements for the event
  - Floor Plan, rendered, with furniture key
  - Documentation of person project(s)
  - Photographs: process and final room
  - Journal: timesheet, daily reflection on team dynamics and personal contribution (2-3 sentences), and reflection at conclusion of the event to include personal experiences, the project's impact on the student, past volunteer experience, the experience of volunteering (350 words typed)
- Storyboard (Group): submitted before the public viewing
  - Room theme (not type)
  - Images of before / after for the most dramatic transformations
  - Material samples
  - Designers at work (optional)
  - Conceptual sketches and images

Possible ways to create a dialogue between analog and digital workflow techniques in design studios

Petra Probstner

Columbia College Chicago

We as educators, who studied and worked using analog techniques for our design processes, are faced with a student population who thinks fundamentally digitally. My motivation is to explore how we can encourage students to use both of these approaches simultaneously and effectively throughout the design process. The method I currently experimented with in sophomore and junior level studios helps students keep an eye out for the big picture issues using analog techniques, while simultaneously striving for the highly material approach via digital methods.

On one hand, students are familiar with and comfortable using technology throughout the design process. However, we often see that this can result in a few design options and detail solutions supplanting the overall strategy.

On the other hand, interior design students often think about overall atmosphere and materiality as an ”afterthought” of the spatial planning process. As a result, materials feel “stuck on” and materiality and a human centered approach fails to become a driving force for design. Spaces are represented in highly developed 3D visuals that are mere representations of the final product, not tools for visual speculation.

In my design studio, I encourage students to set in motion a fluid dialogue between the analog and the digital.

Throughout the design process we create large scale charcoal drawings of the layouts, with a focus on the structure of the project. Due to the medium and size, no details can be added and the focus is shifted from drawing abilities. Afterwards, we repeat the exercise with shifting the scale towards the “stamp size”.

Simultaneously, I encourage students to utilize Photoshop as a design tool to create “spatial situation”

collages. They start designing small sections of their projects with a focus on the near environment and the user of the space, through sketch-like visualization. The key is to allow for visual speculation and to avoid the trap of virtual specificity.

During the analog exercises students create a condensed skeleton framework, as a focused spatial strategy for their project.

During the digital visual making, spaces that will inhabit this framework start taking shape. Students start answering questions they haven't even started asking themselves yet – in 3D! Materiality gets investigated, and starts to dominate the project from here on.

As an educational experience, it is important that students experience a sense of security about the direction of their designs, by having a solid structure to build on and by having “seen” the components!

I intend to lay out two 24”x36” printed boards to demonstrate a few interesting student work samples for the analog and the digital exercises. These examples would be from different stages in the design process and would demonstrate different approaches and results. In my poster presentation I hope to spur conversation about possible techniques to explore in order to create a dialogue between analogue and digital. I would also like to spark and interest in visualization as a possible design tool.

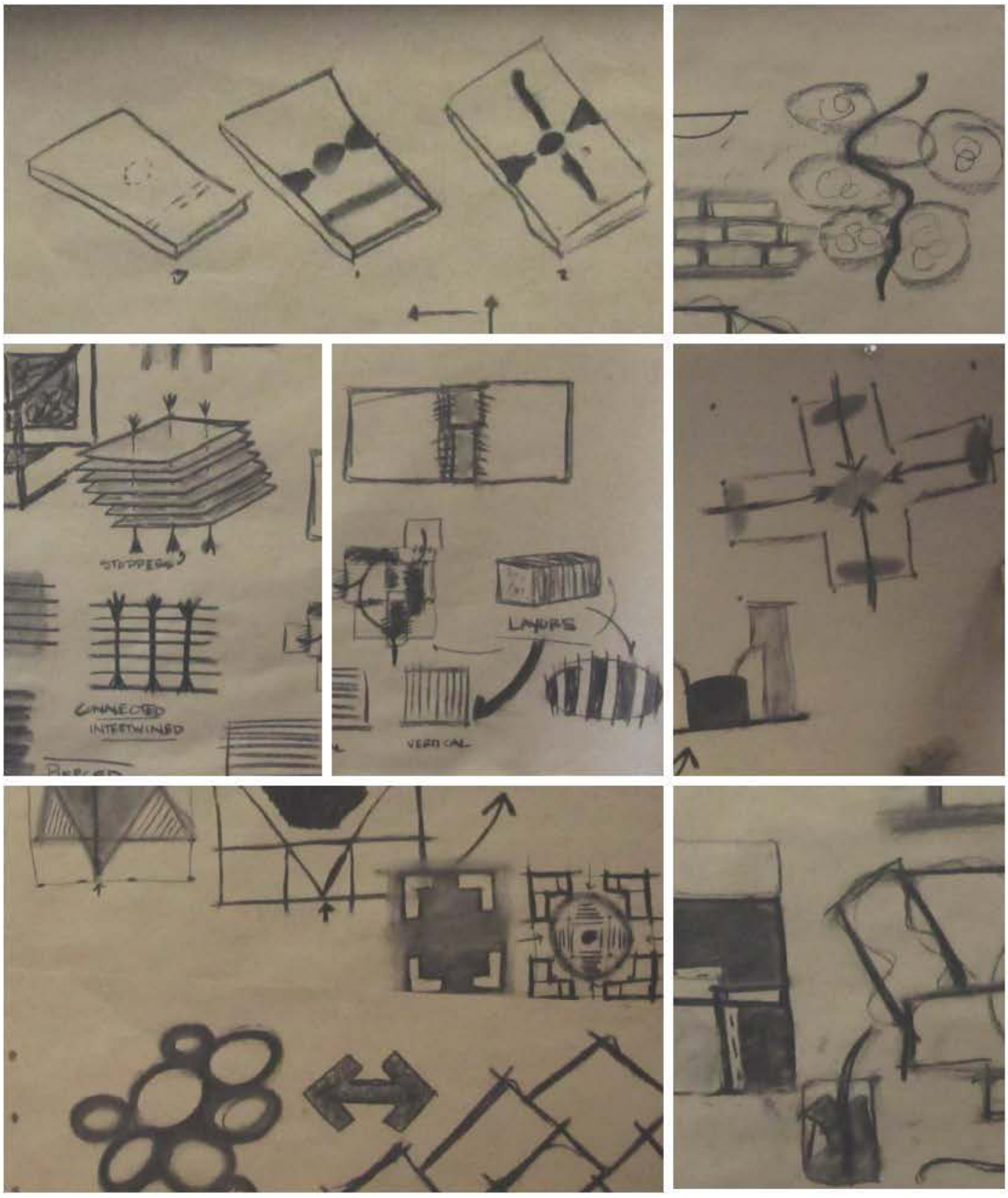
REFERENCES:

Plunkett, Drew. *Drawing for Interior Design, London:* Laurence King Publishing, 2009.
Spankie, Ro. *Basics Interior Architecture: Drawing Out the Interior,* Ava Publishing, 2009

APPENDIX:

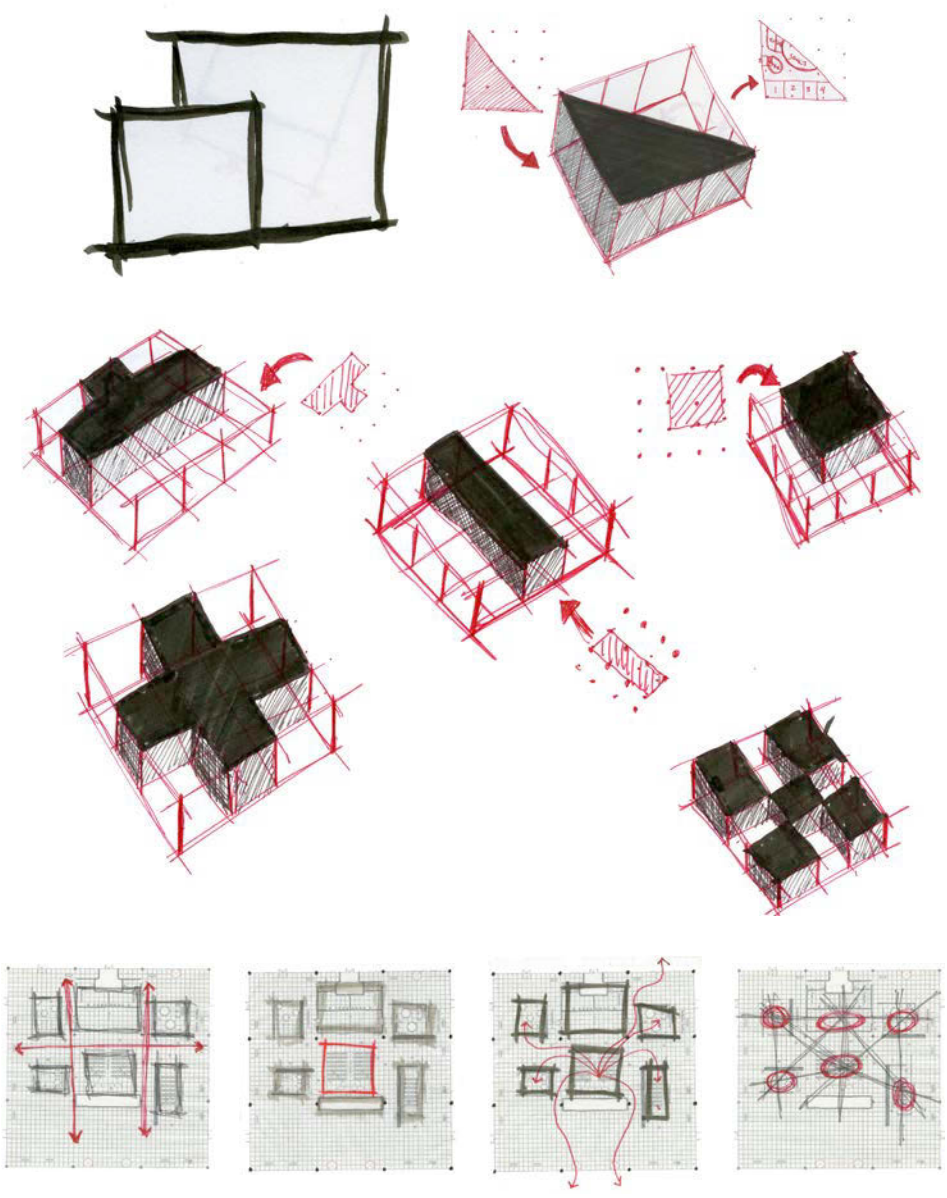
Figure 1: Analog method 1, *Large scale charcoal drawings*
Figure 2: Analog method 2, *Small scale “stamps”*
Figure 3: Digital method, *Visual sketches - “spatial situation”*
Figure 4: Digital method, *Visual “spatial situations”*
Figure 5: Digital method, *Visual “spatial situations”*

Appendix 1 - Analog method 1, Large scale charcoal drawings



These drawings are rarely used in the end product, but as a design tool, greatly help students to think about the underlying structure, the essence of their idea.

Appendix 2 - Analog method 2, Small scale “stamps”



These small drawings are made both in 2D and 3D and are also a powerful tool in developing overall strategy for the project. Students return to this method a number of time throughout the process.

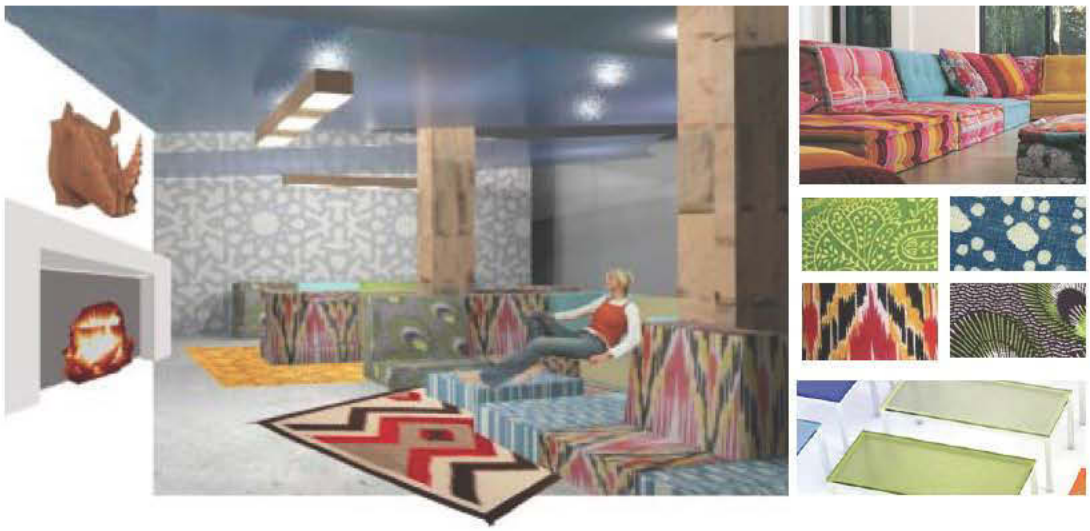
Appendix 3 - Digital method, Visual sketches - "spatial situation"

Spatial situation visuals produced at the early stages of the design process aim to capture the overall atmosphere and vary in complexity and focus.

Appendix 4 - Digital method, Visual "spatial situations"

Spatial situation visuals produced at the early stages of the design process can vary in complexity and focus.

Appendix 5 - Digital method, Visual "spatial situations"



3D renderings (produced with 3d Software) from final presentations showing the effects of spatial situations produced at the early on in the process.

A Model for Implementing ID students' Comprehension, Connection and Commitment to Environmentally Responsible Design

Sarah Sherman, Florida International University, College of Architecture + the Arts

Given the current awareness of the negative effects the building industry has previously exacted on the environment, designs produced without considering the sustainability of the planet are no longer acceptable. As the earth's population increases we must remember that the earth and its resources do not. Given such finite limitations, "all people must be responsible to one another, to the greater community of life, and to future generations" (Earth Charter, 2003). Although the concepts of sustainability and environmental responsibility are not new to the field of interior design, a review of the literature reveals that Environmentally Responsible Design (ERD) is still not being practiced with any with any degree of industry-wide consistency (Kang & Guerin, 2009). Designing holistically requires an understanding of and collaboration with other relevant disciplines while purposefully focusing on process. This poster presents an interdisciplinary pedagogical model that may prove useful for educating students in ways of imbedding ERD principles into the design process. While this model appears complex in its derivative roots, it is decidedly simple in its use, following incremental guidelines. The TIER Model seen in Figure 1, seeks to advance our progression toward holistic design by looking to other fields of knowledge that have been pioneers in environmental education and learn from and join in their pursuit of sustainability of the planet. The TIER Model's framework is an amalgam that incorporates insights from Humanistic Sustainability, Place-Conscious Education, Principles of Sustainable Design, Phases of the Design Process and Traditional Ecological Knowledge to create a broader view of the environment and help synthesize and inculcate the concepts of sustainability within students thinking. Additionally, the poster illustrates how the TIER Model may help introduce ERD and sustainability concepts into design curricula. Findings gathered from early use of the model suggest the need to replicate the TIER Model's use within different team structures, courses, and geographic locations. This work represents an innovative approach to fostering

an individualized comprehension, connection, and commitment to ERD among students of Interior Design. It offers a glimpse of the potential the TIER Model holds when used within a course on sustainable design. Analysis of these additional results could provide validation and identification of more benefits of the TIER Model. This poster presentation intends to start a dialog that promotes the use of the Tier Model framework in interior design programs across the United States.

References (style - American Psychological Association)

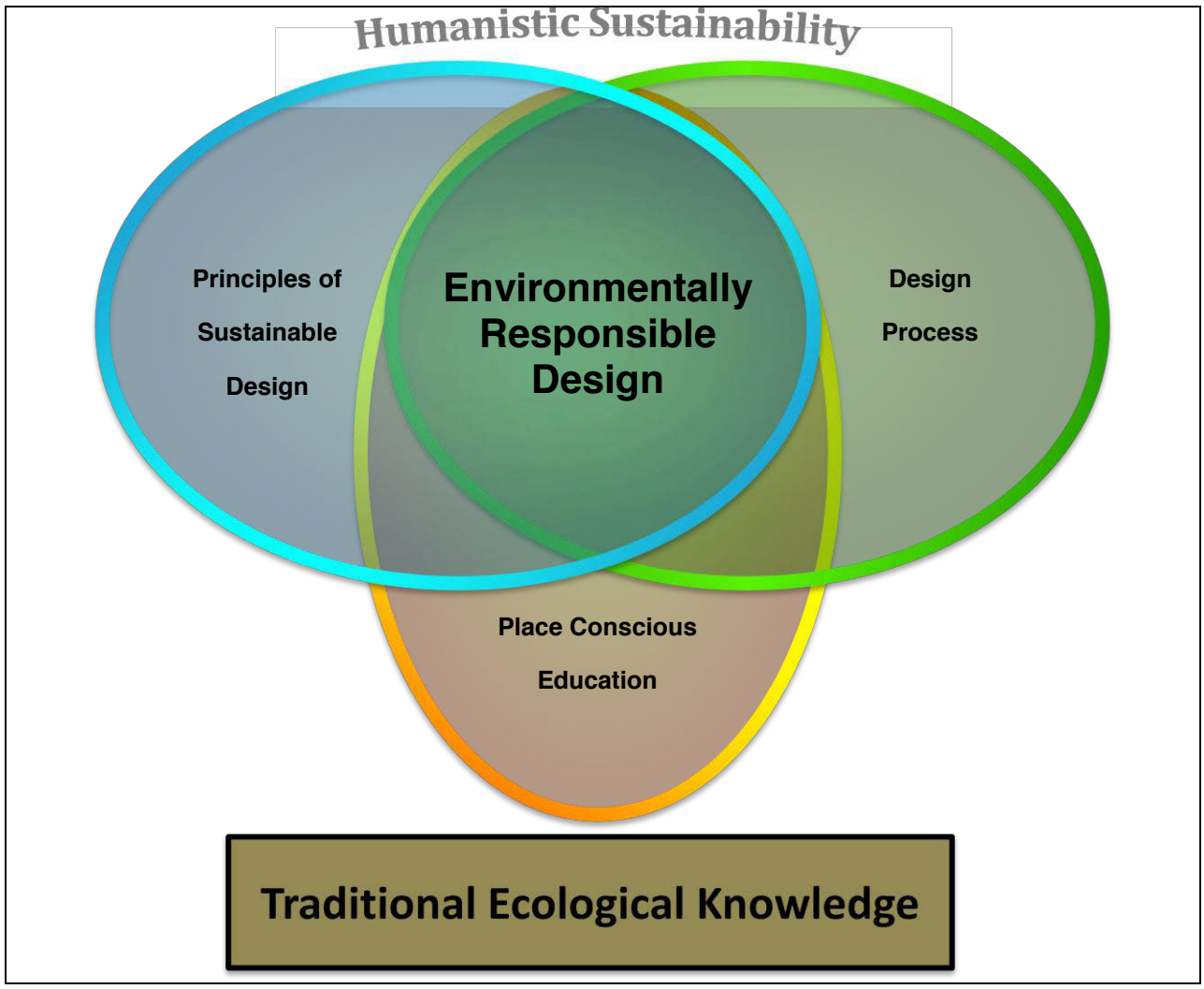
Earth Charter (2003). *Earth Charter Initiative.* Retrieved from Earth Charter website: www.earthcharterinaction.org

Kang, M., & Guerin, D. A. (2009). The state of environmentally sustainable interior design practice. *American Journal of Environmental Sciences, 5*(2), 179-186.

Appendix

Figure 1. The TIER Model, File Name: F1_TIER Model

Figure 1. TIER Model



Green Material Specifications: Using an Attribute-Based Approach to Bridge the Sustainability Gap

Johnnie Stark, Associate Professor and Cynthia Mohr, Associate Professor University of North Texas

ABSTRACT

In “The Sustainability Gap,” Cathy Stieg discusses the divide between sustainability theory and quantifiable sustainable design practice (Stieg, 2006). Challenges in bridging this gap are: 1) a deficiency of reliable data and transparent evaluative tools; 2) an overwhelming quantity of information; and 3) designers’ lack of critical analysis skills.

Methodology

The poster is a 24” x 36” landscape orientation, InDesign file format, large scale, full color print. The presentation documents processes and outcomes from *Green Materials*, an interior design special topics course. The context was a 2011 three week intensive “Maymester” with sixteen interior design majors enrolled. The primary goal was to increase competency in identifying, sourcing and specifying environmentally and socially responsible materials, products and systems through an attribute-based approach (Bonda & Sosnowchik, 2007). LEED ID + C criteria were used as benchmarks with emphasis on life cycle thinking, sustainable strategies and third-party certification.

The structure of the class integrated the Bloom’s Taxonomy learning theory model (Ankerson & Pable, 2008) with evidenced-based formats supported by a variety of learning experiences such as lectures, student projects, group reports, and guest speakers (Figure 1). Assignment content in ascending order of complexity included vocabulary word quizzes, sustainable strategy checklists (Bonda & Sosknowchik, 2007) and industry standard baselines compilation (McGowan & Kruse, 2003), product profile evaluative matrices (Bonda & Sosnowchik, 2007) and project case study analyses (Figure 2). Each student also presented a biographical report of a “green hero”, (for example, William McDonough, Janine Benyus, Rachel Carson, Ray Anderson), to provide context for green building movement topics and policies. The university “Blackboard” site was used to organize and share content and assist students in balancing

online, hard copy and digital formats. Students were introduced to Sweet's Catalog and the CSI MasterFormat® product divisions and the Building Green Suite®. The Building Green Suite® is accessible through the university main library's online catalogue and contains the GreenSpec® Directory, the *Environmental Building News* newsletter and case study profiles. A culminating exercise required each student to develop an attribute-based matrix of one product from each of four product categories: paints and coatings, floorcoverings, textiles and furniture.

Outcomes and Future Study

Student outcomes from this class were evidenced by an increased understanding of industry standard baselines and unbiased certification criteria (Figure 3). Combined with focused product sourcing and the ability to create formats for product evaluation, the students were able to employ critical analysis skills in an attribute-based specification approach. Continued study would address building systems categories (for example, plumbing and lighting fixtures), water use and energy efficiency criteria and comparisons of multiple products within each category.

In March 2012, The *International Green Construction Code*™ (IGCC, 2010), an overlay code for new and existing commercial buildings, will be released for adoption by state and local governments. Building on the International Building Code (IBC) framework, the IGCC was developed through collaboration between ASTM International, the Illuminating Engineering Society (IES), the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) and the U.S. Green Building Council (USGBC). LEED language for prescriptive and performance baselines is utilized throughout. As green construction practices transition from voluntary to mandatory, specification competency and integrity will be requirements for interior designers.

References (APA)

Ankerson, K. S. & Pable, J. (2008). *Interior design: Practical strategies for teaching and learning*. New York, NY: Fairchild Books, Inc.

Bonda, P. & Sosnowchik, K. (2007). *Sustainable commercial interiors*. Hoboken, New Jersey: John Wiley & Sons, Inc.

International Code Council, Inc. (2010). *International Green Construction Code™, Public Version 2.0, November 2010*. Cooperating sponsors: American Institute of Architects, ASTM International.

McGowan, M. & Kruse, K. (Eds.). (2003). *Interior Graphic Standards*. Hoboken, New Jersey: John Wiley & Sons, Inc.

Stieg, C. (2006). The sustainability gap. *Journal of Interior Design*, 32(1), pp. vii-xxi.

Appendix

Figure 1: Syllabus – INTD Topics – Green Materials (topics_syllabus.pdf)
Figure 2: Assignment – Product Profiles (assignment_profiles.pdf)
Figure 3: Student work – Product Profile (student work_example.pdf)

SYLLABUS – TOPICS IN INTERIOR DESIGN: GREEN MATERIALS

COURSE DESCRIPTION

3 hours. Research on selected topics or projects in Interior Design. Course includes classroom lectures, speakers, as scheduled. Prerequisites: Consent of instructor. May be repeated for credit as topics vary. Satisfies advanced elective requirement.

REQUIRED TEXT

Bonda, P. & Sosnowchik, K. (2007). *Sustainable commercial interiors*. Hoboken, New Jersey: John Wiley.

SUPPORTING TEXT

McDonough, W. & Braungart, M. (2002). *Cradle to cradle: remaking the way we make things*. New York: North Point Press.

COURSE OBJECTIVES

1. The main objective of this course is to present sustainable design principles and strategies with emphasis on green and environmentally-conscious materials appropriate for commercial design projects as demonstrated through classroom activities, guest speakers and research.
2. In the context of green materials, students will be introduced to certifications and standards used in evaluating performance and establishing criteria.
3. In the context of green materials, students will prepare written product profiles using an attribute-based approach.
4. Students will demonstrate competency in written, verbal, and graphic communication and organizational skills in daily classroom activities and assignments.
5. Through assigned projects, group presentations, and quizzes, students will demonstrate understanding of sustainable design principles and strategies with emphasis on green materials.

COURSE STRUCTURE

This class meets in a seminar setting which supports lectures, reading assignments, discussion, and group project work. Course content will be supplemented with guest speakers. Speaker dates are subject to change. Students will be given prior notice to accommodate any schedule revisions.

EVALUATION

Your assignments for this course will include a group project presentation of a case study to be identified in class, a biography report, product profiles and specifications to be developed by each student, and scheduled quizzes on assigned readings and/or lecture material. Detailed criteria will be provided for each assignment.

ASSIGNMENT - Topics in Interior Design: Green Materials

PRODUCT PROFILES ASSIGNMENT

Each student will prepare a minimum of 4 profiles to include one from each of the following product categories: Floorcoverings (carpet, resilient or wood); Paints and Coatings; Textiles; Furniture

Project Requirements

1. Submit in electronic format.

2. Product overview; category; history; research and development; significance as a green product; applications; case studies or projects where used; include image of product and list of references/sources.

3. List of qualifying questions, answered with as much information that you can find about the individual product (see page 98 in your textbook); many manufacturers also list questions that pertain to a specific product.

4. Specification sheet in a matrix - table or spreadsheet - format. Include product profile information such as the manufacturer, series, description, pattern/color numbers, CSI category and the attributes as described below.

5. Attributes:
    a) *Reference or baseline performance standards (used for commercial projects whether "green" or not)* – for example, CRI (Carpet and Rug Institute) for carpet; MPI (Master Painters Institute) for Paints & Coatings; ACT (Association for Contract Textiles) for textiles; ANSI/BIFMA (Business and Institutional Furniture Manufacturers' Association) for furniture.
    b) *Green attributes* – third-party standards and certifications
    c) *Socially responsible attributes* – may include business practices or certifications regarding business processes.
    d) *Applicable LEED-CI category* (e.g., Materials and Resources, IEQ) and possible points

6. Green building (e.g., LEED) category, and credits if applicable; for example, a carpet might be included in "Materials and Resources," for credits for recycled, recyclable content or renewable resource and in "Indoor Environmental Quality" for credits for low emitting materials.

OTHER NOTES

Format your pages consistently and include your name. Make sure that your product sections are clearly identifiable. You may include information from websites as support material, but summarize in your own words and reformat to address assignment.

GRADING CRITERIA

You will be graded on thoroughness, professional format/presentation, and clarity in organizing information.

BŌLYÜ®

Product Overview

Category: Floorcovering

History: BOLYU Contract is a division of Beaulieu of America which was founded in 1978 and today is one of the largest privately-held flooring producers in North America. Originally established to manufacture area rugs, the company invested in yarn extrusion in 1981 becoming the first manufacturer in the carpet and rug industry to produce their own yarn. The company then diversified into tufting carpet, establishing a factory known today at Beaulieu Commercial in Chatsworth, GA.

Focused on the development of products for specific market segments, the company is vertically integrated, thereby controlling virtually every phase of production, from raw materials to finished product, which provides the unparalleled ability to ensure the uninterrupted flow of materials and products, as well as unmatched quality control.

The company's foremost objective is to satisfy customers' needs through the design, production and delivery of quality flooring products while protecting and preserving our limited resources by the specification and production of environmentally responsible products.

Source: http://www.bolyu.com/index.asp

Significance as a Green Product: Manufactured using Zeftron® Nylon with 25% recycled content; Backing options include iLOC® ES with Post-Consumer Recycled Content and Nexterra with 53% Post-Consumer Recycled Content that can be recycled back into Nexterra®

Applications: Commercial Use – Education, Healthcare, Corporate, Retail Store Planning, Assembly and Government

Case Studies: Drexel University School of Law, Philadelphia; Auckland University of Technology, Beaulieu Canada Showroom, Astra Zeneca Hope Lodge Center, Doolittles Woodfire Grill, Centro Interior Design Firm, etc.

iDesignCarpet.com

NEXTERRA

iLoc

Puralex®

AVALAR®

BŌLYÜ®

Qualifying Questions:

Materials and Resources

Where did it come from? Bōlyü Carpet is manufactured using Zeftron® Nylon with 25% recycled content. Nexterra® backing features a minimum of 53% post-consumer recycled content measured as a percentage of average total carpet tile weight. It is composed of post-consumer content from recycled water and soda bottles. Nexterra makes an outstanding environmental contribution by diverting waste materials away from public landfills

What went into making it? Nexterra backing manufacturing facilities utilize 100% Renewable Green Energy – wind energy; and because it is the lowest weight carpet tile backing, it uses 50% less energy than the industry average. No water is used in the manufacturing process for Nexterra.

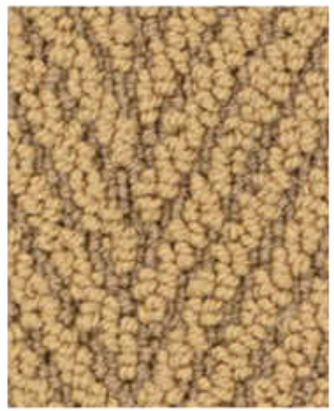
Where can it go when it's no longer? Can it be used safely to make something else? Nexterra can be post-consumer recycled back into Nexterra.

Indoor Environment

Does it nurture the health and well-being of its occupants? Nexterra features Puralex®. This odor reducer purifies the air while constantly renewing itself through air circulation. It is effective against virtually any indoor odor, and Puralex® can help to lower VOCs.

Product Evaluations

Can it be maintained easily without hazardous cleaning chemicals? Vacuum and spot clean, Bōlyü provides a Ten Year Stain Removal Limited Warranty for its Zeftron Nylon Carpets.



BŌLYÜ®

Manufacturer	Product Category	Series	Description	Pattern/Color	CSI Category	Baseline Performance Standards	Green Attributes	Socially Responsible Attributes	LEED-CI
	Floorcovering	Herringbone Carpet	Herringbone is manufactured with Zeftron® Nylon with 25% recycled content. **Fiber:** Zeftron® Nylon / BCF **Construction:** Textured Loop Pattern **Dye Method:** Solution Dyed **Gauge:** 1/10 in. **Stitch Count:** 11 S.P.I. **Width:** Broadloom **Pattern Repeat:** 9" w x 00" **Colors:** 13	**Pattern:** HRB24 **Color:** Woven Willow	09 68 16: Sheet Carpeting	**Static Control:** Less Than 3.5 k.v. Step **Flame Resistance:** Passes (DOC FF-1-70) **Flooring Radiant Panel:** Class 1(ASTM E-648) **Smoke Density:** Less Than 450 (ASTM E-662) **CRI Green Label Plus:** Certification #GLP707 **ANSI**: NSF140-200	- EPA Green Power Partner - Green Energy - CRI Green Label Plus - USGBC - The U.S. Green Building Council - Environmental Choice of New Zealand	- A Place to Flourish	**MR Credit 4** Recycled Content **MR Credit 5.2** Regional Materials: 20% Manufactured Regionally (500 Miles) **EQ 4.1** Low Emitting Materials: Adhesives & Sealants **EQ 4.3** Low Emitting Materials: Carpet Systems

Sources:

http://www.bolyu.com/index.asp

http://www.beaulieucommercial.com/environmental/index.html

http://beaulieucanada-ca.sitepreview.ca/en/commercial_floors1/

http://www.carpet-rug.org/index.cfm

PANELS

Grade Inflation: The Inflated A and the Bloated B

Amanda Gale / Shari Park-Gates
Auburn University
Panel members:
Migette Kaup, Kansas State University
Cynthia Mohr, University of North Texas
Eric Wiedegreen, Florida State University

Introduction

Interior design education must cope with many of the same issues that trouble other disciplines. One such issue is grade inflation, which has been a documented concern for several decades (Rojstaczer & Healy, 2010). Grade inflation is defined as "an upward shift in students' grade-point averages without a similar rise in achievement" (Kohn, 2002, para. 7). Existing research has linked grade inflation to tenure, teaching experience, adjunct faculty, and educational atmosphere. However, there is an absence of literature that investigates the pitfalls and reasons for grade inflation within the specific context of interior design.

Relevance

Existing research suggests that student retention, instructor evaluation, customer-oriented atmosphere, and avoidance of potential conflict with students can all affect grade inflation. Undergraduate enrollment trends were addressed during the 2011 national IDEC conference. The overall consensus was that the discipline as a whole was experiencing decreased enrollment in undergraduate programs (Mohr & Kaup, 2011). Retention becomes a more prominent issue when student numbers decline. Potential implications of decreased enrollment are decreased budgets, increased teaching loads, losing faculty lines, and increased reliance on adjunct faculty. Ultimately, grade inflation may arise from attempts to maintain student numbers.

Assessing student achievement is a component of teaching. Students' opinions of instructors can be impacted by the grades they receive (Greenwald & Gillmore, 1997). Students' perceptions of grading can also impact their perceptions of the course as a whole. Thus the grades assigned to students impact evaluations of faculty, and evaluations are a component of the tenure review process. Therefore, grade inflation may occur in an attempt to sway students toward a more positive view of the class, and thus

submit a more favorable review of faculty.

A customer-oriented atmosphere can also influence grades (Eiszler, 2002). Indeed, grade inflation may occur to avoid justification of grades to students, parents, and administration. Pressure to grade generously can come not only from anxious students but also from faculty members' desires to avoid potential conflict with “snowplow” parents of the millennial generation.

Outcome

Panel members will consist of faculty from various interior design programs. Each faculty member will be asked to share personal experiences in order to explore the impact of grade inflation on tenure, faculty status, retention, teaching loads, and the professionalization of interior design. The ultimate purpose is to facilitate an exchange of information about grade inflation and how it relates to interior design education and the establishment of interior design as a profession. Questions to be discussed include:

- Why is grade inflation important, how does it impact interior design?
- Are we retaining students we should not in order to offset lower enrollment?
- Are faculty members adjusting grades in order to improve teaching evaluations?
- Does a customer-oriented atmosphere encourage grade inflation to avoid confrontation with students, parents, and administration?
- Are we grading today’s students based on expectations created by previous students?
- Does grade inflation compromise the level of rigor and expectations for interior design students and therefore jeopardize our ability to advance the profession of interior design?

References (APA)

Eiszler, C. (2002). College students’ evaluations of teaching and grade inflation. *Research in higher Education, 43*(3), 483-501. Retrieved from http://www.springer.com/education+%26+language/higher+education/journal/ 11162

Greenwald, A., & Gillmore, G. (1997). Grading leniency is a removable contaminant of student ratings. *American Psychologist, 52*(11), 1209-1217. Retrieved from http://www.apa.org/pubs/journals/amp/index.aspx

Kohn, A. (2002, November 8). The dangerous myth of grade inflation. *The Chronicle of Higher Education*. Retrieved from http://chronicle.com/section/Home/5

Mohr, C., & Kaup, M. (2011). Critical issues: ID enrollment up or down. Retrieved from http://www.idec.org/events/2011AnnualConference.php

Rojstaczer, S. & Healy, C. (2010, March 4). Grading in American colleges and universities. *Teachers College Record.* Retrieved from http://www.tcrecord.org/

Wonder to Wisdom: Leveraging Practice Experience in Creating the Nimble Designer

Stephanie Clemons, Colorado State University
Amy Mattingly Huber, Colorado State University
Leah Scolere, Cornell University

"Wisdom begins with wonder," said Anita Barnett, FIIDA (IIDA, 2010). The design industry and the world in which it operates are functioning at a never-before-seen pace. Students are entering practice when roles are "fuzzy", fluency is critical and where speed and value creation are imperative. Emerging designers are required to generate solutions no longer defined by physical products, and navigate blurred disciplinary boundaries of scale, scope, and environment to remain relevant. A practice-based learning model, which conceptualizes the interaction between the individual and a group, may help students to define an enriched and transferrable design process.

Purpose

The purpose of this presentation is to discuss the use of a new, practice-based model that generates an intensive, collaborative student experience during the problem solving process within the studio environment. The outcome is new knowledge generation during the unique problem solving process.

Framework: Wonder-to-Wisdom Model

The proposed model evolved from the synthesis of two, currently-used, practice-based models. The Knowledge Management Cycle (Nonaka & Takeuchi, 1995) illustrates the knowledge transfer process from individual to group and focuses on the evolution of tacit (experience-based) knowledge into explicit (systematic) knowledge (see Figure 1). The Innovator's DNA model (Dyer, Gregersen, & Christensen, 2009) illustrates discovery skills that emerged from a study of individuals comparing key differentiators between innovative entrepreneurs and average managers (see Figure 2).The proposed Wonder-to-Wisdom collaboration model mimics practice-based studios wherein a senior designer (educator) partners with young design staff (students) to frame questions (i.e. wonder), experiment, exchange insights and generate new "wisdom" (see Figure 3). Educators may desire to leverage this model to create

classrooms driven by student curiosity wherein the student group has ownership of the process and builds upon collaborative ideas. This model suggests the elimination of prevailing studio-based organizational hierarchies which may utilize low intensity teaming and moves students to high quality exchanges producing new group level insights (see Table 1). The classroom becomes a testing ground for generative modes of thinking, experimenting and partnering for discovery.

Panel

The panel will be comprised of commercial design practitioners who have recently moved into academia. An educator-moderator will lead discussions regarding the panelist's background experience leading to the formation of the model, case studies of the model's implementation, model usage, and relevant student outcomes. In addition, future steps and model refinements will be explored.

Significance and Relevance

Although education-based, learning models (e.g. Nussbaumer, 2001) are valued and credible, practice also offers interesting models from which to frame a studio environment. Roundtable discussions with key representatives from 43 institutions in the United States and United Kingdom found that students seek collaborative learning pedagogies (Gensler, 2011) where information can be exchanged. The proposed Wonder-to-Wisdom model begins with wonder (i.e. intellectual curiosity surrounding an idea). Continuous collaboration drives the group toward "practice wisdom" and innovation throughout the process. As a result, student's self awareness may lead to a new-found fluency in collaboration, and hence, a more nimble designer in the changing workplace.

References (APA)

Dyer, J. Gregersen, H. & Christensen, C. (2009). Innovators DNA. Harvard Business Review, 87(12). 60-67.

IIDA (2010). No such thing as business as usual: IIDA 2010 industry roundtable. Whitepaper. Retrieved from http://knowledgecenter.iida.org/AssetDetails.aspx?assetGuid=4f1b29bd-0a4c-4e07-9179-e4aec960d364&BackToPage=search.aspx

Gensler (2011). No More Teachers, No More Books? White Paper. Retrieved from http://www.gensler.com/uploads/documents Education_Roundtable_Survey_05_18_2011.pdf

Nonaka, H. & Takeuchi, H. (1995). The Knowledge Creating Company. New York, NY: Oxford University Press.

Nussbaumer, L. L. (2001). Theoretical framework for instruction that accommodates all learning styles. Journal for Interior Design, 27(2), 35-45.

Appendix

Figure 1. Knowledge Management Cycle.

File Name: Fig 1Knowledge Management Cycle

Figure 2. Innovator's DNA five discovery skills.

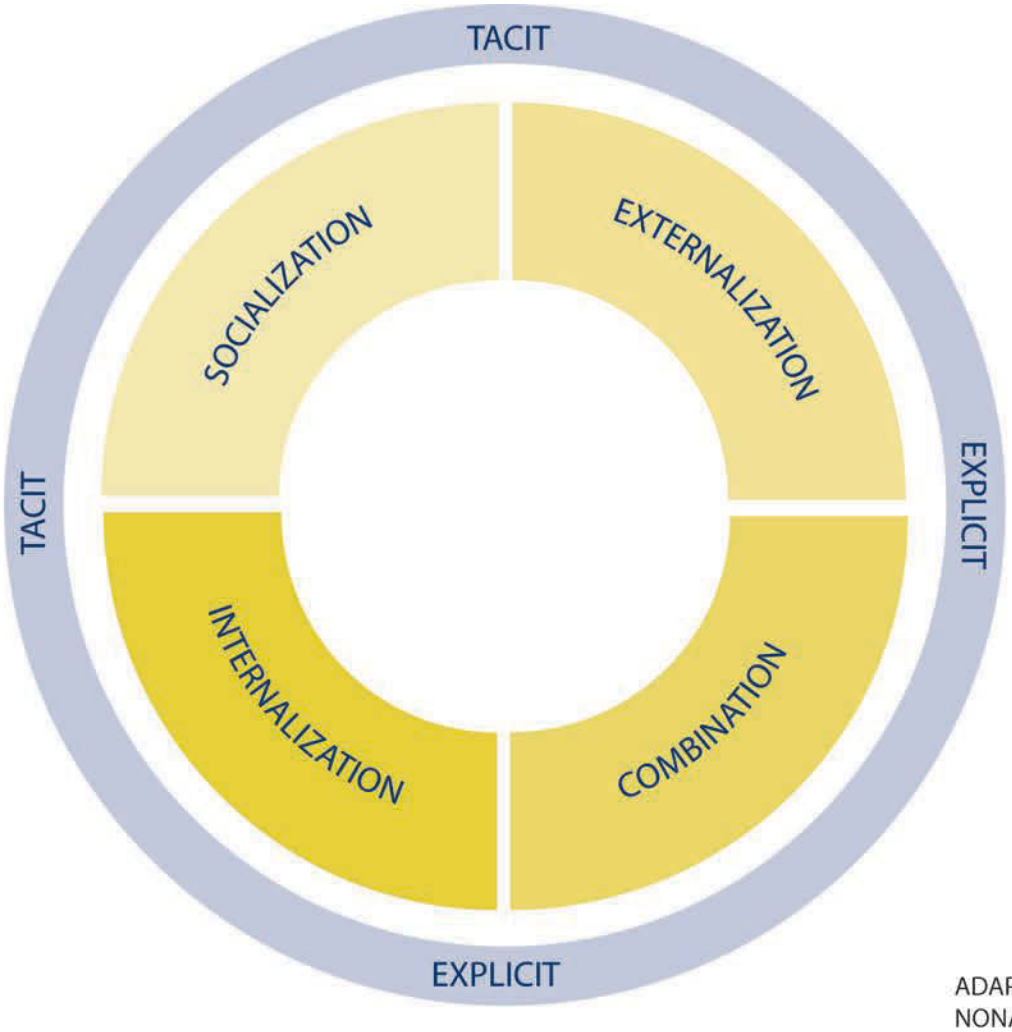
File Name: Fig 2 Innovator's DNA

Figure 3. Wonder to Wisdom proposed collaboration model.

File Name: Fig 3 Wonder to Wisdom

Table 1. Comparison between traditional and proposed model.

File: Table 1 Comparison of Models



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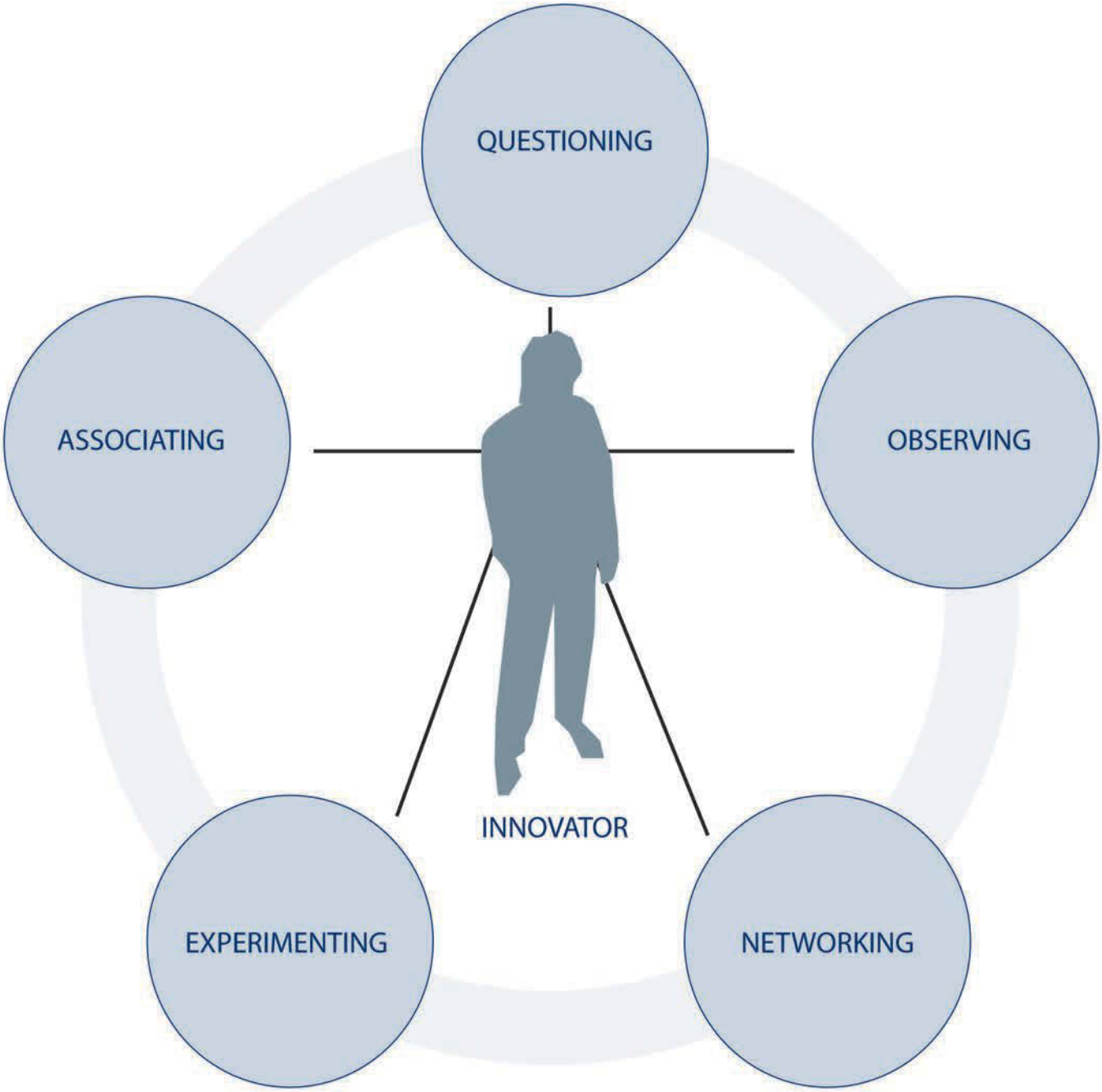

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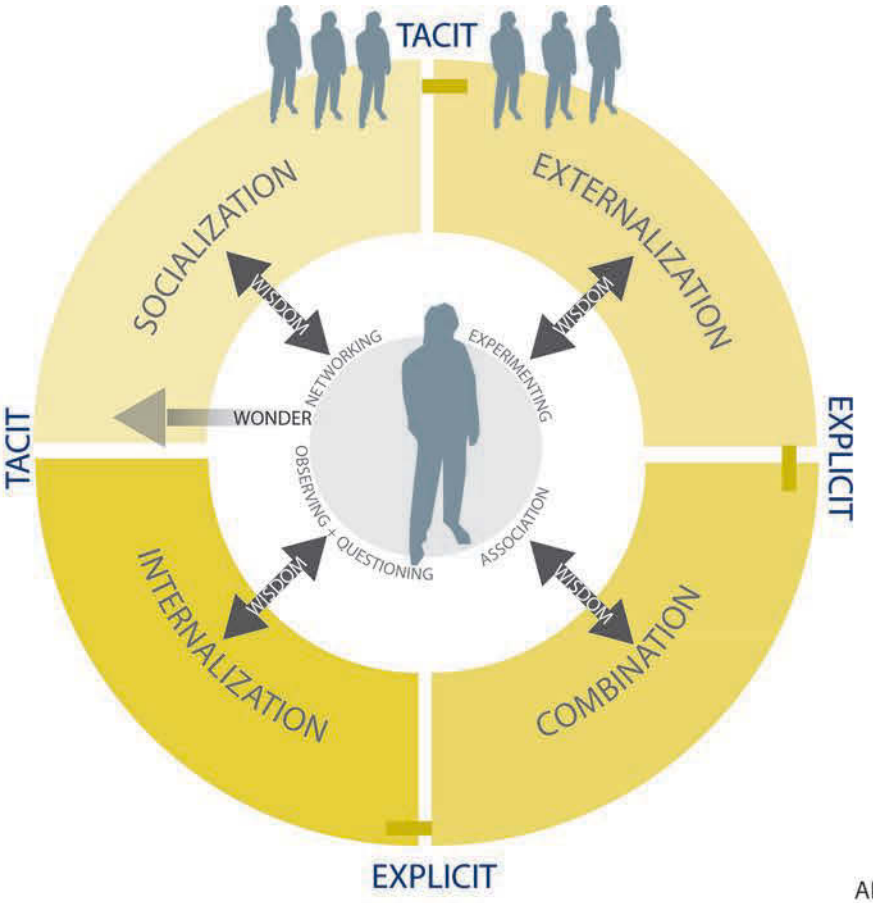
DYER, GREGERSEN, & CHRISTENSEN (2011)



ADAPTED FROM
NONAKA & TAKEUCHI (1995)
DYER, GREGERSEN, & CHRISTENSEN (2011)

Table 1. Comparison between aspects of prevailing models and the proposed model.

	Aspects of Prevailing Models	Wonder to Wisdom Model (Anticipated)
structure	• Educator driven hierarchy	• Modeled after practice-based studios where the educator partners with the students
group interaction	• Low intensity meetings that focus on coordinating and communicating information	• High quality collaboration that focuses on producing new group level insights
types of discussion	• Convergent points of discussion • Similar points of view among students	• Divergent points of discussion • Multiple points of view among students
knowledge generated	• Focuses on one solution • Values length of time invested in developing one solution. • Builds on existing concepts	• Focuses on exploring multiple solutions • Values rapid prototyping, iterative process • Strives for innovative approach, solution or process
individual to group	• Dialogue occurs at key benchmarks	• Continuous dialogue between the individual and the group throughout the project

Adding International Culture to Current Interior Design Classrooms

Sabrina Frey and Kangli Ren

Florida State University and Huazhong University of Science and Technology, China

Existing US interior design programs tend to focus international studies into a limited number of areas such as study abroad programs, history classes, studio classes and sometimes accommodating visiting professors. There are very few US programs that actually have devoted classes or programs based on studying foreign design mentalities and cultures. Due to our lack of focus in this area other parts of the world are getting much farther ahead in promoting international design studies. Their students are graduating with a much higher level of knowledge and greater global understanding than US students. Kangli Ren will discuss Chinas efforts. They are learning as much from the rest of the world as possible so they can advance their programs. Some examples of methods they are using include teachers becoming bilingual by visiting universities abroad then teaching their students in both languages, as well as integrating various types of western knowledge into the classroom including culture, technology, & history. They are also learning and teaching about the world's sustainable and universal design advances and requirements.

Due to the US's recent down turned economy many design firms are surviving by reaching globally for new clients. Our students are struggling to find jobs stateside but also don't feel prepared to seek positions outside the US. Without an understanding of global cultures the ability to work on high profile projects is limited as noted by SOM Associate Director, Ms. Nada Andric who said "How do you keep vast numbers of people of varying cultures moving through gracefully? And Culture, by the way, adds another layer." while working on Burj Khalifa, Dubayy, United Arab Emirates (160 stories = world's tallest building)1

Sabrina Frey will discuss how to prepare students to work anywhere by giving them an international understanding of design and cultural norms and issues. This keeps international clients from going back to their home countries for designers as well as being able to service our highest number of growing immigrants from Asia and Central / South America.2 An example of these issues includes a study by G.S. Song showing Korean immigrants to the US tend to develop feet problems because of floor temperatures. Koreans walk barefoot at home but in Korea they typically use radiant floor heating.3

Richard Navarro and Dr. Jane Kucko will add to the discussion with various perspectives of ID international studies including ID organization efforts and non- standard university efforts. As a group we will discuss items such as student feedback, the visiting professor, and the working international designer among others. We will discuss diverse opinions regarding existing program focuses and what schools can be doing in the future to move US students to the front of the line for international design jobs.

References:

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Teaching Interior Architecture

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“Interior Architecture” is a term being used more and more to describe academic programs or departments, a field of study, or professional design services. Yet “interior architecture” is problematic to many designers in both education and practice. The purpose of this panel discussion is to provide information about teaching and pedagogical approaches in programs and departments of interior architecture. The intent is to foster discussion between the panelists and the audience regarding concerns, similarities, or distinctions among programs of interior design, interior architecture, and architecture.

In terms of curriculum and pedagogy, for example, many programs or departments of interior architecture are studio-based, meaning that design studio is taught every semester and lecture courses “support” or foster studio exploration and design development. Students also typically have “cold-desks” that enable a studio environment of their peers to exist outside scheduled class time or when faculty are available. Programs or departments of interior architecture often include access to shop and studio facilities that foster designing and making. Beginning early in their academic programs, students fabricate their designs using shop equipment and often advanced digital prototyping equipment such as laser cutters, 3d printers, and computer numerical control routers.

Regarding process, boards of governors, visitors, trustees or advisors are empowered by state law to approve unit names at the institutions they oversee. A proposal regarding the name makes its way from the department through various levels of university review which may include curriculum committees as well as deans, provosts, and ultimately chancellors or presidents who then make a recommendation to the governing board. Such proposals require justifications, rationale, market research, and often surveys of current student wishes and those of alums. Importantly, program or department names are determined by a lengthy institutional process requiring any number of levels of rigorous review and are not

determined by wishes, pressures, or regulations of professional organizations that might include AIA and ASID or licensing boards. Some programs as described above choose to call themselves “interior architecture” while faculty in other similar programs choose to use “interior design.” A final recommendation regarding the program or degree name is affected ultimately by factors that are institution specific such as its culture or history.

To date (and to the knowledge of these authors), students enrolled in interior architecture programs and departments are prepared with experience to sit for the NCIDQ exam and not for the Architect Registration Examination® (ARE®) administered by NAAB. Students in programs or departments of interior architecture graduate from a field of study with a first professional degree and after successful completion of a licensing or qualifying exam can then call themselves interior designers. This process involving education, experience, and evaluation is typical of other professional programs such as psychology, engineering, and architecture.

By offering explanations of programs and departments of interior architecture such as these, the panelists intend to address questions or concerns that arise from the audience and also encourage discussion among the attendees.

Student Design Competitions- Are They Good Design?

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Mississippi State University

Many interior design programs participate in state, regional, national, and international student design competitions. Some programs use competitions as projects within a course, other programs encourage students to pursue competitions on their own time. Interior design professional organizations sponsor competitions for students as well as professionals. Most competitions have industry sponsors providing prizes in the form of goods, cash awards, or scholarships. Many universities encourage interior design programs to enter and hopefully win competitions for the positive exposure that the university will gain. Most programs have assessment matrixes in which student award competitions winners are counted as faculty productivity or assessment of program success.

Disciplines from engineering to fashion design also utilize student design competitions. One engineering program discussed that competitions provide a realistic design opportunity for students and that they are an important means of driving creativity and technological innovation (Labossiere & Bisby, 2010). A fashion design program concluded that student design competitions encouraged students' independence, personal growth, and self-directed learning. Faculty also ascertained that competitions provide an opportunity for students to explore creativity, develop industry contacts, improve technical skills, and develop into self-directed learners (Lafrenz & Murray, 2005).

Lafrenz and Murray in 2005 developed a survey with participants from the fashion design program. Fifty-seven participants responded. Information from the survey revealed that 100% of the participants agreed or somewhat agreed that benefits from participating in competitions included improvement in independent decision-making skills, taking responsibility for learning, increasing creativity, and improvement in design and technical skills. The researchers concluded that competitions offered students the opportunity to develop skills such as the ability to solve problems, generate numerous ideas, research data and determine relevant resources, create original ideas, and conduct assessments of their performances.

One interior design program has used design competitions for the past 17 years as projects in their studios. A professor teaching interior lighting has gleaned national recognition for her expertise in lighting from her continuous student design winners year after year. A pilot study at this university revealed that the majority of students enjoy design competitions and the variety of project types that they represent. A student from the study added that an additional plus to design competitions is that portfolios differ from the year before since the competition criteria changes. Other information from the survey revealed that research required in the design competition is better understood and applied in the design solution. The initial presentation will show data compiled from surveys from the participating panel members interior design programs. The presenters, panel, and audience will discuss competitions and their use in interior design programs. Each panel participant will be asked to share their expertise and experience through such questions as: (1) In what type of competitions does your interior design program participate? (2) Do students enter competitions independently or are they incorporated into the learning outcomes for the course/studio? (3) Students participating in competitions are in what student level (1st, 2nd, 3rd, 4th year)? (4) Why does your interior design program participate in student design competitions?

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Interdisciplinary collaborative studios: what is our role?

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Abstract

Globalization and technology advances have revolutionized the design practice resulting in refocused and reformed collaborative efforts between interior design and multi-disciplinary players. Today, collaboration among design disciplines such as graphic design, industrial design, and interior design as well as architecture has to address more economic, cultural and societal values. The design paradigm is no longer a relay race or a division of specialized labor but creatively oscillates between an integration of multiple disciplines at the genesis and a non-sequential interaction that harvests needed results throughout the design process. No longer is one discipline gleaning information and sequentially implementing strategies to address a certain problem, with contributions from other players; instead, this process occurs from the beginning with multiple players that not only produce a desired answer but, more importantly, change the question.

Although this collaborative effort is not new, its importance in interior design education has become paramount. One of CIDA's Professional Standards 2011 - Standard 5 - is entirely focused on multidisciplinary collaboration stating: "Entry-level interior designers engage in multi-disciplinary collaborations and consensus building." (CIDA, 2011, p. II-16). And, one of the Program Expectations listed under this standard is "interaction with multiple disciplines representing a variety of points of view and perspectives." (p. II-16) Teaching students how to effectively collaborate, then, is no longer a plus or a marketed talking point; it is an essential requirement to prepare them to enter the profession. The evolved clients in a knowledge based global society have demanded that the design process take on an adaptable and transparent nature that allows for the participation of multiple designers and stakeholders. This shift in the marketplace finds academia charging forward. Lately, interior design programs have added collaborative courses and sponsored studios to their curriculum. In some cases, these teaching

and learning experiences have even taken institutional priority, with interior design education leading the way. What can we learn from those experiences?

This panel seeks to encourage discussion pertaining to the multidisciplinary collaborative efforts of interior design programs throughout the US. Invited panelists will share their collaboration stories, discuss teaching strategies, and analyze successes and challenges. Has interior design come full circle to lead the way or has the creative process merely retaken shape to once again render the profession subservient to other disciplines?

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PRESENTATIONS
SCHOLARSHIP OF DESIGN RESEARCH

Revised Theoretical Framework for Store Design: From Cognitive Satisfaction to Intuitive Excitement

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ABSTRACT

Introduction

Highly competitive retail markets with advanced technologies (i.e., Internet, mobile-technologies, and social networks) that enable consumers to find product information and best prices easily require a brick-mortar shopping environment to have an additional ingredient for survival, an “authentic/emotional shopping experience.” A physical store environment is key in this regard, and many empirical and theoretical studies have investigated store environment-consumer behavior relationships. However, these findings and theories in marketing are difficult to implement in retail design due to (1) the lack of a holistic view of stimuli-response relationships applicable in retail design practice, (2) inconsistent empirical results of relationships between emotional responses (pleasure-arousal) and shopping behaviors (Kaltcheva & Weitz, 2006), and (3) the lack of manageable frameworks that allow a design practitioner room for creativity, which is a critical aspect of retail value innovation, to enhance individualized authentic shopping experiences (Kent, 2007).

Ahn and Akkurt (2005) suggested an integrated theoretical framework, A2S model, that conceptualizes a holistic view of store stimuli-organism-response relationships as a design decision making tool by integrating allied theories from marketing, environmental psychology, and aesthetics. However, the model is limited for implementation in utilitarian shopping environments (discount stores). The purpose of this paper is to suggest a revised A2S model with improved clarifications and applicability for designing both utilitarian and hedonic shopping environments.

Context

The A2S model conceptualizes the store taxonomy of stimuli (ambient, spatial, and sensory factors), emotional states (pleasure and arousal) directly induced by the stimuli, and interactions of pleasure-arousal (organism) in relation to emotional feeling state of preference (response) that, in turn, moderates consumer behaviors (approach-avoidance) for a hedonic shopping environment (Ahn and Akkurt, 2005). The model has been implemented in a design project and in students' projects for design analysis and development. Student feedback, qualitative analysis from extended literature reviews, and the author's anecdotal experiences of implementing the model suggest key elements to improve it for general retail design.

These elements are inception of motivation ranging from utilitarian to experiential to determine one's selection of retailers (Fiore & Kim, 2007; Kaltcheva & Weitz, 2006), the concept of comfort strongly associated with shopping intentions (Scitovsky, 1992), and, most importantly, the feelings of pleasure and excitement as results of emotional feeling states: comfort and arousal (Kaltcheva & Weitz, 2006; Scitovsky, 1992).

Results

The revised model contains two major changes (see Figure 1). First, the feeling states (response), ranging from "cognitive satisfaction" to "intuitive excitement," are determined as the result of interactions of comfort-arousal (see Figures 1 & 2), which are directly affected by the environmental taxonomy determined in the A2S model. Second, the revised model suggests that shopping motivation (from utilitarian to experiential) is a key moderator to determine level of comfort and arousal (organism) for positive emotional responses (cognitive satisfaction to intuitive excitement). Designers can justify a targeted arousal level by determining the motivation of intended consumers. Regarding comfort, low arousal for a utilitarian shopping environment and high arousal for an experiential shopping environment are suggested for maximum approach behaviors. Managerial implications and research opportunities are suggested.

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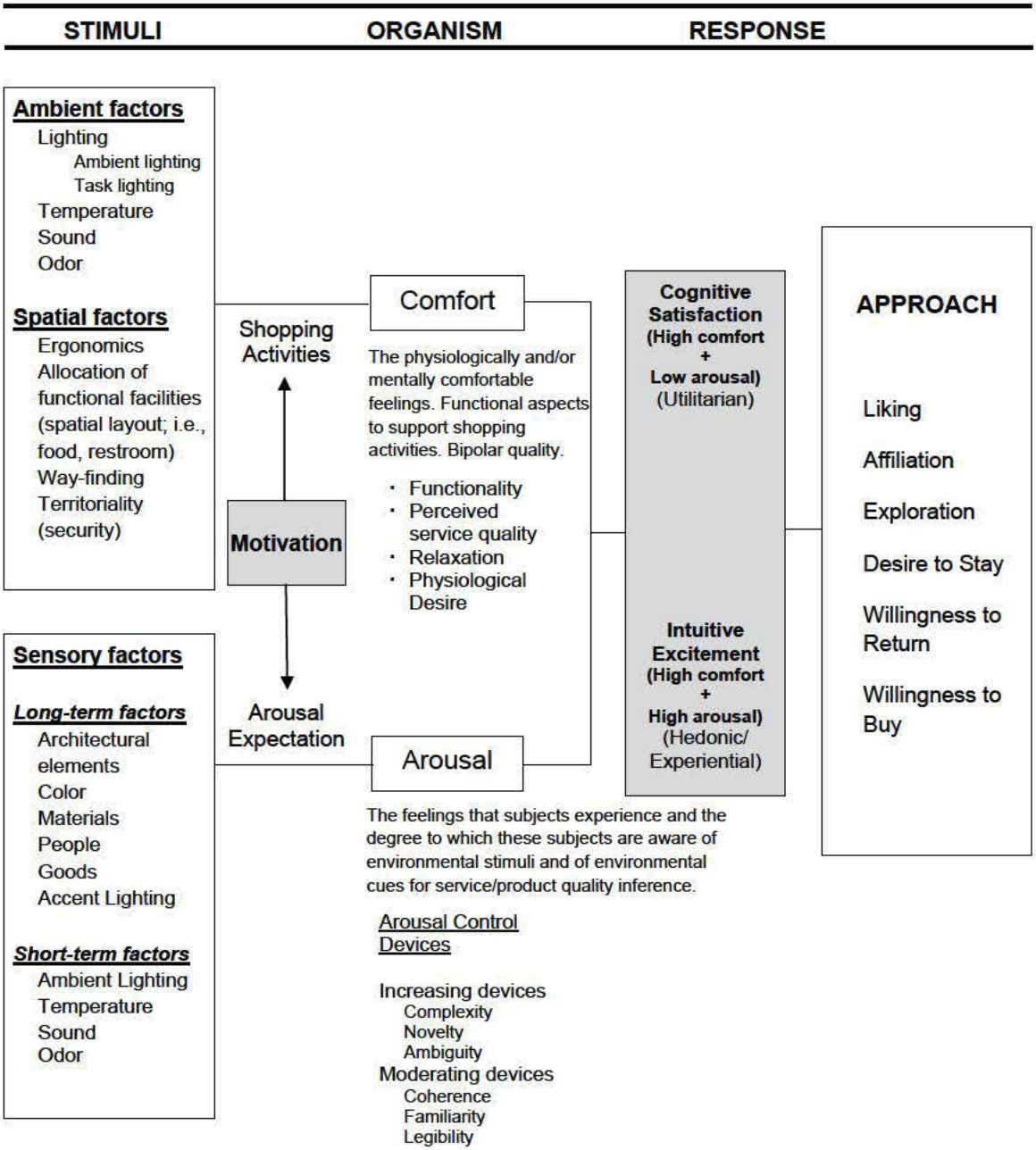
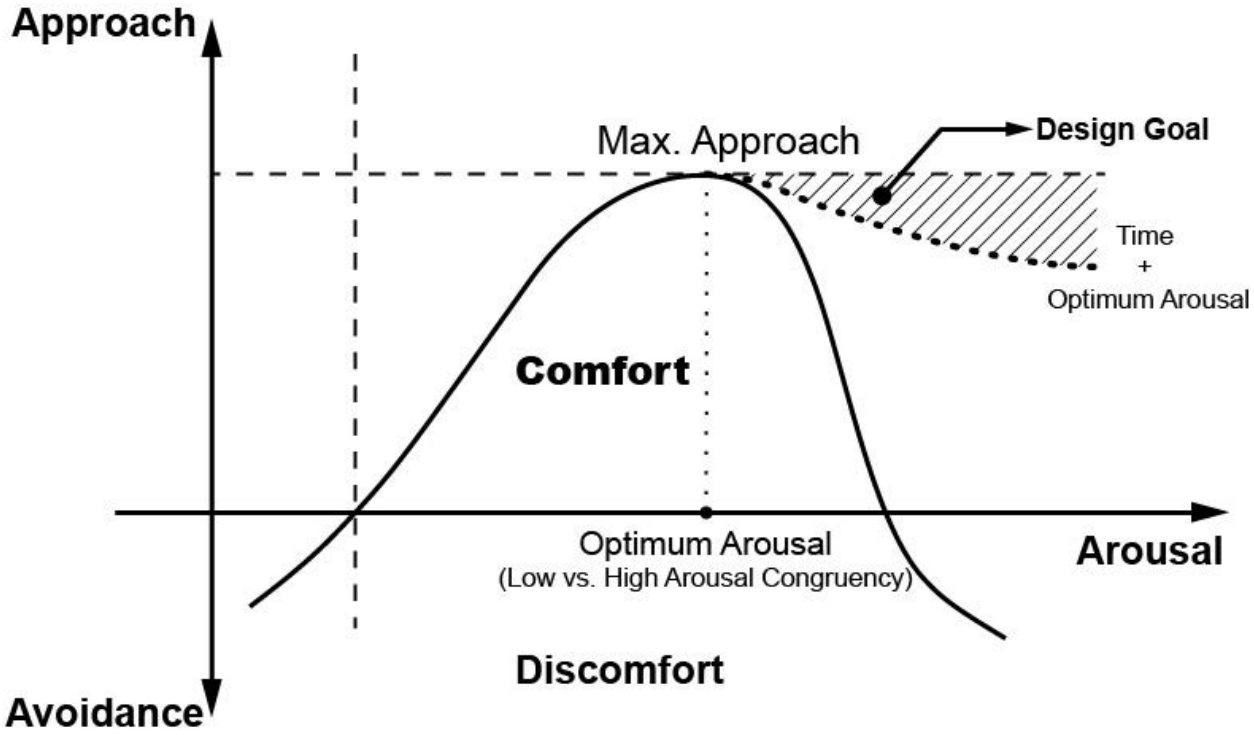
APPENDIX

Figure 1: Revised A2S Model (A2S Model.pdf)

Figure 2: Comfort-Arousal Interaction in Relation to Approach-Avoidance Behaviors (adapted from Berlyne's theory) (Arousal graph.jpg)


STIMULI
ORGANISM
RESPONSE
Ambient factors
Lighting
Ambient lighting
Task lighting
Temperature
Sound
Odor
Spatial factors
Ergonomics
Allocation of functional facilities (spatial layout; i.e., food, restroom)
Way-finding
Territoriality (security)
Sensory factors
Long-term factors
Architectural elements
Color
Materials
People
Goods
Accent Lighting
Short-term factors
Ambient Lighting
Temperature
Sound
Odor
Shopping Activities
Motivation
Arousal Expectation
Comfort
The physiologically and/or mentally comfortable feelings. Functional aspects to support shopping activities. Bipolar quality.
Functionality
Perceived service quality
Relaxation
Physiological Desire
Arousal
The feelings that subjects experience and the degree to which these subjects are aware of environmental stimuli and of environmental cues for service/product quality inference.
Arousal Control Devices
Increasing devices
Complexity
Novelty
Ambiguity
Moderating devices
Coherence
Familiarity
Legibility
Cognitive Satisfaction (High comfort + Low arousal) (Utilitarian)
Intuitive Excitement (High comfort + High arousal) (Hedonic/ Experiential)
APPROACH
Liking
Affiliation
Exploration
Desire to Stay
Willingness to Return
Willingness to Buy


Approach
Max. Approach
Design Goal
Time
+
Optimum Arousal
Comfort
Optimum Arousal
(Low vs. High Arousal Congruency)
Arousal
Discomfort
Avoidance

Differentiating between Factors that Drive Preference vs. Actual Use in Creating Successful Social Space Designs

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Understanding the role built factors play in supporting social interaction is a crucial component of developing successful social spaces. One approach toward understanding the problem of creating successful social spaces is studying environmental attributes impacting preference. For example, Kaplan & Kaplan (1989), Scott (1993), and Waxman (2006) have given us information on what environmental elements impact space preference. Kaplan and Kaplan's framework (1989) provided insight into users' needs pertaining to the perception and processing of environmental information and how these needs impact preference. In Scott's (1993) and Waxman's (2006) studies of environmental attributes impacting preference, these researchers uncovered interior environmental characteristics driven predominantly by physiological needs such as visual needs (i.e. light) and physical comfort (i.e. comfortable seating).

Examining space use is another approach toward understanding the problem of designing successful social spaces. For instance, Whyte (1980) investigated factors driving use patterns in urban outdoor plazas. Among Whyte's findings were environmental attributes that addressed physiological needs (i.e. sittable space) and enhanced safety and social interaction opportunities (i.e. providing a 'mayor' of the space and also clustering commercial establishments).

Even with the research base we have today, interior social spaces, specifically in retirement communities, are not consistently used at the level they were intended. Findings from existing research advanced the understanding of built factors influencing social space success. From here, we still need to know if aspects driving preference/like are the same drivers of space use. Also, whether or not these drivers are the same, what are the environmental factors that predict both use and like in retirement community social spaces? In order to investigate factors influencing both space use and preference/like, this researcher proposed and tested a needs-based hierarchical framework to understand the problem of how to design well used and well liked social spaces in retirement communities. This framework took a holistic, needs-based approach in understanding space use and like.

This study's findings indicated this framework is a useful tool for understanding how to create social spaces that are both well liked and well used. In addition to learning that the most liked spaces were not always the most used (and the same was true in reverse), also the research indicated environmental factors that predict both space like and use included a range of need-based environmental attributes. From this, it is clear there is a difference between how environmental characteristics drive space use compared to how much space is liked. Also, these findings indicate a more holistic, needs-based approach is crucial to understanding environmental drivers of use and like in social spaces.

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Toward the Development of a New Theoretical Model to Advance Applied Research on Social Space Design in Retirement Community Social Spaces

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Research has shown the desire for social interaction remains high in later life and "the ability to satisfy this desire (for social interaction) contributes to morale, adjustment, and life satisfaction" (MacNeil & Teague, 1987). Perhaps because of this, even not-for-profit retirement communities often try to stretch their budget dollars to include extra square footage for resident social use. Some of these spaces become active social hubs while others remain underutilized.

Additionally, existing gerontological research indicates there are many health and wellness benefits to individuals engaging in appropriate amounts of quality social interaction. These health and wellness benefits associated with social interaction include a decreased risk for Alzheimer's (Kondo & Yamashita, 1990) as well as decreases in depression and increased longevity (Glass et al., 2006). These studies, however, only tell us why social interaction is important without telling us how to enable older adults to have more quality social interaction opportunities. When social spaces are underutilized in retirement communities, this is particularly frustrating because not only have monetary resources been wasted but also residents' health, wellbeing, and satisfaction with living in the retirement community are negatively impacted.

While researchers in many design fields, such as urban planning (Whyte, 1980) and landscape architecture (Cooper Marcus & Francis, 1990), have recognized the importance of social interaction, the diversity of this literature prevented it from building sequentially or cumulatively. There was not a map or guide to support academics or practitioners in the understanding and development of well liked and used retirement community social spaces. When this researcher organized the related literature and examined areas of overlap, a 'map' or theoretical framework evolved. From this a theoretical framework, the Successful Social Space Attribute Model, was proposed by this researcher to help understand the problem of designing well liked and well used social spaces. Progress on the development of this model was the result of a recent study of retirement community social spaces.

This framework addressed factors impacting the success of retirement community social spaces. This paper will present this theoretical model and the two branches that were of particular interest in this study which included factors unique to the individual and environmental design characteristics. This study found these branches to be applicable to the study and design of well liked and well used retirement community social spaces. Because of this, there is a need to further develop this model as whole. With further development this is likely to increase its usefulness as a tool to advance the understanding of successful social space design and to understand the lives of retirement community residents. This paper will examine the progress made on the development of this model to date, in addition to areas where further research is needed such as in the programmatic, cultural, and environmental design factors that impact the social lives of retirement community residents.

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{Variable Durability in Design: *Using transformative material processes to rethink longevity and disposability in interior design*}

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ABSTRACT

Transformative material processes (planned obsolescence, disposability, and biodegradation) can provide a new model for reconciling cultural desires for more with a sustainable mandate for less. Rather than viewing the design of the built environment as means to a single, complete "finished product", transformative material processes can be applied as opportunistic and systematic strategies for designed environments that can productively evolve over time.

Current sustainable strategies in the architectural field are dominated by a conservative approach to use less, make less and consume less, epitomized by the ubiquitous attitude of "Reduce, Reuse, and Recycle". This austere sentiment for 'less' is accommodated by building for long-term durability. There is an abundance of underutilized built space in the world today, particularly in areas with drastically shifting industrial resources like Flint and Detroit in the US. As housing in these areas are abandoned, scavengers increasingly strip the structures of recyclable materials (aluminum siding, copper pipes, etc) leaving the bulk of the building material left unprotected and exposed to accelerated decay. Ultimately, the ability to recycle proportionately small amounts of the building material renders a large portion of the material unusable again, producing a huge amount of unnecessary waste. These blighted urban areas are the physical embodiment of the result of the material inefficiencies inherent in our current building systems. Because we design for a building's durability in terms of total assembly, we overlook opportunities to think of the built environment in terms of replaceable assemblies of varying durabilities.

A useful model for this component-based way of thinking in the built environment is found in the fashion industry in the mid-19th century. The durability cycle of clothing is a logical extension of the material conditions required for the human body and the climatic protection that clothing provides. Disposability first arrived in mass production with the widespread use of paper collars, cuffs and

shirtfronts in men's fashion. Shirt parts were inexpensive, widely available and easily disposable. They omitted the need to replace an entire shirt once the visible portion was stained or worn. The restructuring of the shirt to provide for single disposable components lengthened the life of the body of the shirt and allowed for durability to adjust according to the use patterns inherent in particular areas of the shirt structure. By acknowledging a variation of needs for durability in this case and making something strategically and variably disposable, overall durability and functionality were extended with minimal waste.

Using the paper shirt collar as a model, this paper will propose a new mode of material assembly in the built environment that embraces obsolescence, disposability and biodegradability as a new trajectory for the sustainability movement. This paper will advocate for the architectural field to rethink the construction assembly of buildings and think in terms of component-based variable durability of materials.

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Exploratory and Confirmatory Factor Analyses of Occupants' Satisfaction with Indoor Environmental Quality in Sustainable Buildings

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ABSTRACT

The purpose of this study is 1) to identify underlying factors from indoor environmental quality (IEQ) attributes and 2) to test the adequacy of the model showing the relationships between IEQ attributes and identified factors.

Method. A self-administered, on-line, POE survey questionnaire was used to collect data from three sustainable buildings from 2008 to 2010. Data related to occupants' satisfaction with IEQ at the workstation level were selected for this study. A 7-point Likert-type scale was used to rate satisfaction (1= very dissatisfied; 7=very satisfied). After data screening work, a total of 289 samples were used to analyze the data. Exploratory factor analysis (EFA) was used to identify the factor structure of 20 items related to IEQ attributes. The internal reliability of items was also estimated. And then, confirmatory factor analysis (CFA) was conducted to validate the findings by EFA.

Findings. For EFA, a principal axis factoring was chosen as an extraction method. An oblique rotation with a direct oblimin (=0) was used because extracted factors might be correlated with one another. Data were suitable for factor analysis when checking Kaiser-Meyer-Olkin measure of sampling adequacy (.91) and Bartlett's test of sphericity ($p<.001$). Based on Kaiser-Guttman rule (eigenvalues >1.0) and a scree plot, a five-factor solution was selected. All items significantly loaded on only one

factor at a cut-off value of ±.35 (Table 1). Factors were labeled as Furnishings, Thermal conditions, View conditions, Lighting conditions, and Acoustics and Privacy conditions. All factors had the internal consistency reliability (Cronbach's alpha > 0.81).

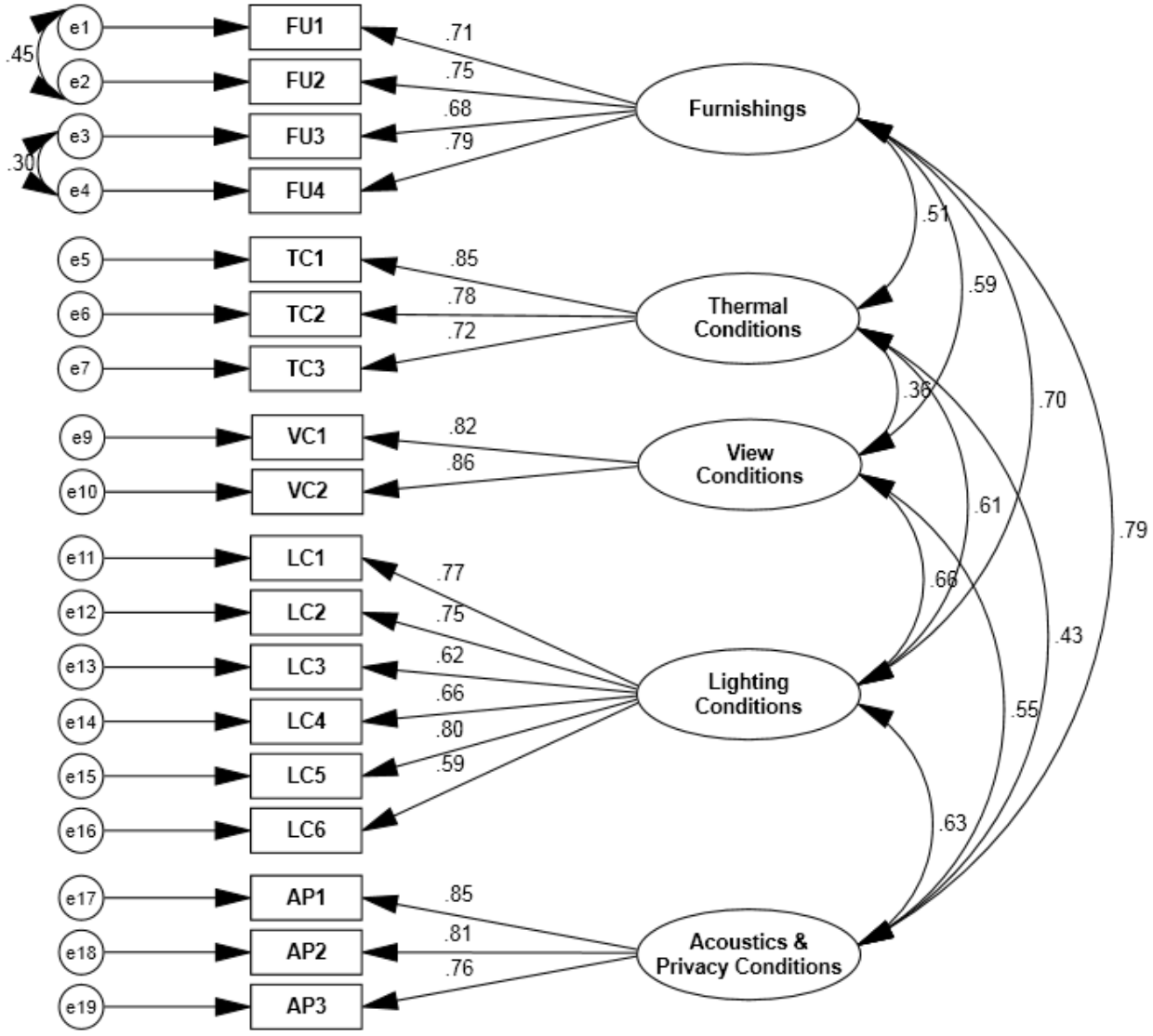
The maximum likelihood estimation procedure was used to perform the CFA and various model-fit indices were estimated. The initial five-factor model derived from EFA did not fit well: χ^2/df = 2.875, GFI = .860, AGFI = .816, CFI = .904, NFI = .862, IFI = .905, TLI = .886, and RMSEA = .081. Through the model modification process by checking modification indices and standardized residuals, two items (humidity and ability to understand desired sounds) were deleted in the final CFA model (Figure 1). Factor loadings for all variables on each factor ranged from .59 to .86. The final CFA model showed the acceptable model fit: χ^2 (df = 123) = 307.8, p<.001, χ^2/df = 2.503, GFI = .891, AGFI = .849, CFI = .933, NFI = .895, IFI = .934, TLI = .917, and RMSEA = .072.

Conclusion. The findings of this study showed the different factor structure compared to the current existing IEQ survey questionnaires. Occupants perceived acoustic conditions and privacy conditions together as "acoustics and privacy conditions." Personal control criterion was perceived with other criteria, such as thermal conditions and lighting conditions. This newly identified five-factor model is meaningful itself in that it indicated how occupants perceive IEQ of their workstations with relation to their satisfaction. Further, this can contribute to the development of the current occupant survey questionnaire for researchers and practitioners.

APPENDIX

Table 1: EFA results (EFA results.pdf)
Figure 1: The final CFA model (The final CFA model.pdf)

Items (IEQ attributes)	Extracted Factor Loadings				
	1 Furnishings	2 Thermal Conditions	3 View Conditions	4 Lighting Conditions	5 Acoustics & Privacy Conditions
FU1. Comfort of your workstation furnishings	.78				
FU2. Ability to adjust your furniture to meet your needs	.73				
FU3. Amount of space available for your individual storage	.70				
FU4. Amount of space available for your individual work	.67				
TC1. Temperature		.82			
TC2. Air velocity		.79			
TC3. Extent to which you can control the adjustable floor air vent (diffuser)		.63			
TC4. Humidity		.48			
VC1. Extent to which you have an external window view when standing			-.80		
VC2. Extent to which you have an external window view when seated			-.70		
LC1. Amount of electric lighting				-.84	
LC2. Visual comfort of the lighting				-.67	
LC3. Extent to which you can control the desk (task) light				-.65	
LC4. Ability to control or block sunlight				-.58	
LC5. Amount of daylighting				-.56	
LC6. Automatic controls that change electric lighting in response to daylighting available				-.49	
AP1. Level of sound privacy					.77
AP2. Background noises					.76
AP3. Level of visual privacy					.57
AP4. Ability to understand desired sounds					.49
Eigenvalues	8.52	1.79	1.40	1.12	1.03
% of variance of Eigenvalues	42.61	8.95	6.98	5.60	5.14
Reliability (Cronbach's alpha)	.85	.84	.81	.85	.86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.81
.76
Furnishings
Thermal Conditions
View Conditions
Lighting Conditions
Acoustics & Privacy Conditions
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.59
.70
.79
.36
.61
.66
.43
.55
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Locating the Authority of the Interior Designer in the Interwar Period: Domestic and Professional Possibilities and Conflicts

Erin Cunningham

University of Oregon

In 1937 Eleanor Roosevelt described new professional opportunities for women within the New Deal building programs in her syndicated "My Day" column. "No matter how good the architects are," she wrote, "the particular power to visualize the room when lived in seems to be left out of them." This inability of the architects, she explained, might be addressed by having women "go over" the architect's plans with "an eye to placing the furniture in the rooms and then living in them afterwards." At the time, her friend, designer Dorothy Draper, was supplying this type of service for more upscale homes. But according to Roosevelt, this type of talent was also "needed in the low cost projects, and should certainly be a women's profession." The home, Roosevelt wrote, was a "women's providence" and applying her knowledge to the development of public housing was to "everybody's benefit."[1] The idea that the home was the natural providence of women was not new. Progressive era reformers had utilized this rhetoric to justify their involvement in the physical and social well being of city life. By casting women as leaders in the design of public housing interiors Roosevelt drew from a social ordering in which women's authority was grounded in the home and not in the labor market.

However, beginning in the 1930s, designers were attempting to distance themselves from the idea interior design was an extension of the home. In 1935 the American Institute of Decorators (AID) met in New York City to discuss a new definition for the professional decorator. These designers rejected the idea that design was "women's providence" and proposed instead that it be a profession based on education and training. The definition of decorator that they established was "one who, by training and experience, is qualified to plan, design and execute structural interiors and their furnishings and to supervise the various arts and crafts essential to their completion." They also acknowledged the need to

[1] Eleanor Roosevelt "My Day," 19 November 1937, The Eleanor Roosevelt Papers Project, George Washington University.

change their title from decorator. But as AID member Nancy McClelland explained, "nothing suitable seemed to present itself."[2] Efforts to define the field in terms of education and skill rather than gender and innate ability escalated in the following years and ran counter to Roosevelt's constructions of women's work. In essence, Roosevelt and AID grounded the professional authority of designers in different places, creating a tension between women's traditional roles and their current occupation that profoundly shaped the developing field of interior design. Drawing on primary and secondary sources and locating the development of the profession in this broader discussion of wage work between the First and Second World Wars, this paper highlights how the field of interior design was ahead of its time in creating a place for women as professional workers in an era when women's work was closely connected to the home.

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[3] This paper relies on a thorough analysis of primary sources, including the *New York Times*, *St. Louis Dispatch*, *Chicago Tribune* and Eleanor Roosevelt's syndicated *My Day* column. As well a number of publications from the American Institute of Decorators and the American Institute of Interior Decorators were queried. These include: American Institute of Interior Decorators. *Proceedings of the Round Table Discussions on Training for the Interior Architect and Decorator*. New York: The American Institute of Interior Decorators, 1938; The American Institute of Decorators. *At Home in America 1954: American Institute of Decorators Exhibition*. New York: The American Institute of Decorators, 1954; American Institute of Decorators*. The A.I.D. Annual*. New York: American Institute of Decorators Inc., 1942; American Institute of Decorators. Membership, 1947. New York: American Institute of Decorators, 1947: American Institute of Interior Designers. *Manual of Professional Practice*. New York: American Institute of Interior Designers, 1955.

The Relationship between Employees' Satisfaction with and Physical Readings of Thermal, Acoustic, and Lighting Conditions of their Sustainable Workspaces

Kara Freihoefer, Denise Guerin, Caren Martin, Hye-Young Kim, Jonee Kulman Brigham

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The impacts of global warming and natural resource depletion have prompted the modern architectural and design industries to concentrate on environmental values. To help standardize environmental performance of buildings, several organizations have developed sustainable design guidelines. Currently, federally-funded and some state-funded building projects require the use of these guidelines.

An intent of sustainable design guidelines is to provide occupants with a healthy and satisfying indoor environment; however, there is a gap in knowledge of how these guidelines influence occupants, yet there are over 9,226 buildings in the nation designed accordingly (USGBC, 2011). Typically, once construction is completed, occupants' voices have gone unheard (Fard, Brager, Arens, & Kammen, 2006). Consequently, a building could follow sustainable design guidelines but not support its users psychologically and physically, resulting in the inability of designers and business owners to measure design results based on occupant perceptions. This research project contributes to this gap in knowledge by determining if occupants of an office building that complies with a recognized set of sustainable design guidelines are satisfied with their workspaces.

Method

The purpose of this research is to examine the relationship between occupants' satisfaction with and physical readings of their worksspaces' thermal, acoustic, and lighting conditions. A case study was

performed on a newly constructed classroom and office building on a Midwestern campus. The five-story, 118,000 square-feet building houses instructional classrooms and administrative offices that service the university's students. Second, fourth, and fifth floors have office areas that are located adjacent to classrooms. There are a total of 88 individual workspaces (36 closed and 52 open) among these floors.

The university's post-occupancy evaluation team had previously developed and tested an online questionnaire. This instrument will be used to measure office occupants' satisfaction of thermal, acoustic, and lighting conditions of their workspaces on Likert-type scale (1=very dissatisfied and 7=very satisfied). Occupants will rank itemized attributes for each condition. For example, thermal conditions will include temperature, humidity, air velocity, and adjustability; acoustic conditions will include visual and sound privacy, desired and undesired noise, background noise, vibration, and movement; and lighting conditions will include daylighting, electrical lighting, glare, contrast, reflection, views, and controllability.

In addition, physical readings of thermal, acoustic, and lighting conditions will be taken in three to four selected workspaces on each floor. A series of workspaces that bisect the office floor plans west to east will be selected for physical readings. The readings will be taken in each workspace three times—morning, mid-day and afternoon—on November 30th, 2011. The three readings will be averaged for statistical analysis.

Analysis

A Pearson's correlation analysis will be conducted to determine if thermal, acoustic, and lighting conditions are significantly related to occupants' satisfaction with their overall workspace environment. These findings will then be compared to the physical readings. The physical readings will also be benchmarked against the recommended standards set by the sustainable design guidelines.

Conclusion

The results will identify if thermal, acoustics, and/or lighting conditions significantly affect occupant satisfaction with their overall workspace environment, and determine if occupants' satisfaction correlates with the recommended sustainable design guidelines.

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Interior Design and Environmentally Responsible Design: Where are we now?

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Interior design has a tremendous impact on the environment that is often negative when environmentally responsible design (ERD) strategies are not adopted. ERD is a transdisciplinary concept that amalgamates both the macro view of sustainable design and the micro view of green design to comprise a holistic perspective (Jones, 2008). The purpose of this descriptive study was 1) to determine the firm and practitioner characteristics that impact the adoption of ERD strategies, 2) to ascertain practitioners' knowledge of ERD strategies and certified products, 3) and to document the adoption of ERD strategies using Rogers' model of the innovation adoption process.

Several studies have been conducted on the importance of sustainable and green design. The work of Kang and Guerin (2009), investigating characteristics of practitioners who were implementing environmentally sustainable interior design strategies, was an instrumental study for providing a baseline of the status of ERD. However, the study used data based on dissertation work published in 2004. Since this data was collected in 2004 and sustainability is a rapidly evolving concept and practice, it would appear that there is a need to update the current literature documenting the adoption practices of interior designers. Furthermore, Steig (2006), identified shortfalls in knowledge of sustainable design in education and professional practice. Previous research has not determined which strategies the design industry considers to be environmentally responsible. Therefore, there is no benchmark as to the industry's existing knowledge of ERD.

The cross-sectional survey utilized a purposive sample of 79 interior designers who belonged to ASID and IIDA. The web-based, self-administered questionnaire was disseminated through the

professional organizations to members across eight states. Data were analyzed using a combination of descriptive and inferential statistics.

The findings revealed that the overwhelming majority of practitioners (93.7%) were in the final stage of the adoption process. The majority of practitioners (88.3%) also had a *moderate* to *good* knowledge of ERD strategies. In looking specifically at certification programs, the findings also showed that practitioners were familiar with and have used product certification programs, although the programs were not well understood. The majority of practitioners (87%) had specified certified products on a project. However, the majority of practitioners (84%) also had *no* to *limited* knowledge of which criteria the certification programs addressed.

The results provide insight into the design industry's understanding and use of environmentally responsible design strategies. This research adds to the existing body of knowledge of interior design and provides data for future research on practitioners' level of knowledge of ERD strategies and of certification programs. This information can be used to create educational opportunities for practitioners and to facilitate a dialog to move the industry towards a more environmentally responsible future.

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Building Community 2.0: Millennials and the Changing Face of Design Education

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ABSTRACT

Born after 1982, millennials are characterized by a lifestyle immersed with technology. Electronic gadgets make up their daily gear; texting, gaming, and online chat are their forms of social interaction and entertainment (Tapscott 2009). Information is no longer gathered through traditional newspapers, books and television, but rather through the Internet. With so many newspapers recently failing, Kevin Carey warns that the printed page is the canary in the coal mine; all traditional methods of information delivery are at risk of becoming inconvenient or irrelevant and that includes higher education (Carey 2009).

The last significant independent and introspective look at design pedagogy occurred in 1996 when millennials were in grade school. *Building Community: A New Venture for Architecture Education and Practice* by Ernest Boyer and Lee Mitgang (1996) was published under the auspices of renewing the field of architecture. Results from the Boyer Report produced seven essential goals—a blueprint per se—for architectural educators and practitioners. Revelations encouraged allied fields to assess their own pedagogy and build on the Boyer Report (Guerin 1991, Bowles 2007). Missing from the literature is a Boyer-like report updated for a global audience and forecasting where interior design education might stand in the year 2030.

For this study, interviews were conducted with educators and practitioners who teach and hire interior designers. Participants varied in age, gender, experience and geographic location (USA, Canada, Hong Kong, China). The objective was to elicit information about educator and practitioners' perceptions of millennial interior designers and whether goals raised by the 1996 Boyer Report were achieved or whether challenges remain facing academia. In addition, this experimental study explored whether the two frameworks—Tapscott's study of individual characteristics and the Boyer Report which assessed systemic challenges—might triangulate and pose meaningful dialogue. To better visualize and interpret the information, eight bar charts (4x2) were created to organize responses against the four questions (students, education, practice, future) and the two frameworks (Boyer, Tapscott).

Data analysis disclosed perceived differences in millennial students and their tangible impact on design education and practice. Three themes emerged from the participant responses about millennial students: they have a lack of intellectual curiosity, view school as a means to an end, and are prone to an entitled viewpoint. The greatest concern by faculty members and practitioners was this generation's intellectual apathy. Three significant changes were noted by this study's participants: the rise in parental influence, an increased demand to narrow teaching toward standards, and a broader educational experience. Adjustments in practice also resulted in three assertions: speed and competition has intensified, the discipline of interior design has increased visibility and professionalism, and design work has become more interdisciplinary.

Findings revealed that among Boyer's seven opportunities, *learning climate*, *standards without standardization*, and *enriched mission* elicited the most and least responses by participants. Of Tapscott's eight norms, participants commented the most on *integrity*, *scrutiny*, *entertainment* and *freedom*. This study provides a benchmark to begin the necessary pedagogical dialogue. Results suggest a trajectory for design education toward the year 2030.

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Shared indigenous American cultural space: A developing model for continued use, preservation, and integration

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ABSTRACT

Ongoing colonial influences in North and South America continue to alter the course of indigenous culture and therefore the development of indigenous cultural spaces. Dominant colonial patterns of spatial types and spatial uses govern construction and culture in the Americas. Indigenous cultures have a unique tradition, distinct from European colonial models, of space creation and use. In the past, colonial-based governments, economic and cultural influences have aggressively sought to supplant indigenous cultural practices- including the creation and use of traditional spaces. Today, some indigenous cultures are solidifying and reviving their cultural heritage. Through internal and external support, cultural elements such as handicrafts, language, and costume are now being preserved and even rejuvenated in multiple indigenous communities in the Americas. However, the significance of indigenous spaces and traditional practices of spatial use may be escaping notice and preservation. Unlike more obvious cultural goods and practices: clothing, crafts, and foods, indigenous spaces and patterns of spatial use can be unintentionally altered and colonized as new opportunities continue to develop in indigenous communities.

This research examines a case study from the Southern Peruvian Highlands to explore how contemporary indigenous Quechua culture is reasserting its cultural, social, and spatial practices. The influence and actions of the Center for Traditional Textiles, based in Cusco and active in nine surrounding rural highland communities, are used to explore indigenous patterns of spatial use, define the significance of indigenous spatial use in contrast to colonial patterns of spatial use, and develop a preliminary model of how indigenous spatial use traditions can be maintained and supported into the Twenty-First Century. A counter example from the Qewar

Project in Cusco illustrates how indigenous spatial practices can be altered by non-indigenous cultural influences. Indigenous peoples in Oaxaca, Mexico provide further examples of how indigenous spatial-cultural practices are still being affected by colonial influences. In Oaxaca, recent preservation and revival efforts supported by the Getty Foundation have helped preserve weaving while simultaneously influencing the traditional spatial practices of its production. Through these examples, a model of cultural-spatial preservation is developed. Supported by local, indigenous individuals, active awareness of multi-faceted indigenous cultural heritage, and a deliberate maintenance of traditional continuity, indigenous communities can preserve spatial practices even as they continue to develop and enter the Twentieth-First Century.

Enhancing Student Learning: The Role of Sustainable Classroom Design

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Purpose

The purpose of this study is to (1) investigate students' satisfaction with sustainable design criteria used in their classrooms and (2) examine the effect of sustainable design criteria on students' perception of their learning.

Importance

This study is a part of the authors' ongoing project in which a post-occupancy evaluation (POE) tool was developed and tested. Its purpose is to evaluate occupants' satisfaction and performance in sustainable commercial and institutional buildings. It has been previously determined that the physical environment affects students' satisfaction with their classroom and their learning (Mendell & Heath, 2005; Potthoff, 2009). However, few studies have investigated the relationship between indoor environmental quality (IEQ) sustainable design criteria used in classrooms and students' satisfaction and learning. If students' satisfaction and learning are affected by IEQ, then a case for sustainable school design can be strengthened.

Method

A self-administered, on-line, POE questionnaire was submitted to students who attend classes in a major Midwestern university classroom building. The building was designed to a set recognized sustainable design guidelines. Variables were students' satisfaction with IEQ sustainable criteria (i.e., thermal conditions, indoor air quality, acoustic conditions, vibration conditions, and lighting conditions) and their

perceived effect on students' learning. Acoustic and lighting conditions were identified at the category (overall) level and attribute (specific criterion) level (see Table 1 for categories and attributes). A 7-point Likert-type scale was used to rate satisfaction (1= very dissatisfied and 7=very satisfied) and learning (1=hinders learning and 7= enhances learning). The response rate was 11.5% with 631 college students participating (631/5490).

Table 1. IEQ Categories and Attributes Used in this Study

Category	**Attribute that reflects IEQ sustainable criteria**
Thermal Conditions	Overall
Indoor Air Quality	Overall
Acoustic Conditions	The extent of background noise
	The ability to understand desired sounds
	The ability to hear presentations
Vibration Conditions	Overall
Lighting Conditions	The ability to see presentations considering light level and glare

Findings

The findings indicated that students were satisfied or highly satisfied with the thermal conditions (M=5.71, SD=1.28), IAQ (M=6.14, SD=.99), acoustic conditions (M=6.07, SD=1.00), vibration conditions (M=6.24, SD=0.92), and lighting conditions (M=6.04, SD=1.08) of their classrooms. Additionally, they perceived that these IEQ categories enhanced their learning (M=5.99, SD=1.06).

Multiple regression analysis results empirically support the proposition that sustainable classroom design plays a critical role in student leaning. Specifically, thermal conditions, acoustic conditions, vibration conditions, and lighting conditions were identified as significant predictors of students' perceived learning ($p<.001$). IAQ was not significant. Interestingly, acoustic conditions of their classrooms was the most significant determinant of students' perceived learning ($\beta=.27$, $p<.001$), followed by thermal conditions ($\beta=.19$, $p<.001$), lighting conditions ($\beta=.19$, $p<.001$), and vibration conditions ($\beta=.14$, $p<.001$).

Further findings related to acoustic conditions' attributes indicated that students were satisfied with the extent of background noise (M=5.93, SD=1.16), the ability to understand desired sounds (M=6.07,

SD=.98), and the ability to hear presentations (M=6.09, SD=1.06) in the classrooms. Student learning was influenced by all attributes of acoustic conditions, accounting for 72.3% of the total variance. In particular, students' ability to understand desired sounds in the classroom was the most powerful predictor (β=.49, p<.001). Complete analysis and discussion of findings will be presented.

Application to Interior Design and Research

Designers can use the findings to identify which IEQ sustainable classroom can enhance students' satisfaction and their learning. Overall, this study provides additional outcomes for school officials and design teams to use as support for moving sustainable design forward in school design.

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Borrowing from the Library: Evidence-Gathering Strategies for Library Design

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ABSTRACT

Quiet, “shushing” libraries are things of the past, and designers are called upon to imagine the libraries of the future. But where should designers begin? Case studies? Past experience? Industry standards? While these approaches can inform library design, this project pursues a new paradigm for library design. Taking advantage of synergies between Evidence-Based Design and Evidence-Based Librarianship, this project establishes criteria for the re-design of an existing library.

Question:

How can interior designers take advantage of synergies between Evidence-Based Design and Evidence-Based Librarianship in establishing design criteria for a contemporary library?

Theory:

Evidence-Based Design (EBD) has a clear relationship to evidence-based medicine and healthcare. EBD has expanded beyond healthcare to include other project types; however, there is a void in the literature of applying EBD concepts to library design. What evidence should inform evidence-based library design? Should libraries be influenced by medicine and healthcare, or are there other potential influences?

Evidence-Based Library and Information Practice, or EBLIP, shares many principles and processes with EBD; however, library and information scientists focus time and resources on different aspects of libraries. While interior designers focus on formal, spatial, and functional aspects of libraries, those in EBLIP focus on user-centered efficiency and usability of an online catalog or database, for example. Strategies of EBLIP, however, can be applied to interior design research.

Framework:

The framework explored by this research is underpinned by the EBLIP processes outlined by Lisa Cotter and Andrew Spencer as the Five A’s – Ask, Acquire, Appraise, Apply and Assess. Exploring the synergies between EBD and EBLIP, the Principal Investigator established a relationship with the Greensboro (NC) Public Library System to use an existing branch, the Vance Chavis Branch Library, as a research site. This particular branch occupies an important place in an African-American community as the first integrated public library branch in the city. Re-named after an influential civil rights leader, this branch is on the cusp of expansion or renovation.

This research project asked the following questions: 1) What are the current relationships between library patrons and technology? 2) What are the relationships between library functions and spatial organization? and 3) What are the current and future spatial and functional needs for technology? Using patron surveys, staff interviews, and natural observation, the project team studied how library patrons use computers, mobile devices, and other digital technology.

Findings:

Findings suggest that the library of the future will require greater access to technology for all age groups. This particular library needs more evenly distributed computer terminals, more space around computer terminals, greater separation between different age groups, and a better integration of natural light into the space.

Implications:

The research offers insight into how digital technology impacts how people use libraries. The research suggests that learning done around a computer terminal is social, requiring new approaches to space planning and furniture selections in libraries. This research will establish design criteria for libraries of the future, both local and global in scope. Lastly, this research bridges two disciplines, interior design and library science.

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APPENDIX

Figure 1: Research Overview (Vance-Chavis-Overview.pdf)

Figure 2: Library Circulation + Function (Vance-Chavis-CirculationFunction.pdf)

Figure 3: Library Technology Demands (Vance-Chavis-TechnologyUser.pdf)

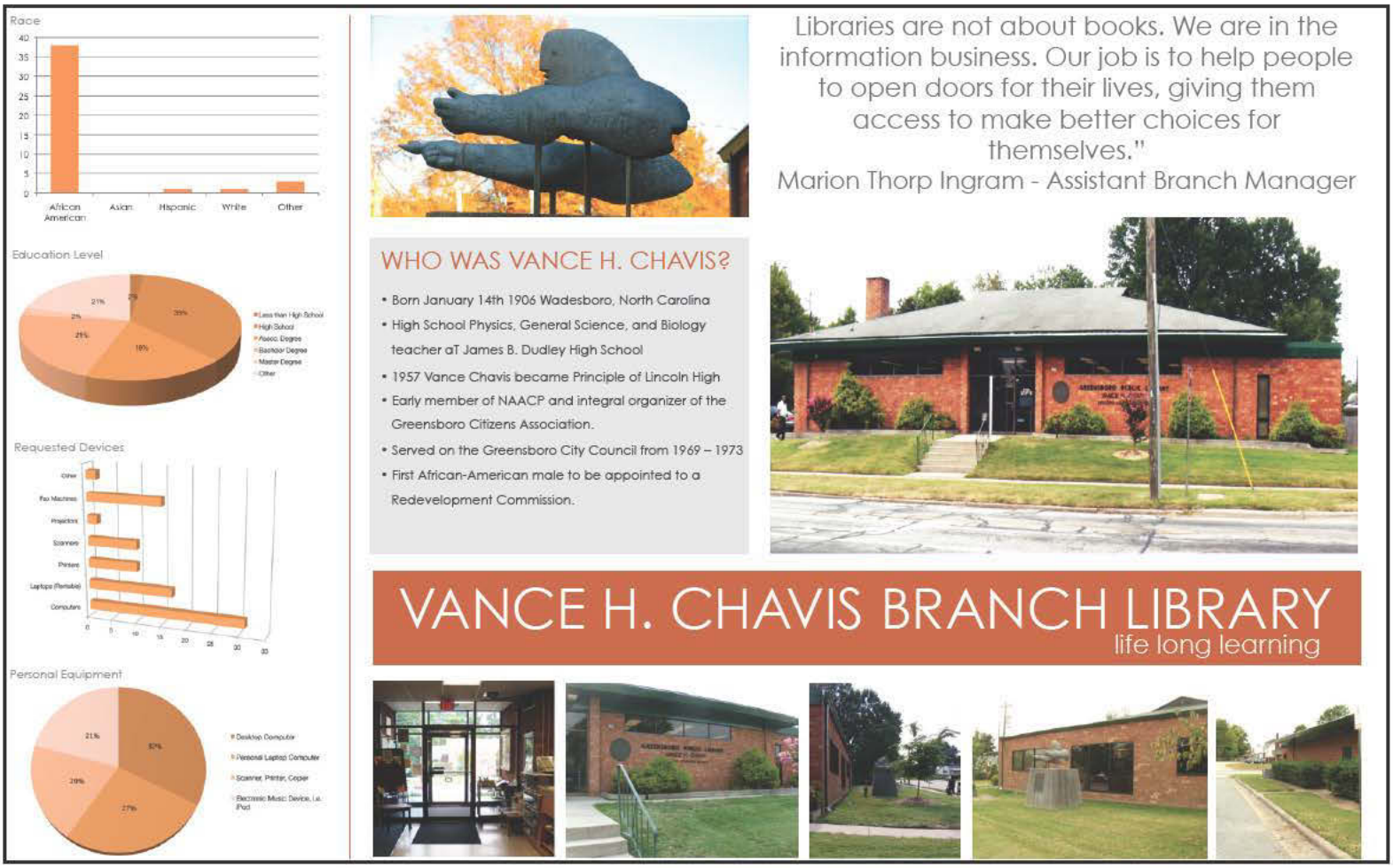
Race
African American
Asian
Hispanic
White
Other
Education Level
Requested Devices
Personal Equipment
Libraries are not about books. We are in the information business. Our job is to help people to open doors for their lives, giving them access to make better choices for themselves."
Marion Thorp Ingram - Assistant Branch Manager
WHO WAS VANCE H. CHAVIS?
• Born January 14th 1906 Wadesboro, North Carolina
• High School Physics, General Science, and Biology teacher aT James B. Dudley High School
• 1957 Vance Chavis became Principle of Lincoln High
• Early member of NAACP and integral organizer of the Greensboro Citizens Association.
• Served on the Greensboro City Council from 1969 – 1973
• First African-American male to be appointed to a Redevelopment Commission.
VANCE H. CHAVIS BRANCH LIBRARY
life long learning

Figure 1

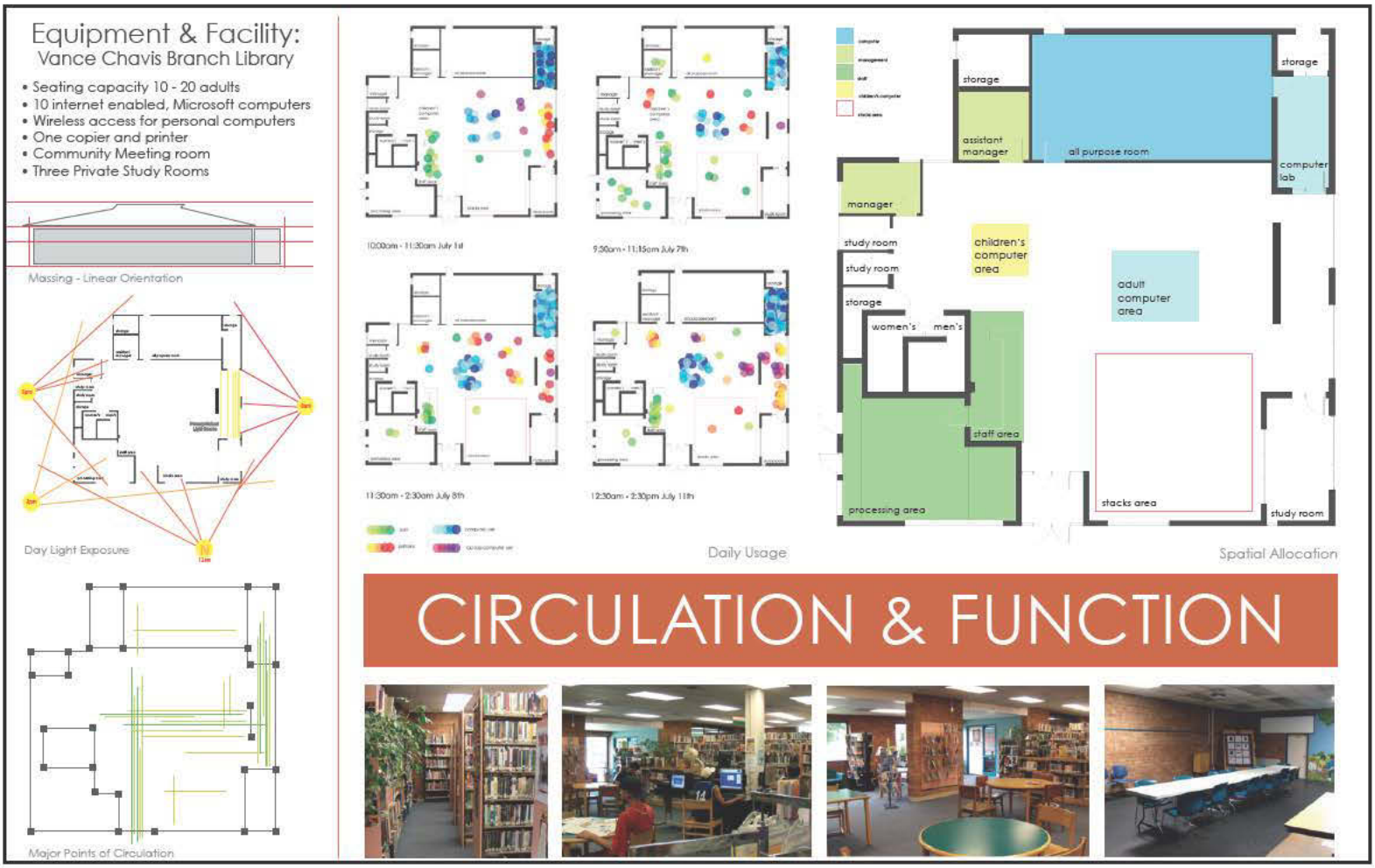
Equipment & Facility:
Vance Chavis Branch Library
• Seating capacity 10 - 20 adults
• 10 internet enabled, Microsoft computers
• Wireless access for personal computers
• One copier and printer
• Community Meeting room
• Three Private Study Rooms
Massing - Linear Orientation
Day Light Exposure
Major Points of Circulation
10:00am - 11:30am July 1st
9:30am - 11:15am July 7th
11:30am - 2:30am July 8th
12:30am - 2:30pm July 11th
Daily Usage
storage
storage
assistant manager
all purpose room
computer lab
manager
study room
study room
storage
children's computer area
adult computer area
women's
men's
staff area
processing area
stacks area
study room
Spatial Allocation
CIRCULATION & FUNCTION

Figure 2

Patron Rating of Library Devices
More than adequate
Less than adequate
Adequate
Primary Usage of Library Computers
34%
24%
15%
17%
10%
Internet
Word documents
Paying Bills
Listening to music
Other
Average Time Spent Using Library Computers Per Week
None
Less than an hour
1-2 hours
3-5 hours
6-10 hours
11-15 hours
16-20 hours
More than 20 hours
Percentage of People Who Would Increase Usage if there Were More Computers
No, 20%
Yes, 80%
Proposed New Stations
Existing Stations
Out of Order
Current Spatial Massing
Computer Stations
Main Library
Computer Stations
Community Space
Computer Stations
Main Library
Computer Stations
Potential Spatial Massing
Benjamin Branch Library
• Seating capacity 30 -40 adults
• 24 internet enabled, Microsoft computers
• Wireless access for personal computers
• Self serve check-out and book return
• DVD and digital book rental capabilities
TECHNOLOGY AND USER NEEDS

Figure 3

Form follows Pedagogy: Progressive Education and America's Postwar Elementary Classroom

Morris Hylton III and Clarissa Carr

University of Florida

Abstract

Educational progressivism impacted the way American students learn. In the decades between the World Wars, reformers such as John Dewey (1859-1952) in publications like *The Child and the Curriculum* (1902) and *Experience and Education* (1938) and William Heard Kilpatrick (1871-1965) with his "project method" approach challenged traditional learning methods focused on the retention of knowledge through memorization and recitation. Though the movement was multifaceted, many progressive education advocates promoted, among other things, experiential learning through individual and collaborative activities. [1]

As project-based, hands-on pedagogies gained favor throughout the 1920s and 1930s, some architects and designers responded by transforming the traditional classroom, especially elementary classroom. The standard rectangular plan with rows of seats facing a teacher's desk and chalkboard and a bank of windows along one wall was replaced. L-shaped classrooms afforded natural light from two directions multiple zones and flexible, movable furnishings that could support a wide array of learning-by-doing lessons.[2] This new classroom would become an influential model following the Second World War when more than 50,000 American public schools were constructed between 1950 and 1970 as student enrollment surged by some 45 million.[3]

Expanding on the model, postwar elementary classrooms became increasingly child-centered drawing upon recent research into lighting, color, and airflow and their impact on learning to create self-contained, multi-purpose interiors. New materials and technologies—many of which were developed as part of the war effort—helped create this new classroom paradigm.

Through a review of literature and analysis of case studies, this presentation explores progressive educational methods and how they helped establish a new model for America's elementary school classrooms. The case studies include examples from before and after World War II (1940-1960): the Crow Island Elementary School (1940), Winnetka, Illinois and Englewood Elementary School in Sarasota, Florida.[4]

References (The Chicago Manual of Style)

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[1] For an overview of progressive education see Lawrence A. Cremin, *The Transformation of the School: Progressivism in American Education, 1876-1957* (New York, NY: 1961); Arther Zilversmith, *Changing Schools: Progressive Education Theory and Practice 1930-1960* (Chicago, 1993); and Gerald L. Gutek, *American Education 1945-2000: A History and Commentary* (Prospect Hills, IL: Waveland Press, Inc., 2000).

[2] Examples changes in prewar classrooms are described by Amy F. Ogata, Building for Learning in Postwar American Elementary Schools," *Journal of Society of Architectural Historians* Vol. 67, No. 4, December 2008: 563-568.

[3] The estimate of public schools constructed in the United States in the 1950s and 1960s was derived from annual reports published in *The American School and University* and "How Old Are America's Public Schools?" *National Center for Education Statistics Issue Brief*, U.S. Department of Education Office of Educational Research Improvement, January 1999, 1-2. For student enrollment statistics, see Department of Education, National Center for Education Statistics.

[4] Information on the Crow Island and Englewood Schools comes from a number of sources including Frances Pressler, "Letter to the Architects," in "Crow Island School," *Architectural Forum 75* (August 1941), 80; and John I. Goodlad and Robert H. Anderson, *The Nongraded [sic] Elementary School*, Revised Edition (New York: Harcourt, Brace & World, Inc., 1963).

A NEW ORGANIC PARADIGM: SUSTAINABLE, COMMUNITY-BASED DESIGN PEDAGOGY AND PRACTICE

Aaron Kadoch, Assistant Professor, AIA

The University of Wisconsin Stevens Point, Division of Interior Architecture

Community-Based design bridges gaps between theoretical, pedagogical and professional strategies of building sustainably through an emphasis on process. The community setting and integrated prototype projects serve as effective process learning environments. The cultivation of a student's skill-set is enriched and symbiotically, community and project stakeholders gain valuable analysis and organization of their resources for planning, design, and sustainable project integration. (Brand,1994; Kats, 2010). Teaching sustainable design and preparing students of interior architecture for successful careers is an intrinsically linked endeavor, as showcased by programs like The Rural Studio (Dean & Hursley, 2002), yet we need professional and curriculum-based tools to facilitate meaningful experiences. This research outlined the context for the creation of practical Community-Based design tools, integrated them into a prototype project, and analyzed their efficacy for further development and wider usage.

The research identified five content areas to organize community resources: (1) cultural and historical connections; (2) natural resource utilization; (3) technology integration; (4) local craft and human resources; and (5) design process integration. These content areas provided a framework from which tools were fashioned. They include: (A) a project management and team building tool; (B) a community resource database; (C) a sustainable programming and planning tool; (D) a community based cost estimating tool; and (E) a design visioning and resource integration tool.

As a result, the project management and team building tool connected community members and project developers in a mutually beneficial partnership. The resource database identified opportunities for collaborative design between students and project stakeholders. The programming and planning tool ensured the integration of local resources with design strategies across interdisciplinary needs. The cost estimating tool integrated life cycle analysis with community benefit factors to improve sustainable

investment regionally and taught development economics. The design visioning tool tied schematic solutions to cultural, natural and technological resources aesthetically and functionally. The latter tool was designed to guide subsequent construction document and management phases more efficiently so that local resources have a competitive edge within environments of global competition. Overall, tools provided students with strategies for implementing professional skills through educational practicum.

An agricultural resource and educational facility under development In Stevens Point, Wisconsin was identified as the primary prototype project to explore the value of using tools to integrate professional and educational design processes. The project was organized along regional food growth and consumption models that intrinsically embody the principles of Community-Based planning. The project provided a framework for students and clients to understand sustainable design processes as the basis for developing a product rooted in the values and resources of its community.

The tools developed organize community resources and teach design organically as a bottom-up, process model. This is a departure from mainstream Design-Bid-Build delivery systems and LEED outcome based models that dominate professional practice environments where graduates continue to intern post-graduation. For centuries, the relationship between master builder and apprentice was the basis for an integrated professional and educational system where the timeless process of resource and craft based design was taught and practiced within distinct regional and cultural centers. (Farmer, 1999)

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Resident perceptions and behaviors toward LEED-certified Habitat for Humanity

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ABSTRACT

Post Occupancy Evaluation (POE) determines if buildings are functioning as intended and assesses how well they match user needs. This is particularly important for green buildings because this assessment helps designers, architects, builders and policymakers understand how to obtain the desired results of green building systems. Although sustainability is now becoming a priority in the housing industry, Post Occupancy Evaluation of green homes remains significantly underutilized, and the extent to which green homes actually improve residents' comfort, satisfaction and quality of life remains uncertain.

In the low-income housing sector, sustainability is entering the mainstream, due in large part by Habitat for Humanity's efforts. Given that little is known about the performance of low-income green homes, the purpose of the present study was to investigate resident perceptions and behaviors in relation to LEED-certified Habitat for Humanity homes in order to provide feedback for future low-income green home projects.

The present study conducted a Post Occupancy Evaluation of LEED-certified Habitat for Humanity homes in Kent County, Michigan. Of 74 LEED-certified Habitat for Humanity homes in Michigan (one rated as certified, 47 silver, 25 gold and one platinum) (U.S. Green Building Council, 2011), 15 were selected for case studies (3 gold and 12 silver). To collect opinions about their LEED-certified Habitat for Humanity homes, we conducted in-depth interviews with the residents via a standardized questionnaire, and then analyzed the data using content analysis.

Results revealed that all participants were highly satisfied with their current homes. In particular, participants were pleased by: (a) having their own home for the first time; (b) living in a new and considerably improved home environment compared to their previous rental homes; (c) saving money on

energy bills by living in a green home; and (d) feeling that they had received special care for their housing needs (e.g., handicap-accessible accommodations, outdoor playground for kids).

Participants indicated that the best benefits of their LEED-certified homes were their savings from lower energy-related costs and the performance of the green systems. Participants agreed that their environmental behaviors were changed after moving into their green homes, as a result of being motivated to strongly participate in recycling and intentional energy-saving behaviors, such as turning off power when not in use.

In terms of knowledge of LEED-certified homes, most participants had not been well informed about the LEED certification before moving in. Due to a lack of education, many households had removed or simply did not use some of the green features that had been put in place, such as water-saving fixtures, energy-efficient light bulbs, and air exchange systems.

These findings implied that better education about LEED certification should be considered, and a more detailed manual should be provided for residents. Given that one of the prerequisites for LEED for Homes is awareness and education, a more effective education system is critical. Future study of residents living in LEED-certified non-Habitat for Humanity homes is recommended to better understand and compare their experience of LEED-certified homes to that of Habitat for Humanity residents.

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Innovation characteristics and intention to adopt sustainable facility management practice

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ABSTRACT

The purpose of this study was to examine innovation characteristics that relate to facility managers' intention to adopt sustainable facility management practice. Diffusion of Innovations theory (Rogers, 1995) explains that diffusion is the process by witch an innovation is communicated through certain channels over time among the members of social system. Several characteristics of innovation that influence individual's decision to adopt or reject innovation are defined in the Diffusion of Innovations theory. Based on the characteristics of innovation defined in the theory, this study identified factors that refer each characteristic and a model that explains how facility mangers adopt sustainable facility management practice. Some items were dropped or added based on literature review because there is a lack of empirical research using Diffusion of Innovation theory in sustainable facility management. The proposed sustainable facility management innovation and adoption model includes economics factors, social status, health, human comfort, complexity, and observability as exogenous factors. Self-rated importance of sustainable facility management practice and intention of adoption towards sustainable facility management practice by facility managers were endogenous factors.

To collect the data, a survey was conducted for this study. The survey information was collected at one point in time as cross-sectional. A structured questionnaire was developed for this study. The first draft of questionnaire was pretested and questionnaire was revised in accordance with the results.

A structured questionnaire was developed to measure the factors included in the proposed sustainable facility management innovation and adoption model. Additionally, fact-gathering questions relating to the respondent's demographic information such as gender, age, the highest degree earned, and years of practice was included in the questionnaire. The questionnaire was sent to a convenient sample of public facility managers at 25 facility management divisions in Seoul, Korea and its

Metropolitan areas. Useable responses were received from 240 facility managers. Inferential statistical analysis focuses on the relationship between innovation characteristics and the intention to adopt sustainable facility management practice. Descriptive statistics were conducted using SPSS while inferential statistics such as multivariate analysis was conducted employing SPSS 14 and LISREL 8.54. To find promoting variables or barriers for sustainable facilities management adoption, and to examine the multiple relationships simultaneously, Structural Equation Modeling (SEM) was conducted.

The results of this study showed that economic factors and human comfort are predictors for the intention of adoption towards sustainable facility management. Observability is positively relevant to the intention to adopt sustainable facility management practice in public buildings. Contradictory to the hypothesis, complexity is not a significant predictor for the intention of adoption towards sustainable facility management. The findings suggested that practitioners who try to promote the diffusion of sustainable practice should start by convincing potential adopters of the advantages of the innovation. Guidelines and decision aid tools sustainable facility management are often perceived to complicate matters or be too expensive to practice in the field. Practical implication for sustainable products and systems, built environment are suggested.

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Co-Eds and T-Squares: Politics, Gender, and the Discipline of Design Education in Home Economics at Mid-Century

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ABSTRACT

In this research, I challenge and expand our understanding of interior design education as a humanist endeavor, defining an area of research not often explored: collegiate training for designers at mid-century. Situating the values extracted from educational curricula in context, I probe at the tangled nexus of history, gender, and disciplinarity through analysis from data at several university archives.

In the two decades after World War II, women entered training in droves for the newly professionalizing field of interior design, often in home economics schools. Thus this twenty-year period of curriculum development and first efforts at teaching about interiors provide one way to scrutinize the human condition as understood by educators and students taking up the task of designing houses, cultural artifacts that geographer Peirce Lewis (1975) characterizes as our “unwitting biographies,” buildings that unconsciously reflect the intentions of their owners. By studying the values embedded in the curricula, we come away knowing the place of women and the education required to put them in that place. As Dolores Hayden (2002) infers: the houses of the mid-century sustain the Victorian stereotypes of the home as "woman's place," a haven for human activity shaped around a matriarchal domestic frame. In reality, these homes found women enmeshed in a form of social control – disciplined in another sense – as the unpaid household managers in the patriarchal worlds of their husbands (Foucault, 1977). By studying these buildings, most specifically through discernment of the training young designers received, I critically examine human life and the projections of human values on manicured lawns and behind picture windows of ubiquitous suburban neighborhoods at mid-century.

In that the departments of interior design generated within architectural and art programs dominate the scholarship of this woman's profession, design departments with home economics legacies find themselves often swept into a hidden aspect of institutional culture, underscoring the greater challenge in seeing home economics as a legitimate birthright (Massey, 2008; Turpin, 2007). Women who trained in home economics placed humans at the center of their work – and for this approach, they often experienced a significant devaluing of their discipline and its "applied" research within the university setting, particularly alongside men studying some of these same issues in architecture and engineering.

By focusing on the disciplined places of women in the household, the discipline of design within the home economics paradigm, and the disciplinary marginalization of women in the academy, the work yields much insight into the history of gender, education, and disciplinarity, as well as the history of the built environment…and the tangible products and spaces created in a gendered world. In the present, where we laud inter-disciplinary and multi-disciplinary approaches to the humanities, returning the previous century and investigating the human-centered research and practice in home economics allows us to uncover the politics, the identities, and the relationships among women, unsettling the historical record that has minimized the contribution of these emerging professionals.

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H.O.P.P.S.: In Search of a More Purposeful Conceptualization of Aesthetics

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ABSTRACT
Intermittently, throughout their history the design disciplines have wrestled with “aesthetics,” sometimes celebrating, later denouncing, its professional centrality. Aesthetics is often discussed in contrast to functional issues, rather than in terms of functionality (Robertson, 2010). This paper summarizes the potential perils of interpreting “function” and “aesthetics” as co-equal, potentially competing intentions. It proposes a conceptualization of their relationship in hierarchical terms, with aesthetic problem solving viewed as a subset of five other functional problem-solving intentions.

Based on a content analysis of interior design texts, and using Jones’ (2002) method of “semantic decomposition and recomposition,” the paper summarizes interior design problem-solving systemically, as a categorical model of interior “components.” The aim is to refocus attention on the role of aesthetics as a specialized, *purely* functional subset of these other professional objectives-- not an alternative set of functions unto itself.

Architect Louis Sullivan’s popularization of the phrase “form follows function” has led to its widely held acceptance as the marching anthem of 20th century modernism. In its crisp brevity, it would seem to convey, inescapably, that the two (form and function) are not on the same decision-making plane—ordinally, hierarchically, philosophically, or in any other manner. Nevertheless, among the apparent majority (if not unanimity) of designers, the dominance of function over form, is often tacitly questioned. “What,” some have asked (Bennett, 1996), “should be the balance between function and aesthetics?” What are the merits of form versus function? One might just as well ask which is most important in design, materials or plastic; the latter is so clearly a subset of the former.

The roots of this comparison are often traced back to the writings of the Roman architect Vitruvius, who was active between 45 and 30 BC. Lambert (1993) states that in Vitruvius' writings, architecture is presented as a science that can be comprehended rationally, with "strength," "utility," and "grace"-- what Pile (2007) defines in terms of "structure and materials," "function," "and "aesthetics." Of particular significance to this paper is their treatment as equivalent qualities—separate and distinct intentions, if you will.

So what? These three elements tend to be considered mutually exclusive. Thus, wittingly or unwittingly, all of the above infer that grace, beauty, aesthetics—whatever you prefer-- is not part of the working definition of "functionality." This paper proposes an alternative to this Vitruvian view, one labeled with the acronym HOPPS, as shown in the accompanying illustration (Figure 1). Its five "functional" design goals are: H) health, safety and welfare functionality, O) operational functionality [a synonym for what might previously have been referred to exclusively as "function," P) psycho-behavioral functionality, P) physical/physiological functionality and S) setting or contextually-specific functionality. The presentation would conclude with an explanation of the role of aesthetics in the model in Figure 2 (which, initially, appears to omit it) and provide exemplary "test drives" of the model by audience participants to explore its value as an alternative model of interior design functionality and an alternative to the on-going question, "Is this functional or aesthetic?"

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APPENDIX

Figure 1: Systemic Definition of Interior Design (malven – Figure 1.pdf)
Figure 2: Representative Functional Goals / Objectives, By Category (malven – Figure 2.pdf)

Figure 1: Systemic Definition of Interior Design

FUNCTIONAL GOALS / OBJECTIVES*

ENVIRONMENTAL COMPONENTS**	I. **Health, Safety & Welfare Factors**	II. **Operational & Performance Factors**	III. **Psychological/ Behavioral Factors**	IV. **Physical/Physiological Factors**	V. **Contextual Factors**	VI. **Other**
A. **Site**						
B. **Structure**						
C. **Enclosure**						
D. **Doors/Windows/Etc.**						
E. **Safety & Security**						
F. **Climate Control**						
G. **Plumbing & Sanitary**						
H. **Acoustical Control**						
I. **Electrical & Energy**						
J. **Illumination**						
K. **Circulation**						
L. **Communications**						
M. **Information**						
N. **Space Division**						
O. **Floor**						
P. **Ceiling**						
Q **Body Support**						
R. **Surfaces**						
S. **Storage**						
T. **Other Furniture**						
U. **Equipment**						
V. **Finishes**						
W. **Hardware**						
X. **Decoration & Accessories**						
Y. **Other**						

Notes--

*"**Functional design goals and objectives**" are types or categories of problems designers have to deal with. Many can be categorized under headings "I."-"V." But, designers may add or change categories to fit specific projects or interests, e.g., "II. Health and Safety" can be listed in "III." & "IV.," but is separated here for emphasis.

"Environmental components**" are the physical parts of the environment-- things-- that can be manipulated by the designer. Most built environments can be described in terms of categories "A."-"W.", but again, designers can add or modify categories to suit their own preferences.

Figure 2: Representative Functional Goals / Objectives, By Category

Health, Safety and Welfare	Operational and Performance	Psychological (Behavioral)	Physiological (Human Physical)	Contextual
--Mechanical Threats --Electrical Threats --Thermal Threats --Chemical Threats --Organic Threats --Physiological Stress --Emotional Threats --Aesthetics:*** --pleasing contrast that heightens object recognition and depth perception --visual enrichment that doesn't distract attention from critical tasks --interesting spatial organization that doesn't obscure "EXIT" signs or routes to exits --novel design of a railing doesn't make it harder to hold on to or introduce sharp, injurious edges --novel designs proven not to introduce unpredictable parts that might break, fall, burn or create other hazard(s)	--Organizational Structure --Users --Operational Functions --Tasks --Activities --Operational Sequence --Relationships --Linkages --Incoming Resources --Outgoing Resources --Circulation --Maintenance --Durability --Economic Factors --Image/Character --Philosophy --Flexibility --Required Behaviors --Desired Behaviors --Required Perceptions --Desired Perceptions --Life Expectancy --Evolution/Change --Environmental Requirements --Space Requirements --Support Function --Aesthetics:*** --visual organization of store front attracts attention to client merchandise --office color palette that helps workers "color code" work --aesthetic that helps guests in a waiting area pass time in an interesting way --aesthetic that helps guests in a waiting better understand the nature of their visit	--Privacy --Constancy --Territoriality --Image --Environmental Control --Identity --Security/Confidence --Order/Clarity --Unity --Variety --Stimulation --Aesthetics --Sociability --Communication/ Interaction --Choice --Control --Comfort --Convenience --Balance --Rhythm --Meaning --Fulfillment --Predictability --Scale --Proportion --Focus --Legibility --Memorability --Aesthetics:*** --decorative scheme that simplifies finding destination in a building, relieving stress --"open" lobby design that leaves no room for an assailant to hide, eases anxiety --space dividers that allow both privacy and identification of visitors	--Anthropometrics --Physical Access --Comfort/Efficient Use --Optimum Sensation --Optimum Challenge --Vision --Audition (Hearing) --Touch --Thermal Sensation --Olfaction (Smell) --Kinestheses (Motion) --Skeleto-Muscular Performance --Postural Support --Metabolic Performance --Phys. Characteristics --Mental Characteristics --Ergonomic "Fit" --Ease of Use --Comfort --General Performance --General Health* --General Safety* --General Welfare* --Aesthetics:*** --decorative materials free of annoying odors --dramatic lighting used in a way that avoids glare --aesthetic solutions that don't increase the weight or other factors that might require more work and stress to operate various features	--Cultural Relevancy --Ecological Sensitivity --Historical "Fit" --Stylistic "Fit"/Identity --Legal Compliance --Political Acceptability --Socio-Economic Fit --Community Values --Compliance with Codes & Standards --Climatic Suitability --Visual Context --Olfactory Context --Acoustical Context --Symbolic Suitability --Sensitivity to "Taboos" --Material Suitability --Setting-Specific Sensitivity --Socially Responsible --Aesthetics:*** --new design elements don't undermine the appeal and integrity of existing aesthetics --visual appeal of new design not rendered ineffective by failure to account for existing, adjacent aesthetic elements --new design that accounts for the volume of pedestrian traffic in it when it will be seen --new aesthetic design takes into account the need for signage and isn't marred later by "paper" signs

Note--

***Aesthetic** decisions can described in terms of one or a combination of the five major categories of goals / objectives.

Comparative Analysis of Published Approaches to Integrating an Evidence-Based Design Approach into the Design Process

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Purpose

As part of a larger study, evidence-based design (EBD) literature that describes *how* and *when* an EBD-approach should be implemented into the normative design process was examined. Those findings were considered with survey data from another phase of the study that documented non-healthcare focused, multidisciplinary firms' understanding of EBD. Healthcare focused firms were not part of that sample, as the literature demonstrates that EBD has been adopted by healthcare practitioners (Cama, 2009; Hamilton & Watkins, 2009; Harris et al., 2008), but not across practitioners of all building types.

A model is being developed that illustrates a prescriptive process for implementing EBD into the normative design process, focusing on timeline. Design-phase/timeline-specific integration is necessary as the survey of firms found that non-healthcare focused practitioners lack the understanding to engage in an EBD-approach without more specific information. In the future when adoption of an EBD-approach to the design process is widespread, the traditional design process will change and a less prescriptive approach will evolve, i.e., one must learn the rules to break them.

The Center for Health Design (www.healthdesign.org) defines EBD as "the process of basing decisions about the built environment on credible research to achieve the best possible outcomes" (2011). EBD is also described as "an ongoing process of knowledge accretion" (Lippman, 2010, p. 40).

Beyond information gathered about a specific client (i.e., programming), design decisions typically are based on practitioners' knowledge from education, experience, intuition, creativity; "best practices," precedent, and information gathered from "soft sources" (i.e., trade publications)—otherwise known as normative design (Dickinson & Marsden, 2009; Lippman, 2010; Nussbaumer, 2009). EBD changes the way design is practiced, grounding design in theory and application of hypotheses to test measurable goals. It responds to clients' expectations of "proof" that a design solution results in specific, measureable outcomes, a challenge to normative design and 'business as usual' (Brandt et al., 2010). More "science" is expected of our "applied arts," enhancing practitioners perception that creativity is being devalued (Brandt, Chong, & Martin, 2010; Pable, 2009). But design details can make a business case, those based in evidence (Cama, 2009).

Method

Books that focused on *how* and *when* EBD is implemented into the design process (i.e., pre-design/programming, schematic design, etc.) were the focus of the comparison (Figure 1). Published between 2008 and 2011, all were written by design academicians/researchers (with the exception McCullough's) and imply that EBD is not a trend. Strategies, activities, methods, and timeline were compared.

Importance of the Topic

Based on EBD principles, the following core characteristics for implementing an EBD-approach to the normative design process surfaced: theoretical foundation, hypothesis generation, collaborative teams/interdisciplinary approach, integration of a researcher, statement/identification of timeline, and design phase integration. However, inclusion of these characteristics was inconsistent (Figure 2). Furthermore, many questions were raised due to omission of details for implementation, assumptions of practitioners' understanding, and conflicts occurring due to incompatibility of timelines (i.e., traditional project scope/duration versus EBD).

This study is intended to assist in the transformation in the way in which design is practiced. Engagement in an EBD-approach will result in a significant evolution in the manner by which designers of the built environment approach human and/or environmental challenges through their design solutions, disseminate findings, and build the body of knowledge.

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Figure 1.
Books Reviewed for an Analysis of EBD-Approaches

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McCullough, C. (2010). *Evidence-based design for healthcare facilities.* (Ed.) Indianapolis, IN: Sigma, Theta Tao International.

Nussbaumer, L. (2009). *Evidence-based design for interior designers.* New York: Fairchild.

Figure 2.
Comparison of Essential Characteristics across Books

Essential Characteristics	**Authors/Editors** (alpha order, first name only noted)								
	Brandt	**Cama**	**Dickinson**	**Hamilton**	**Harris**	**Kopec**	**Lippman**	**McCullough**	**Nussbaumer**
Authors'/editors' background	P/A	HCP	A	P/A	HCP/A	A/P	EP	N	A
Intended audience	P	HCP	U/P	P	HCP	G/P	EP	N	P/U,G
EBD definition, purpose, rationale addressed	X	X	X	X	X	X	X	X	X
User of hypotheses in process	X	X		X	X	X	X		
Use of theory in process						X	X		X
Collaborative/interdisciplinary approach for integration	X	X		X	X	X	X	X	
Advocacy for integration of a researcher on the team or hired as a consultant	X	X		X	X	N/A			
Integration timeline documented						N/A			
• Fully/specific		X		X					X
• Partially/implied			X		X		X		
• None/unclear	X							X	
Design phase when EBD is implemented to the greatest degree									
• Programming (Pre-Design)			X		X		X		X
• Programming & Schematic Design (SD)		X							
• Programming, SD, and Design Development (DD)				X					

Key:
A = academician(s)
EP = educational practitioner(s)
G = graduate design student(s)
HCP = healthcare practitioner(s)
N = nurses and other healthcare provider(s)
N/A = purpose of book makes this characteristic irrelevant
P = practitioner(s)
U = undergraduate design student(s)
X = yes

Non-Healthcare Focused Practitioners' Understanding and Implementation of Evidence-Based Design (EBD)

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Purpose

As part of a larger research project to develop a model for multidisciplinary design firms to implement an evidence-based design (EBD) approach into the normative design process, this initial phase of the study focused on identifying design practitioners' understanding and/or implementation of EBD. Though EBD is embraced by healthcare practitioners, this is not true of practitioners of other building types (e.g., schools) (Hamilton & Watkins, 2009; Lippman, 2010). Therefore, leaders from non-healthcare focused, multidisciplinary firms were interviewed to identify their firm's understanding of and future intentions relative to EBD. It was found that these firms are practicing normative design and have little operational understanding of EBD.

Much is published about EBD from healthcare researchers and practitioners (Cama, 2009; Hamilton & Watkins; 2009), but the extent to which all practitioners—especially those beyond healthcare are prepared to or interested in engaging in EBD is unknown. A substantial learning curve for which they may not be prepared (i.e., resources, research knowledge) compounds this challenge (Brandt, Chong, & Martin, 2010; Dickinson & Marsden, 2009). Critical questions emerged:

- What do practitioners understand about EBD; do they recognize impacts on their design solutions and business model?
- Will they read "how to" literature about EBD; will that enable them to engage in an EBD-approach? If not, could mentoring/collaboration with a researcher enable a practitioner to engage in EBD?

Understanding EBD knowledge of practitioners in non-healthcare focused, multidisciplinary design firms is essential for evolution of the normative design process. Enhanced integration of evidence into the decision-making process contributes to meeting human and environmental challenges (Cama, 2009; Hamilton & Watkins; 2009; Lippman, 2010).

Method

A survey instrument (see Figure 1) was implemented as an in-person interview. Questions focused on the firm's understanding, implementation, and future intentions regarding EBD. The purposive sampling frame included principals/partners of 10 "typical" (i.e., size, composition, singular rather than "national"), metropolitan-area, multidisciplinary, diverse building type firms to enable application of findings to the development of an EBD model appropriate to the majority of typical firms.

Importance of the Topic

Findings indicated that firms are generally aware of the term "evidence-based design," but could not explain nor engage in EBD. They want to learn more about EBD and might contract with a researcher on a project. Basic principles of EBD (as defined by the literature) relative to "measuring" a project's success; definition of "information" and "research" as they constitute "evidence;" use of post-occupancy evaluations (POE); and sharing of findings were also investigated. Importantly, findings indicate that substantial education of non-healthcare focused practitioners is needed for the firm to move toward an EBD-approach.

As documented through case studies (Brandt et al., 2010; Cama, 2009), implementation of an EBD-approach beneficially informs the design team's work process. However, widespread benefits for practitioners, clients, and occupants depend on adoption of EBD beyond healthcare practitioners. Findings from this study may lead to education of all practitioners; encouraging crossover of EBD to other design typologies and accelerating the evolution of design practice—fortifying design's value to society. Determining how to educate non-healthcare practitioners who are largely unengaged with EBD at this

time is a first step. Design educators have a responsibility to drive evolution of the normative design process via EBD through education of future practitioners.

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Figure 1.

In-Person Interview Questionnaire
(© Caren S. Martin, 2011)
(University of Minnesota IRB approval 1/21/11, #1101E94914)

Background Information about the Firm

1. What is your firm's greatest expertise in terms of building type (name top 3)?
   a. What is the typical duration of these types of projects undertaken by your firm?
2. How do you determine if the firm's design solution is "successful?"
3. How do you measure the "success" of your firm's design solution?
4. Describe your firm's typical design process. Please identify the typical "phases" used in your description (i.e., PD, SD, DD, CD, CA).

Information and Research Utilized by the Firm

5. How does your firm "get" information to inform your design solutions?
   a. Can you provide an example or two of the type(s) of information used?
6. What is research?
7. Where does your firm locate research findings?
8. Can you describe the difference between "information" and "research?"
   a. Please provide an example of each.
9. Does your firm consider research findings when creating design solutions? (if "no," go to Q10)
   a. Which type(s) of research findings are considered?
   b. Typically, when in the design process does your firm apply these research findings?
10. Does anyone in your firm engage in "original" research? (If "no" go to Q11)
    a. What is that individual's title and role in the firm?
    b. Please describe the type(s) of research conducted.
11. Does your design firm engage in post-occupancy evaluations (POEs)?
12. Can you describe a post-occupancy evaluation (POE)?

Firm's Understanding of Evidence-Based Design

13. What is "evidence-based design (EBD)"?
14. Does your firm engage in evidence-based design?
15. Would it be beneficial for your firm to learn more about evidence-based design?
    a. Why/why not?
16. Would your firm pay a consultant who trains individuals in your firm about how to engage in evidence-based design, and then follows up periodically as a mentor?
17. Would your firm be interested in hiring a consultant who acts as a research consultant on an as-needed basis, providing findings to the design team for selected projects?
18. Are there any other issues related to the questions you have answered that you would like to discuss?

Discovery and Exploration: Student Methods of Inquiry and Analysis in the Design Process

AMY MATTINGLY HUBER / KATHARINE LEIGH / KENNETH TREMBLAY /JAMES BANNING / ROBERT WORK
Colorado State University

Introduction

The creative process is a multifaceted and dynamic path of thinking required to execute a project in design-based disciplines (i.e., interior design, architecture). Excellence in design outcomes of the creative process can hinge on an early understanding of the problem (Krueger & Cross, 2006; Lawson, 1997; Poldma, 2009). This presentation explores characteristics by which design excellence is achieved specifically in research and analysis phases of creative problem solving.

Methodology

A study was conducted investigating design student experiences in problem solving within the context of a studio project. Thirty-six senior level interior design students from a CIDA accredited program participated. Students were assigned the design of a lounge chair during a two week period including reflective responses to pre-determined question prompts. The final number of participants was reduced based on timely response to journal prompts; (N = 20). Data collected included student demographic information, journal responses, and expert evaluation of creative product results.

Findings

The qualitative responses to prompts were analyzed using template analysis coding to define task focus and determine sequence of activities. Scaled furniture models and design process boards (see Figures 1.1 and 1.2) reviewed by external evaluators determined high and low level output groups based on appropriateness and novelty of solution. A difference between groups was demonstrated in depth and breadth of analysis as well as research utilization. Students in the high creative output group demonstrated more and varying analysis techniques, utilizing higher levels of divergent thinking, depth in thought, and employed research earlier than their counterparts.

SODR Presentation, word count 497

Variation in analysis phase. The students in the high creativity group investigated multiple research foci and employed multiple analysis techniques. Students in this group demonstrated utilization of theory, careful thought regarding human form, abstraction from ordinary objects, and mentioned increased and earlier interest in the end-users. Their counterparts typically, concluded their research activities with precedent studies or materiality and assembly, and were generally vague about resources; using more simplistic descriptors such as “online research”, viewing previous competition submissions, or “looking at pictures” (see Figure 2).

Students in the high creativity group displayed greater depth of thought; replying with longer and more specific responses. The high creativity group averaged 414 words per entry and the low creativity group averaged 388 words per entry.

Use of research. Students in the high creativity group researched early in the process and utilized their research findings as a basis for design concepts. Their counterparts in the low creativity group inverted the process and primarily utilized research to rationalize pre-determined decisions; describing a concept to later research it’s appropriateness for the design.

Conclusion

As an exploratory study this research examines the creative process and tasks conducted to achieve higher levels of creative output. Comparisons of actions, sequence of patterns, and decision-making characteristics revealed common paths that can assist educators in better understanding the processes undertaken by students in solving design problems. Based upon this research, an increased emphasis on analysis and research phases can assist designers in achieving higher creative output. Potential pedagogical applications that may enhance creativity are further discussed in the presentation.

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Appendix

Figure 1.1 Selected project outcomes from high creative output group.

File Name-Images from High Creativity Projects

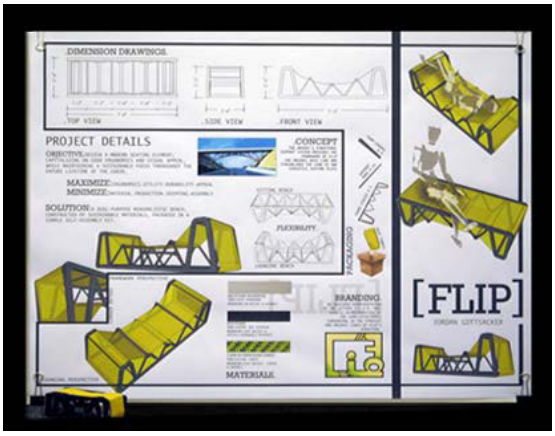
Figure 1.2 Selected project outcomes from high creative output group

File Name-Images from Low Creativity Projects

Figure 2 Comparison of analysis task between designated cohorts.

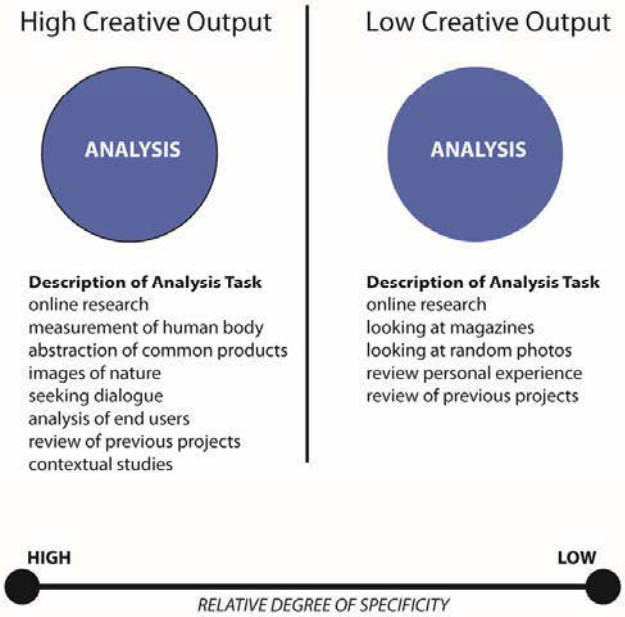
File Name-Comparison of Analysis Tasks

sit, feel & be natural


DIMENSION DRAWINGS
PROJECT DETAILS
CONCEPT
MAXIMIZE
MINIMIZE
SOLUTION
FLEXIBILITY
PACKAGING
BRANDING
MATERIALS
[FLIP]

natural
flexible
elegance

CORKY
Fast track seating..... for a fast track lifestyle
...the fun-loving, versatile, and sustainable stool.


High Creative Output
ANALYSIS
Description of Analysis Task
online research
measurement of human body
abstraction of common products
images of nature
seeking dialogue
analysis of end users
review of previous projects
contextual studies
Low Creative Output
ANALYSIS
Description of Analysis Task
online research
looking at magazines
looking at random photos
review personal experience
review of previous projects
HIGH
LOW
RELATIVE DEGREE OF SPECIFICITY

Journal Ranking: What is the Reality for Interior Design?

Susan Martin Meggs and Charles Gustina

East Carolina University

ABSTRACT

Faculty members at colleges and universities have always been subject to evaluation for renewal of contracts, granting of tenure, and promotion decisions; this evaluation is generally divided into the categories of teaching, research, and service. In the past, quantity of published papers was accepted as an adequate means of evaluation in the category of research. However, as educational budgets are tightened and institutional accountability is intensified, in many institutions research has taken pride of place over teaching and service as the most important component of faculty evaluation. Many schools are relying not just on quantity of publications, but also on the quality of the journals publishing the research, to assess the strength of their faculty and to determine measures for evaluation and reward. Impact factors are the most popular method of ranking journals, created by comparing quantity of citations to quantity of articles published. But can administrators rely on impact factors alone to adequately determine a journal's quality? The answer to this question can have serious consequences for the evaluation of faculty research productivity. Observers have noted that perceptual or peer ranking, or some form of composite ranking, captures a more accurate picture of the quality of research and the relevance of any given journal.

This presentation examines the implications of journal ranking in the field of interior design education, beginning with a brief history of ranking systems for academic journals. A review of the methods used to rank academic journals includes citation indices, impact factors, and perceptual ranking. General concerns such as methods of computing impact factors, and geographic and institutional variables, segue into limitations that apply specifically to interior design journals, such as specialization bias and journal visibility. As more educators face the current trends in academic evaluation, an understanding of the issues involved in journal ranking can assist in discussions with administrators about how to accurately assess research productivity. This preliminary report presents critical questions. What role do journal

rankings play for interior design educators? Are limited indicators reliable in determining journal ranking? Does a standard method of ranking journals, such as the impact factor, reflect the overall quality of a journal in the specialized profession of interior design? The next phase of this investigation will apply quantitative analysis as a research methodology for comparing peer ranking to available impact factors.

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Personality in the Interior Design Profession: A preliminary study of Myers- Briggs type and professional Experience.

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Employers today are using personality testing such as Myers-Briggs Type Indicator (TI) to determine who to hire for positions in their company as well as determining which employee to promote. The Fortune 100, with 89 companies out of 100 participating, are examples of companies using Myers-Briggs TI. The testing industry in the United States is now a huge income producer with more than $400 million dollars in earnings per year (Pepper, Kolesnikov-Jessop & Hermann, 2005). With so many companies relying on Myers-Briggs TI, one university decided that this type of testing would be beneficial to senior interior design students before they apply for internships and permanent employment. Proponents of Myers-Briggs TI maintain that information obtained from personality typing enables individuals to gain insight about themselves in relation to work, relationships with others, and career selection (Kennedy & Kennedy, 2004). For the past five years, testing of senior design students was conducted as a component of the professional practice course. Each year this test is administered by a certified Myers-Briggs TI specialist. After scoring each test, the specialist provided a packet of information to students explaining their personality type. Faculty obtained permission from each student to use their personality typing to compile study data. A total of 75 students agreed to provide faculty with this information.

Framework

Myers-Briggs TI identifies and measures eight mental or psychological preferences. The first preference categories are Extroversion (E) and Introversion (I), the second are Sensing (S) and Intuition (N), the third Thinking (T) and Feeling (F), and the fourth Judgment (J) and Perception (P) (Hirsh & Kummerow, 1992). Using the sixteen Myers-Briggs TI personality types, student

names were placed into a table charting each of the types. The types were as follows: ISTJ, ISFJ, INFJ, INTJ, ISTP, ISFP, INFP, INTP, ESTP, ESFP, ENFP, ENTP, ESTJ, ESFJ, ENFJ, and ENTJ. Faculty were also scored by the specialist. Student typing was compared to employment type after graduation and employment types were divided into ten different areas of design.

Findings

Some of the results of the study yielded interesting findings. None of the students charted as INTP's or ESTJ's, but all of the other fourteen types were represented. The type containing the largest number of students was INFP followed by ENFP and ENFJ. In the area of employment in design, architecture and design firms employed the largest number of students with a total of 33 and the largest typing area was ISTJ. Interesting facts concerning faculty data resulted in all of the faculty are J's and 3 out of 5 are also T's. The largest number of students and faculty with a corresponding typing were ENFJ's.

Conclusions

The researchers are continuing to interpret and compile data information while also pursuing additional groups to expand the research data set, including surveying other colleges and universities. Assisting students to understand themselves better and to understand what area of design they might be better suited will guide students in achieving happier and more successful careers in the design industry.

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Installation [art] as part of the interior design discipline: Tool for critical engagement:

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University of Wisconsin-Madison

ABSTRACT

Question or theory being explored: The needs of interior design as an academic discipline are broader than those of the profession; an integral element of many academic disciplines is critical engagement with both sociopolitical systems and with the discipline itself. First passes at defining an interior design body of knowledge seek to meet the needs of interior design as a profession by drawing disciplinary boundaries, focusing on areas such as the career cycle.[1] Although professional practice is certainly shaped by sociopolitical systems and by the structure of the discipline during the design process, practice does not incorporate academic traditions of critique as found in the humanities. This paper suggests that the academic discipline of interior design would be strengthened by including installation art as a method for critique and as a topic of inquiry.

Framework of exploration: After discussing definitions of installation art[2] and showing examples (Figure 1), a review of literature in interior design and related academic disciplines examines issues and precedents related to installation art. Discussion continues with theoretical and practical relationships between interior design and installation art.

Discussion: One may “read installation [art] according to the primary mode by which the works articulate the exhibition site; either as a system of physical constraints to be integrated into a formal composition, as the setting for a tableau or theatrical event, or as a social institution to be examined for its own cultural politics.”[3] Interior design practice routinely integrates all three of these modes at once, and in this sense installation art would seem to have as much in common with interior design as it has with other forms of art. Perhaps installation art can inhabit both disciplines (art and interior design) simultaneously;

"installation" is clearly at the core of what interior designers do, while "art" is clearly at the core of what artists do, and each aspect is a necessary, but not sufficient, component of installation art.

Fields within social science, in particular anthropology, have recently incorporated installation art as both a research tool and an outcome of research. Accordingly, given the strong social science research tradition in interior design, installation art would seem to be a natural practice for interior design researchers to embrace.[4]

Other writers more directly discuss installation art's potential to contribute to interior design. For instance, Cathy Smith, writing from the perspective of a designer, notes that "Through conceptualisations of space found beyond the discipline, we can challenge all design theory and practice."[5] Others go even farther and envision that perhaps in the future a new field will emerge that blends art and design.

Conclusions: The paper suggests that installation art and artists could be included in histories of interior design, and installation art practice could be taught as a facet of a standard interior design curriculum. Laying claim to installation art as a legitimate practice, as a pedagogical method, and as a tool for (and an outcome of) research and scholarship would open a valuable avenue for critical engagement. This avenue would help align the discipline of interior design more closely with other academic disciplines.

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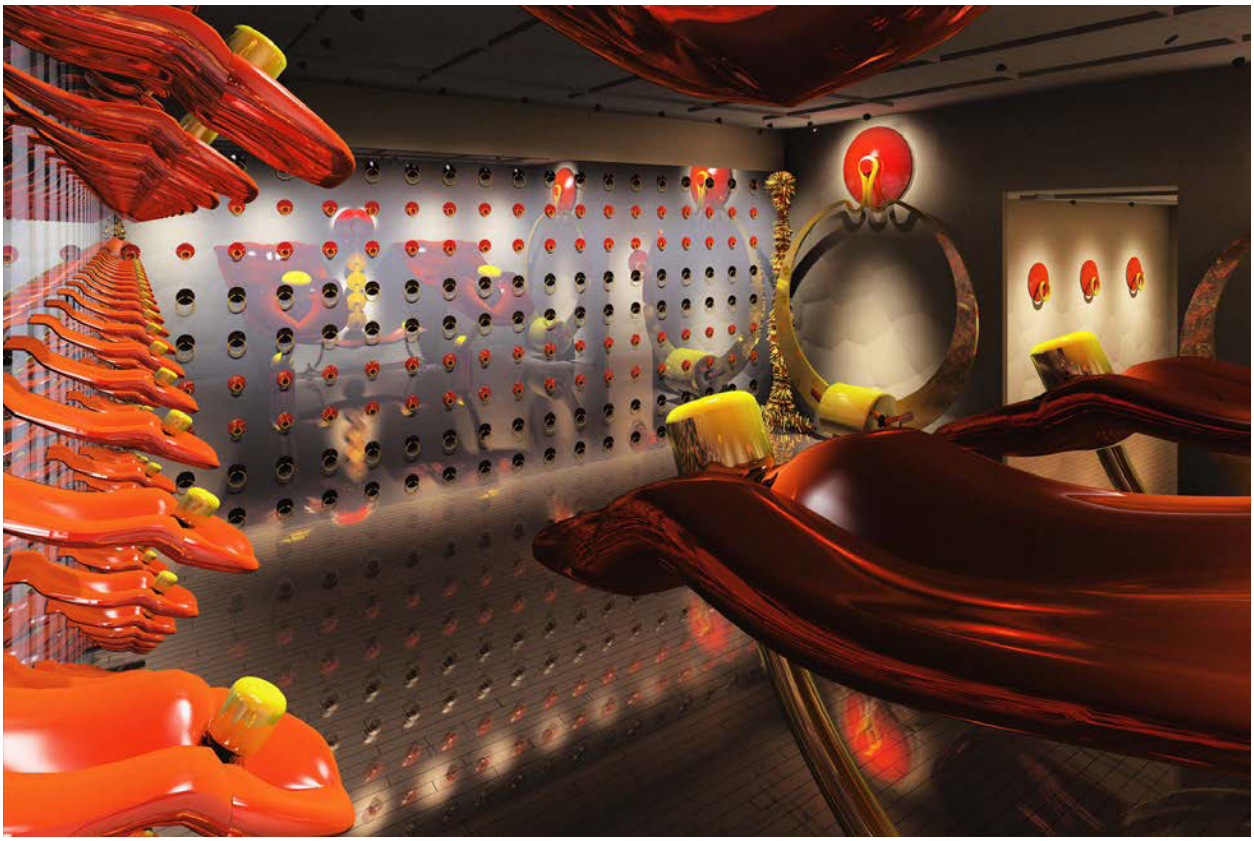
APPENDIX

Figure 1: Example of Interior Installation by Author (interior_illustration.jpg)



Action research and evidence-based design for “Main Street”

Jane Nichols, PhD

Western Carolina University

As interior design practitioners are increasingly pressed to be productive, efficient and creative, their ability to remain abreast of current research decreases. Therefore, collaboration with academia can be a valuable tool in serving the needs of designers and clients. For healthcare design practitioners, evidence-based design has evolved as the gold standard, and the coordination of a practitioner and researcher team can contribute to the success of a project and achievements of a firm (The Center for Health Design, 2011), while this unique synchronization leads to innovation and value-added projects, enhancing the healthcare design body of knowledge.

Executing the action research collaboration for an existing continuing care facility renovation, the design practitioner and educator created a design intervention of Main Street for Asbury Place. Main Street is a design typology of an interior environment built in assisted living and continuing care retirement communities. It emulates the nostalgia, convenience and friendliness of the small town Main Street of mid-century America. The typology generally includes a café, salon/barber-shop, bank, and a pharmacy. Additional amenities may include galleries, bakeries, pet shops, fruit markets and other pseudo retail options (Cutler, 2001).

Empirical studies informed the design, and hypotheses of post intervention behavioral changes were generated. Instruments to measure the pre and post construction intervention outcomes included surveys that were completed by residents, staff and family members. Focus groups were also conducted before and after the design intervention, and baseline and post construction metrics were compared to determine the increase or decrease of resident use in specific facility areas. Asbury Place Main Street post construction results indicate that while residents resented change and believed their money should be spent in other ways, they also remarked that they, “Are proud to have their sons and daughters visit them now”, and they “think the nurses and the staff are happier with the changes” (residents’ quotes). Successful components of the project were the aesthetics and circulation improvements in the corridors,

while other design solutions, such as the new café and expanded wellness center, are reported to be "Underused", and "taken over by the staff--those places aren't really for us anymore" (quotes by residents and nurses).

Numerous Main Street designs are planned and built across North America, at great financial expense and with high expectations for resident health and improved perceptions of quality of life (Cini, 2010). Administrators and designers theorize that these facility improvements enhance residents' satisfaction and even mitigate cognitive losses. And yet, little research has been conducted to measure the actual outcomes of the Main Street phenomenon. Studies that confirm or refute these assumptions are critical for decision makers anticipating a Main Street investment, and findings that inform this new typology could significantly influence future built environment plans, and support or divert construction funding. The execution of action research collaboration for evidence-based design demands the cooperation of administrators, staff and residents, and a serious commitment by the design practitioner and researcher (Mills, 2007, Mertler, 2009); however, these studies lend authority and validity to evidence-based design scholarship.

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Creating ‘me’: Internal environments and historical consciousness

Bryan D. Orthel and J. Philip Gruen
Washington State University

Humans craft history by telling stories, shaping their environments, and framing their identity into the future. We can think of history as part of an internal environment that encompasses individualized perceptions of meaning and culture, as well as the physical forms of space and function—or what Weinthal (2011) calls layered interior space. Although we can understand this internal environment through remnant material culture, the created self-identity also becomes real through lived experience. How does individual perception of history relate to the created internal environment? How do non-historians understand history in their own, individual, interior spaces?

Understanding how we tell stories about our past allows us to improve how we create or change designed forms and identity in the present. Reigl (1982/1903) explained that “modern man sees a bit of himself in a monument and he will react to every intervention as he would in one on himself” (p. 32). Change to the physical, social, and cultural environment affects how individuals understand themselves. The negotiation of identity occurs at scales from the internalized self to communal groups. Understanding our selves prepares us to deal with the inevitable change that affects the ‘monument’ that is our internal environment.

The social practice of negotiating history is described as historical consciousness. The created, negotiated understanding of history is intentionally designed to support our internal environments. Understanding the internal environment through the lens of historical consciousness broadens the scope of history that is included in conceptual discussion. History has been limited to traditional, official viewpoints that negate the individual and communal perception of history in everyday experience. Knowledge of, and design reaction to, individualized historical consciousness can produce a richer and more complete human-centered design profession.

This presentation is based on interviews with more than thirty individuals in three geographically distinct communities in the United States. The interviews asked individuals about their understandings and perceptions of history regarding their community, neighborhood, and home. Interviews were transcribed, returned to the participants for validation, and analyzed using a narrative protocol. The protocol highlights the storytelling components of the participant statements, as well as contextual meanings. The analysis relies on an eight-part framework of historical consciousness—developed from Ruskin (1880), Pawelec (1989), and Ingraham (2007), among others—that explores history as an internal and cultural environment concept. The comparison reveals a rich connection of individual-social relationships that are active across time and interior space.

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Children's developmental needs and the widening physical radius of the home and its environs

L.Jesse Peck, University of New Haven

Matthew Melcher, Washington State University

Children possess an inherent drive to explore, learn from, engage in, and master their surroundings. Engagement and mastery of the physical environment can prove challenging in an environment not suited to one's needs. For a child, a sink is hard to reach even on tip toes, doors too heavy to open, and neighborhood streets too laden with traffic to play safely outdoors. Expected to effortlessly adapt and assimilate into environments designed to suit the needs of adults, children's developmental needs are often unaddressed in the physical environment of the home and its environs. Numerous studies corroborate that the residential environment can hinder healthy development as some housing conditions do not even support the basic needs of the children who live within them, like safety, cleanliness, and adequate space. [1] [2] Despite the fact that researchers have demonstrated the role of the physical environment as a stimulus for emotional, intellectual, social, and physical development,[3] [4] the research has yet to lead to design solutions in the residential context. Yet, aside from school, the home and its environs is where children spend most of their time during their formative years.[5]

This study examines the impact of the physical environment on children in order to determine how the design of the residential setting can not only enable healthy development, but help to optimize it. As a basis for understanding children's developmental processes, three key figures, Erik Erikson (1902-1994), Jean Piaget (1896-1980), and Maria Montessori (1870-1952) have been identified as leaders and pioneers in the field. While each researcher provides a unique and individual understanding of children as they grow and mature, when the researcher's theories are overlapped, a new lens is created through which to investigate children's development in the context of the physical and social environment, from inception to adolescence. According to the framework, in order to optimize development, children need opportunities to *act upon, engage with, and explore* a prepared physical environment that widens at the

appropriate developmental stages. When all of these conditions are met, the ideal environment is realized. From the new framework, a set of general design recommendations emerge; the recommendations are the basis for a five-point questionnaire that can be used to measure the child-appropriateness of residential designs in a variety of contexts, both to asses existing housing conditions and to serve as a guide during the design phases. This investigation aims to bridge the gap between theory and practice, providing a repeatable method for integrating child development theory into the design process.

In order to apply and subsequently test the effectiveness of the methodology developed in this study, an in-depth survey and redesign of a residential setting was conducted. It is the author's intention that a presentation of the design process serve as an example of how future designers might utilize and apply the methodology to their own projects, addressing the needs of a commonly overlooked population.

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Design Issues in Research: How Persons with Disabilities and their Families Adjust to their Home Interior Environment. A Multi-disciplinary Study.

Tiiu Poldma, Sylvie Jutras, Delphine Labbé, Leila Tissaoui

University of Montreal, University of Quebec at Montreal

If we consider that house and home are places of well-being for all persons, then for people with severe disabilities, this is ever more important. Interior environments are our 'home', both a place of refuge and of well-being and self identity (Csikszentmihalyi, M. & Rochberg-Halton, E., 1981). This multi-disciplinary study examines the residential appropriation and well-being of persons with severe disabilities and their close family members. The research team, led by a psychology researcher and an interior design researcher, examine what happens to persons who have paralysis of lower or all extremities due to spinal cord lesion (Jutras, 2005, p. 1). The results of an extensive study over 5 years that combined design, psychology and interior design knowledge coupled with the expertise of those working in occupational therapy and social work disciplines.

The psychologist lead researcher and the interior design co-researcher studied the complexities inherent in person-environment relationships with the environment in their changed life situation (Gosling, 2003; Zeisel, 2006) to understand how the residents and their families like (or dislike) their environment, when compared to their choices as recorded on photos and in interviews during the data collection and to construct a portrait of people in their lived situation (Guba & Lincoln, 1994). The data analysis identifies both obstacles and the facilitators that contribute to well-being and the specific issues in interior home design that emerge. The results show to varying degrees how well-being and a sense of self emerge in the home, the impact of the intrusion of the social family dynamics, the psychological states of mind, the physical change to

both the person's own state or the home environment itself (Putnam et al, 2003; Csikszentmihalyi, M. & Rochberg-Halton, E.,1981) and the impact of these on satisfaction.

The multi-disciplinary approach generates an analysis rich in both issues that were salient as well as in the context of emergent themes discovered during the analysis process. The research was conducted with the development of common coding and measurement tools (Gosling et al, 2005), while the analysis and results were conducted both by the individual researchers and in team cross-disciplinary situations. The analysis included documenting and analyzing over 640 photographs of the 31 families visited, interviews and questionnaires and cross-analyzing the emergent features as obstacles or facilitators of well-being within the home. The discussion of the results includes visual examples and analyzes the factors that emerge in both affective and empirical issues gleaned by both disciplinary and cross-disciplinary perspectives. The results show how vital it is to consider user well-being and how these issues might be integrated into future design practices.

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The Use of Argentine Tango Dancing in an Interior Environment to Enhance Mobility and Social Activity in Seniors: A Multi-disciplinary Research Study

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This paper explores how a research study on the elderly with low vision integrates diverse views through a multi-disciplinary team composed of students, professors, the Tango dance instructor and health service providers from two universities and a clinic. The study examines how elderly persons with low vision such as macular degeneration, are affected by their ability to circulate to and within a space with decreased mobility. The research team studied how the elderly arrive, use the interior space, respond to the dance activity of Tango. The class includes a snack break where social integration occurs as part of the activity. Too often, low vision and age are factors in preventing social integration as many elderly are fearful because they can no longer see well enough to participate in former activities that they may have done. (Good, 2008; Ramsay, 2003)The object of this study was to explore the feasibility of teaching visually impaired seniors to dance the Argentine Tango and to examine the appropriateness of the interior space for the activities and the goals of the social integration.

The research study methods include recruitment, data collection using observation and recording of activities and spaces, and data analysis of multiple perspectives. First, the recruitment of seniors for the dance activity consisted of participation in a 1.5 hour, 1x per week /8 week course in Argentine tango in a dance studio in a uptown city location.

Partners consisted of 10 skilled tango dancing volunteers from the tango community and 5 individuals who volunteered to be control subjects. Second, photo and video recorded the spaces and activities and observations of both activities and the space were conducted by occupational therapy and interior design researchers. The analysis included Visual Content Analysis (Rose, 2001) on the interior photos to assess materials, daylight and artificial light, contrast, color use and the effects of the spatial elements on circulation and ease of movement. The occupational therapists researchers also did a battery of tests for balance were also given pre and post intervention.

The results show that the dance activity was beneficial both for improved mobility and for increased social integration, despite some obstacles within the interior space and access to it. The space was large and appropriate for the activity with some issues such as structural obstacles and artificial/day- lighting and color affecting contrasts. Conclusions include understanding the effects of spatial elements within the interior space and its appropriateness and how the activity of tango dancing is feasible for the elderly with visual impairments. The combination of multi-disciplinary knowledge in interior design, occupational therapy and physiology provide understanding of human movement and activity and how this occurs within the interior spatial environment as a social activity.

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The online design notebook: A comparative study of reflective writing visualization activities.

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ABSTRACT

Reflective writing activities allow learners opportunities to communicate ideas, revisit options, and improve or further focus understanding (Cisero 2006; Oliver, 2000). Also, engaging students in writing further documents the design and concept process and strengthens student learning (Danko, Meneely, & Portillo, 2006). The act of reflection is not only an important part of the undergraduate design process, but is also a necessary component of the development of graduate research and academic writing. In design research and development processes, a reflective cycle of imaging, presenting, and testing occurs where designers and researchers move away and toward problem resolution (Zeisel, 2006). Communication and the opportunity to reflect on ideas maintain the cycle of development that yields creative solutions in design practice and research. To further better communication, studies call on interior design programs to “provide more opportunities for students and faculty to engage in dialogue and the exchange of ideas of scholarly merit” (Guerin & Thompson, 2004, p. 7). Web-based applications for the new “digital native” college student can provide alternative ways for communication to take place that can also document the process of problem solving.

This research focuses on communication of the design process with an online notebook application that reinforces the important reflective cycle of imaging, presenting, and testing of ideas within a supportive, discipline-specific peer and instructor audience. Online notebooks offer an interactive way to share text, images, audio, and video with groups that are accessible from any web-based device. This comparative study is presented due to findings from a survey of IDEC professional members conducted in the summer

of 2010. This survey asked faculty what their use and perceived level of effectiveness were in regards to online notebooks in interior design curriculum. This survey showed that 86% of respondents had seldom or never used them in curriculum, but 72% reported thinking they could be effective to highly effective. This information lead to a comparative study of integrating online notebooks into traditional interior design curriculum to encourage communication and effectively enhance reflective writing and visualization within the design and research process.

This research compares the application of online notebooks for documentation, communication, and critique into two distinct interior design courses; a large undergraduate design studio and a small graduate thesis development seminar. The notebooks documented the individual student problem solving process and provided for interactive peer and instructor communication and feedback. Student surveys showed that a majority of students perceived the notebooks as easy to use and that they provided a constant link with the class and instructor for feedback. Further, students reported that they enjoyed the fact that process was captured in their online notebook so they could revisit areas easily in the online format. It also showed that students while savvy in the world of personal social networking sites, had rarely used online notebook applications to communicate design processes. Lastly, this research explores instructor witnessed improvements in documentation, communication and critique that did not replace, but enhanced the previous traditional teaching methods of each of these courses.

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Title: ***'finding flow'***… Looking for linkage and leverage between Interior and Industrial Design processes and methodologies.

Author: David J. Richter-O'Connell

Institution: Kansas State University, CAPD, Interior Architecture & Product Design

Abstract: Rapoport wrote of continuums containing "*elements of…constancy and change*" that inform and affect built environments and behavior. (Rapoport 1969) Alexander's '*Pattern Language'* employed sequenced humanistic criteria to develop detailed levels of living places including- objects, spaces and behaviors. (Alexander et al 1977) Maslow's "*hierarchy of needs"* illustrated a stepped approach to human behavior and motivational analysis. (Maslow 1968)

Inspired by these (and other) processes linking foundational human history and design, the ***finding flow*** project chronicles development of a *process methodology* documenting crossover between the realms of user experience (people), interior design and architecture (places), and industrial design (things); and enabling more insightful, holistic, and human-focused product systems, environments, and 'living' experiences.

The *process methodology* creates tools to:

- Discover historic human and environmental elements, attributes, and '***flows'*** associated with specific people, places and things. (fig. 1,2,3)
- Structure a creative and evaluative sequence from '***flow'*** to '*precept*' (fig. 4,5)
- Cycle back through iterations of informed '*precept*' to '*concept*' refinement. (fig. 5)

The ***finding flow*** project utilizes the design of a near-future residential kitchen as a test for the methodology involving the conceptualization of objects, interiors, furniture, appliances, work and storage systems, atmospheric elements, and aesthetic strategies.

finding flow developed from a professional need by the researcher, an industrial designer (whose duties had expanded into a lead position with a kitchen fixture, appliance and cabinetry manufacturer) with new responsibilities for development of full room systems extending beyond the development of individual kitchen products, and beyond previously employed product design methodologies.

The process began with a literature search and subsequent timeline assembly that identified significant events, trends, and innovations throughout kitchen history and organized them into three distinct groupings- sociocultural, architectural, and technological. These translated to a simplified triad of design factors encompassing- people, places & things, and, more importantly, a framework that paralleled the desired process cross linkages.

- people = Human-centered design focused on need, desire and experience
- places = The process of interior design & architecture
- things = The process of product design

Throughout the literature search, the word ***flow*** was frequently cited as a key evaluation criterion for successful kitchen design. But what did ***flow*** entail?

- Spatial attributes- proximity, efficiency, ease of movement, traffic patterns, adjacencies, food & service movement
- Environmental attributes- natural light, sight lines, IAQ, sound, aroma
- Human attributes- spaces for interaction, privacy, work, play, celebration
- Infrastructure- water, waste, power, light, data, communications, entertainment
- Ethereal attributes- time, energy, well being, spirituality, arcs of living

These ***flow*** characteristics, and others identified on the timeline, established a process framework reinforced by parallels in previously mentioned foundational design research. The resulting process tool yielded a specific kitchen-system design result from the researcher/ designer, and additionally, at installation, sparked diverse creative sketch contributions from visiting designers and architects, suggesting value beyond the author.

The ***finding flow*** presentation includes:

- Components of research.
- Development of the 'flow' - 'precept' - 'concept' design process.
- Resulting 'concept' design development.
- Benefits of crossover methodology that integrates people, places, and things into a unified organizational framework.

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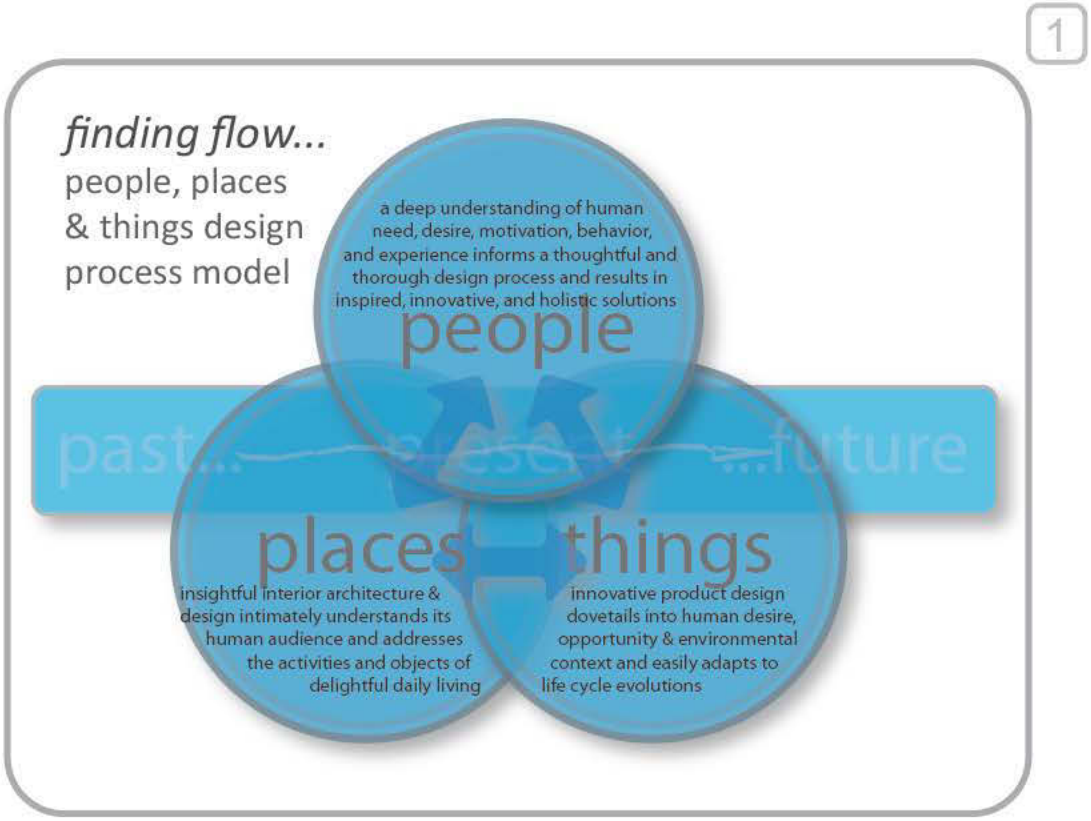
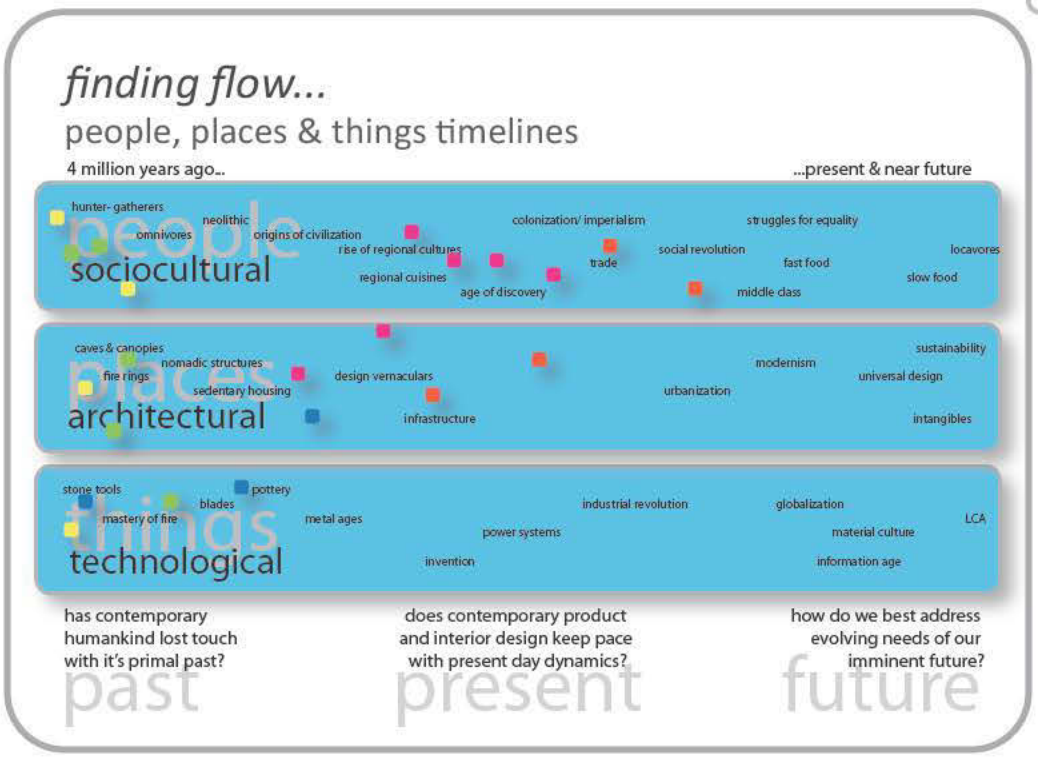
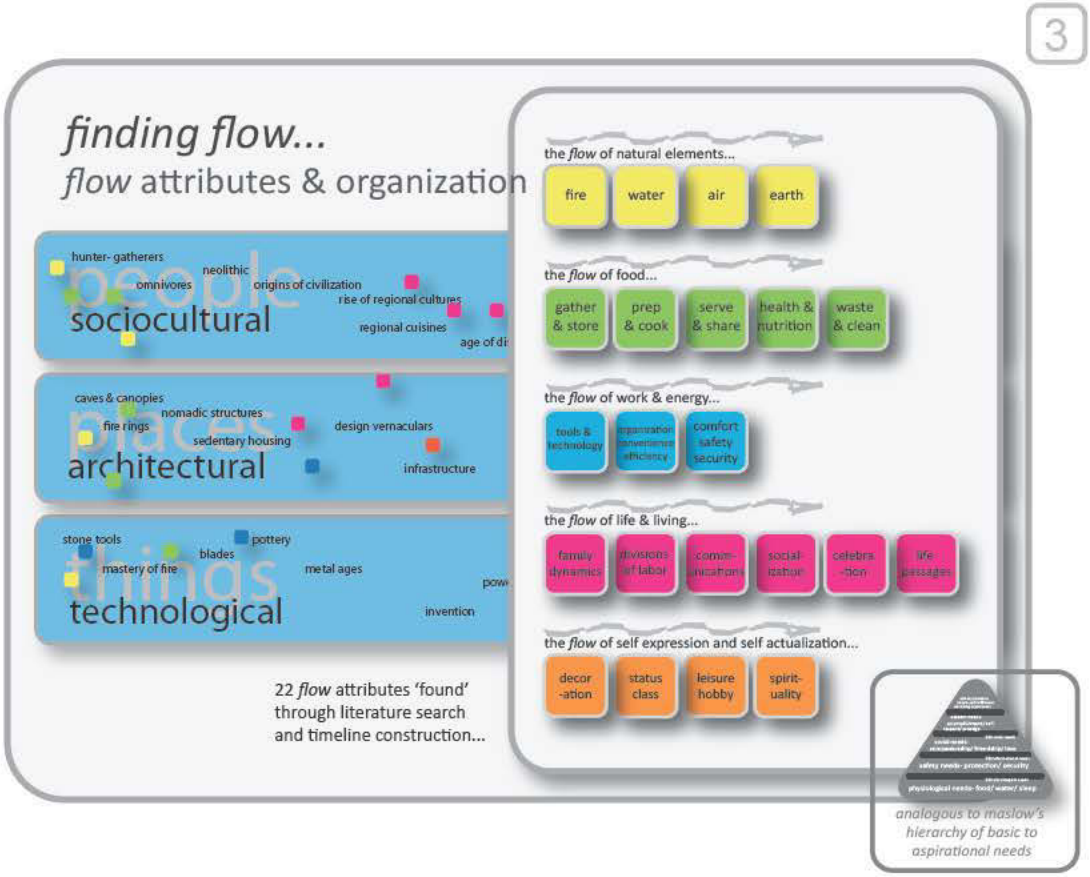
Appendices:

1. Finding Flow 1- findingflow1peopleplacesthingstriad.pdf
2. Finding Flow 2- findingflow2peopleplacesthingstimeline.pdf
3. Finding Flow 3- findingflow3flowattributesandorgs.pdf
4. Finding Flow 4- findingflow4flowtoprecept.pdf
5. Finding Flow 5- findingflow5concept.pdf


1
finding flow...
people, places
& things design
process model
a deep understanding of human need, desire, motivation, behavior, and experience informs a thoughtful and thorough design process and results in inspired, innovative, and holistic solutions
people
past...
...future
places
insightful interior architecture & design intimately understands its human audience and addresses the activities and objects of delightful daily living
things
innovative product design dovetails into human desire, opportunity & environmental context and easily adapts to life cycle evolutions

2


finding flow...
people, places & things timelines
4 million years ago..
...present & near future
people
sociocultural
hunter- gatherers
neolithic
omnivores
origins of civilization
rise of regional cultures
regional cuisines
age of discovery
colonization/ imperialism
trade
struggles for equality
social revolution
middle class
fast food
locavores
slow food
places
architectural
caves & canopies
nomadic structures
fire rings
sedentary housing
design vernaculars
infrastructure
modernism
urbanization
sustainability
universal design
intangibles
things
technological
stone tools
pottery
blades
mastery of fire
metal ages
power systems
invention
industrial revolution
globalization
material culture
information age
LCA
has contemporary humankind lost touch with it's primal past?
does contemporary product and interior design keep pace with present day dynamics?
how do we best address evolving needs of our imminent future?
past
present
future


3
finding flow...
flow attributes & organization
people
sociocultural
hunter- gatherers
neolithic
omnivores
origins of civilization
rise of regional cultures
regional cuisines
age of di
place
architectural
caves & canopies
nomadic structures
fire rings
sedentary housing
design vernaculars
infrastructure
things
technological
stone tools
pottery
blades
mastery of fire
metal ages
invention
22 flow attributes 'found' through literature search and timeline construction...
the flow of natural elements...
fire
water
air
earth
the flow of food...
gather & store
prep & cook
serve & share
health & nutrition
waste & clean
the flow of work & energy...
tools & technology
comfort safety security
the flow of life & living...
family dynamics
divisions of labor
social ization
celebra -tion
life passages
the flow of self expression and self actualization...
decor -ation
status class
leisure hobby
spirit- uality
analogous to maslow's hierarchy of basic to aspirational needs

4

finding flow...

flow to precept...

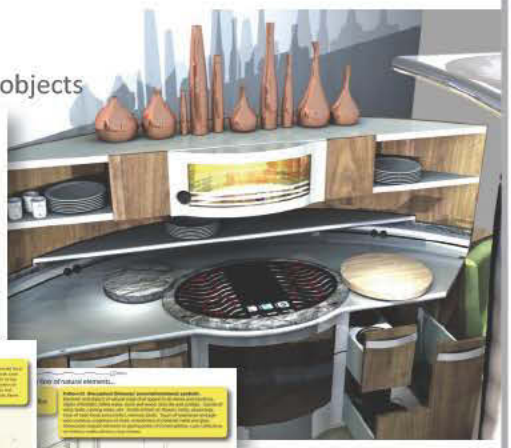
...human experiences, environments & objects

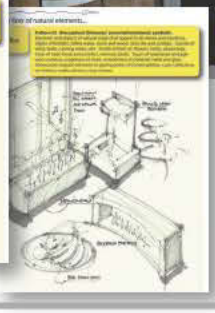
the *flow* of natural elements...

fire

the *flux* of...

discovery, repeatability, portability
defense & survival
heated food
stone circle cooking scar
sociopedal seating ring
interior hearth/ chimney
stove- cook & heat
firelight- illumination & ceremony
central heating
heating appliances- fuel & technology
molecular technologies





Every *flow* attribute has it's own unique trajectory over time... it's moments of *flux* and change. Each history includes elements of human experience, environment, and object evolution.

Precept sketches are ranked and evaluated against a matrix of *flow* attributes... Does a precept support (+), impede (-), or not affect (0) historically significant *flow* attributes?

5

finding flow...
precept to concept...
...human experiences, environments & objects
the gathering
entry zone and boundary between kitchen core and common spaces
light and water towers... open air sight lines...
local timbers radial veneers...
cast concrete pottery bases... reclaim china tops...
fresh foods display and prep areas...
shallow sieve/ sink... aquifer water spout...
service susan... service arc...
high horizon handles... warming kick...
standing storage... drawer caddies...
flow around ends and faces...
welcoming entrance... circular gathering forms...
open site lines greet and gather...
smooth transitions to adjacent spaces
axis mundi columns connect surface to sky...
altar-like form for communal meal...
earthly material connections hand and eye...

Magical Spaces: Lessons in Participatory Design

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Interdisciplinary and community connections are playing an increasingly important role in the education of design students, yet are often difficult to realize in a conventional classroom setting. This case study describes methods and outcomes of a participatory design process that promoted sustainability in the context of community enrichment, educational development and physical health. In 2008, Interior Design students in a sustainability seminar at Drexel University embarked on a community and place-making project at an inner-city elementary school. This seminar focused on social sustainability, and our responsibility to work with local communities in designing meaningful places for all socio-economic levels.

The Blankenburg School is located in a depressed urban environment: ninety-one percent of the children are economically disadvantaged. Their schoolyard consisted of a large blacktop area with a metal lunch trailer and a basketball hoop. With only one small gymnasium and a barren paved lot, children had few opportunities for play or physical activity, an increasingly common occurrence in underprivileged communities. Yet, research shows that play is critical to the physical, social and educational development of youth. Play builds social competence in dealing with peers, skills that are essential for functioning in school as well as life (Singer, Golinkoff & Hirsh-Pasek, 2005). Additionally, physical fitness is a serious concern, with one fifth of children in the city considered obese. For many children in this community, playing outside in the neighborhood is not an option due to safety concerns.

What began in 2008, with a course and a few thousand dollars provided by a small grant, has transformed into the sustainable redevelopment of over 85,000 square feet of dilapidated blacktop into a playground space for the K-8 students of The Blankenburg School.

The schoolyard provided a prime place-making environment to re-energize the school's community. Through storytelling, model building and drawing, Interior Design students worked with first through fifth grade children to develop preliminary designs for a sustainable outdoor environment; a

Magical Space as a shelter for learning, exercising, resting, playing, and growing. The responses were provocative, instilling in ALL students (college and elementary) the REAL possibility of *making a place* to make a difference…a "Magical Space." This initial class inspired the children and surrounding community to take ownership, led to graduate research, two additional courses, and a final plan to complete the space. Substantial grants from three foundations, a supportive principal and school district and many challenges along the way all contributed to the Magical Spaces Playground.

The efforts of elementary school children, teachers, professors and college Interior Design students to turn this process into a reality demonstrate the importance of following through with action, and teach both children in the community and students in the University that effort and ownership from community can lead to change. Documentation and evaluation of the various participatory processes and challenges, the complexities surrounding design for different cultures and socioeconomic levels and the outcome of this project have contributed to new pedagogy in the Interior Design program, as well as a commitment to future participatory projects.

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The Prefabricated Office

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Theory

This paper articulates the significance of the office environment in the history of prefabrication and demonstrates its bearing as an significant instigator of prefabrication technologies. The office is a critical typology of the 'Prefabricated Interior Design' topic and one of the four significant areas – with the kitchen, the bathroom and modular furniture – of the prefabricated interior. When considering the prefabricated interior environment, the office is the topic that most readily (if not solely) comes to mind. This topic is especially significant as prefabricated interior elements are integral to the discussion of sustainable design technologies.

Framework

The construction of the modern office building has benefited substantially from improvements in construction technologies that have allowed long interior expanses instigating the elimination of structural interior walls. Such innovation has been critical to the design and history of prefabricated office components and informed the design of many other interior components and environments.

The invention of the 'cubicle' dates to the 1960s, though the notion of prefabrication in the design of the office far predates its advent. In the first part of the twentieth century, there are examples of privacy 'workstations' created through the installation of low screens or modular filing systems assembled into low prefabricated dividers. It was not until the 1950s that office design witnessed a specific prefabricated demountable wall system, exemplified by the Union Carbide interiors,[1] to divide office space. The prefabrication of workspace had a culminating event in 1964 with Action Office and the advent of the modern cubicle (figure 1).[2]

Twenty-first-century screen-based prefabricated office designs continue to pursue adaptability within office environments, as evidenced in notable diversions from the standard cubicle model. Examples include communal worktables, such as Vitra's 2002 planar Joyn system designed by Ronan and Erwan Bourollec (figure 2),[3] and the consciously sustainable mass-customizable 2004 Dirtt (Doing It Right This Time) demountable wall, floor, electrical, and accessory system designed by Mogens Smed. Such systems challenge the permanence of the traditionally constructed wall, embracing instead the prefabrication of a system of parts that can be readily configured and reconfigured on site. The ongoing requirement for office flexibility continues to challenge the permanence of the traditionally constructed wall embracing instead the prefabrication of a system of parts that can be readily configured and reconfigured on site.

Conclusions

This historical survey is designed to establish the prefabricated office portion of the topic Prefabricated Interior Design. In addition to its value in new construction, prefabricated office elements and prefabricated interior design can play a critical role in the conversion of existing structures through adaptive reuse, also a sustainable practice. An overarching result of the use of prefabricated elements is of particular interest in today's receptive climate toward sustainability and ecological design. The articulation of the prefabricated interior has been critical in the development of modern prefabrication techniques and in the assemblage of interior three-dimensional space. The continued investigations into prefabrication of such interior elements in a purposefully sustainable manner will continue to advance the significant topic of prefabricated interior design.

End Notes (Chicago Style)

[1] Lance Knobel, *Office Furniture*, (London: Unwin Hyman, 1987), 44-46.

[2] Yvonne Abraham, "The Man behind the Cubicle," Metropolis Magazine 18:3 (1998): 76-77.

[3] Francesca Picci, "Working at the Bar," *Domus* 853 (2002): 112-114.

Appendix

figure 1

Robert Probst and George Nelson for Herman Miller Company, Action Office I, 1964

Action-office-1.jpg

figure 2

Ronan and Erwan Bourollec for Vitra, Joyn, 2002

joyn.jpg

Green Buildings as an Expression of Earth Stewardship: User Satisfaction, Emotional Attachment, Building Message, and the Role of Pro-environmental attitude

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University of Wisconsin-Madison

ABSTRACT

Leadership in Energy and Environmental Design (LEED) certified buildings have proliferated around the globe in recent years. While there are many questions about whether these buildings outperform non-LEED buildings, most of the existing studies examine their features from an engineering point of view, resulting in: (1) exclusion of the voices of actual users from the building evaluations (for exceptions, see Lee & Guerin, 2009); (2) exclusive focus on mechanical/engineering systems without looking at building morphology/design; (3) view on human occupants as passive receptors of environmental stimuli. The current study centers on these three issues.

We examine buildings that employ LEED-certification as a tool to express the organizational mission of earth stewardship in religious contexts: how window configurations and the Indoor Environmental Quality (IEQ) found in LEED-certified church buildings affect user satisfaction, an emotional connection to building sites, and the users' acceptance of the buildings as expressions of the organizational missions of earth stewardship. We further examine the pro-environmental attitude of the building users (Dunlap, Van Liere, Mertig, & Jones, 2000) as a moderator between building condition and user satisfaction.

This study is founded upon two recent theoretical developments in Environment-Behavior Studies: (1) emotional attachment to place anchors building users to the physical locale, which in turn promotes pro-

environmental actions (Carrus et al., 2005; Uzzell et al., 2002); (2) pro-environmental attitude is a possible missing link between building condition and user satisfaction (Deuble & de Dear, 2010). We hypothesized that a proper visual connection provided by windows fosters an emotional connection to the site, opening a way to pro-environmental actions. Furthermore, users with stronger environmental concerns are more highly satisfied with the building conditions, develop stronger emotional connections to the site, and better appreciate the organizational goal expressed in the design.

The study employed a field study format in two buildings, the only two church buildings that were LEED-certified in Wisconsin. While documenting the physical configurations of the windows and IEQ in the field, we administered questionnaires to 150 building users to measure overall satisfaction, satisfaction with IEQ, visual connections to the landscape, emotional connections to the landscape, expressions of earth stewardship, and the building's impact on their lives away from the building.

The result indicates that a stronger visual connection from the indoors to the surrounding landscape and a higher satisfaction with acoustics were two major contributors to higher overall satisfaction. A strong visual connection also resulted in a higher emotional connection to the landscape. The moderating role of pro-environmental attitude of the end users in their assessment of buildings was modest.

While the generalizability of our findings is limited due to the limited numbers of building cases, the study provides useful future research directions, such as whether continuing environmental education to the building users is a viable/robust tool for the effective operation of building, and, if so, how. It also underlines the importance of the proper positioning of the buildings and establishing strong connections between the users inside and the nature that surrounds them.

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Trans-WC: transgender identities and public restrooms

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University of Texas at Austin

ABSTRACT
The proposed paper investigates a set of relationships between sexual identity and space by considering transgender subjects as occupants of public restrooms. Rooted in a particular strain of contemporary phenomenology developed by the queer scholar Sara Ahmed, the investigation focuses on the theories of subjective experiences shaped by encounters with objects in space, in this case those of transgender inhabitants relative to mass-produced products placed within bathrooms. The aim is to define a theoretical framework within which interior and product design can intervene as forces of social change. As such, a number of innovative design projects will be discussed as precedents for potential design-based action.

In psychoanalyst Jacques Lacan's seminal example of the restroom as a space regulated by what he referred to as the "laws of urinary segregation" the sexual difference mapped onto the rooms is marked by language, that is the signage that marks one adjacent door as '"ladies" and another as "gentlemen." In such public spaces the difference is further articulated by the objects within, namely by the plumbing fixtures such as urinals and toilets, which further reference the gendered anatomies of the presumed occupants. Transgender subjects bring into question the basis of such differentiation and as such expose the limits of normative alignments of one's psychological identity, biological anatomy and spatial inhabitation.

The paper uses Sara Ahmed's notion of orientation as a framework for interrogating relationships between transgender subjects and public restrooms as mediated by the objects contained within. For Ahmed, queer identities – which in this discussion encompass trans and gender-variant identities – require a process of orientation that is at once sexual and spatial. Ahmed's use of the term "queer" refers to both to non-normative sexualities and to what she calls "oblique and off-line" spatial relationships. Queer orientation presupposes one's sense of disorientation and as she states, "Disorientation could be

described here as the 'becoming oblique' of the world, a becoming that is at once interior and exterior, as that which is given, or as that which gives what is given its new angle" (Ahmed 2006, 162). The question of how the public restroom could be designed to accommodate multiple possibilities for orientation - sexual and spatial - is linked to possible strategies through which bodily postures, social interactions, and optical relationships can be actively reshaped by the nature of objects contained by the interior.

In linking theory with design practice, the paper considers *Safe2Pee*, the internet-based mapping project that uses GPS (global-positioning-system) to literally orient its users toward non-segregated, accessible public bathrooms worldwide. At the scale of the body, designs such as the commercial off-the shelf product that allows women to urinate standing up called *P-mate* and Studio SUMO's prototype for a female urinal titled *Femme Pissoire*, reorient the body away from its normative postures and point to possible new directions in product design. Finally, the paper considers how new technologies may open up new possibilities for spatial and sexual orientations, whereby spaces and objects may be designed to accommodate a range of embodied identities.

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Barriers in the Development of Design Expertise: As Identified from Student Accounts

Kennon M. Smith, PhD

Indiana University

This research focuses on the identification of barriers students may face in their design education experiences, and is thus situated in the context of research on barriers in the development of expertise generally, and design expertise specifically (Lawson & Dorst, 2009).

The goal of this study is to probe students' reported perceptions of their design education experiences to discover barriers implicitly and explicitly described in such accounts. Student perceptions form the focus of this specific study because research has demonstrated that students' learning is significantly impacted by their perceptions of learning experiences (Snyder, 1971). This research is predicated on the assumption that the impact of these perceptions persists apart from whether or not an outside observer might judge the perceptions valid and also on the presumption that these perceptions are not necessarily readily apparent to, or shared by, teachers (Goulden & Griffin, 1997). It is intended that the exploration of these barriers will contribute to literature on the development of design expertise as well as serving as a resource to teaching professionals as they evaluate their own teaching practices and seek insights to assist in improving such practices

Over a two year period, twenty-eight students enrolled in their last interior design studio in a CIDA-accredited program at a large, public university participated in face-to-face interviews regarding their perceptions of their educational experiences. These interviews, which ranged in duration from approximately thirty minutes to well over an hour, were tape-recorded and then transcribed for data analysis. A constant-comparative method (Lincoln & Guba, 1985) has been used to identify key themes.

These themes suggest that some of the barriers students face in their efforts to develop design expertise include managing time in the face of problems with no stopping rules, identifying standards to

be used in judging design work as more or less successful (including difficulty deciding whether or not such judgment is possible), communicating with and relating to other students and faculty (especially in the studio setting and in group work), confronting and overcoming misconceptions regarding the field of interior design (both their own and those of people outside the field), and utilizing tools (especially technology).

It is anticipated that this research will lead to questions regarding the types of interventions which might be designed to assist students in overcoming barriers, provide insights into the novice stages of design expertise development, and raise issues regarding which barriers educators should attempt to eliminate and which are necessary (and perhaps beneficial) aspects of a student's educational experience. This presentation may be of interest to teaching professionals and to researchers concerned with expertise development.

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“Defining a New Term: The Global Interior”

Alison B. Snyder

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ABSTRACT

Globalization affects design attitudes and methods. Designers and teachers appear to be immersed in globalization and accepting of this ubiquitous term, but how is it really understood? While various interior design publications, conference topics and mission statements have touched on global subject matter (Guerin: 1991; IDEC Regional Conference: 2006; Poldma: 2008; IIDA website: 2011; Winchip: 2011), this design research shows there is a lack of a cohesive set of globally-oriented concepts, ideas and theories associated with the interior design discipline. Key physical and behavioral elements are now being reshaped through technology, communal sharing, material development, and more, offering new potential for shaping interior design pedagogy and practice in the future. This work synthesizes previous information but also begins to speculate on the affects of how we learn, live and work in the second decade of the 21st century. The author offers propositions for assessing how global-related values and themes affect design.

This research focused on globalization and design is bound by a central paradox: Does globalization actually shape us as designers and impact how we consider and create interior designs; or, does the interior design of space and place itself, influence and shape people’s views and their understanding of what is now considered global? Rooted within these questions are how designers interpret both a local understanding of place, culture and the client; and, also how a designer integrates these understandings to develop a fresh view of interior design. Thus, the author introduces a new term called the “global interior” and seeks to define it by suggesting a vocabulary that is based on a typology of inter-related themes and actions.

Methods for proposing new implications for teaching pedagogy and practice, first borrows and analyzes “global theory” terms developed and used by several other disciplines such as in political science, urban

studies and sociology (Marcuse and Van Kempen: 2000; Snyder: 2009). For instance, issues concerning global theory reinforces aspects of globalization with regard to change, permanence and temporality, questioning what is timely, and what is timeless. Further aspects of global vocabulary that relate to a changing concept of space and use includes: spread, diffusion, flexible, transformation and hybrid. In addition, current innovative design and business strategists (Mau: 2004; Pink: 2006) point to broad creative working methods (such as with evaluating situations and a reliance on teamwork) that may give clues for developing an interior design based on global theory.

In the speculative conclusion, a new interior pedagogy based on active global themes encourages change to be more inclusive, wide-reaching and inviting of innovation. For example, the author suggests that referring to standard building typologies such as institutional, health care and residential have become non-specific, non-personal and too rigid. Proposals to re-adapt existing architecture and for making new interiors need to first interpret specific behavioral issues, materiality and technology along with concepts of interchangeability and timelessness, and methods of working and interacting, to define new typologies and what a global interior can express.

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APPENDIX

Figure 1: An example of a global Theme to be used as a kind of active typology relating flexible action and behavior, as opposed to listing a typical project by type (for ex. a museum, a hotel, a speculative office building). Instead designers would refer to the relationship between actions, and then develop programs followed by design with these in mind. Designers would suggest that clients come to understand their assumed project needs and intentions by considering global issues related to, for example, change, technology and levels of shared and individual use.

Theme Typology:
To View, To Exhibit, To Learn, To Entertain, To Meet, To Observe, To Nourish

Project Types potentially included in this group are institutions such as:
Museums (gallery, installations), Library, Performing Arts, Tourist Centers, Schools, Restaurants, and hybrids of these.

*Explanation exampl*e:
In the global condition, this Theme potentially tries to look at the inherent qualities found in these institutions such as with museum/galleries. They could be described as an important purveyor of art and commodity, at the same time challenging craft or mass production. The scale of exhibition design as it relates to interior design identifies certain temporal notions of human interactivity, and asks for new ideas pertaining to spatial flow of form and movement as well as a reliance on new smart technologies. Projects might endeavor to express and explain permanence and the opposite. Base needs require really establishing methods for seeing, viewing and interacting. Art exhibition also asks for a careful set of intentions regarding local and global cultures and an adherence to the latest views on sustainable and ecologically aware clients, but also regarding material use. All projects consider the location and context of site adaptive re-use as key for interpretation.

Figure 2: Four photographs potentially expressing some of the actions embedded in a “global interior” found in Istanbul, Turkey in 2011 (refer to Theme information in Figure 1). The adaptive re-use of two industrial maritime buildings now house changing exhibitions. The inserted exhibit design allows the viewer/visitor to interact with art and people within a series of rooms spaces and narrow interior streets made up of neutral or monochromatic materials. Minimal in nature, the design makes an attempt to showcase the existing architecture and natural light while also creating very specific interior divisions of layered space that becomes mostly background. While inside, the visitors are unsure of time, and are therefore able to look more deeply, share viewpoints, listen and be seen, without the exterior distraction of the city (all photographs by author).
(4 photographs.pdf)

Quality of Life: From Consumption to Consummation

Tom Szumlic

MOD.el

ABSTRACT
Within the discourse of interior design, the concept of quality of life (QOL) is invoked often and most often it is discussed unassailably. Who would deny the value of QOL? The term QOL is found in many professional organizations' mission statements, including The Interiors Design Educators Council and The National Council of Interior Design Qualifications. But what exactly is QOL and how does QOL intersect with the eventual production of interior design? The first answer may be traced back to Plato's *Republic* where he enquired into the nature of the good life (Sirgy, 2006). Plato concluded that people seemed happiest when their heads and hearts were in agreement (Sirgy, 2006). Since Plato, the social sciences have developed numerous descriptions and indicators of QOL. Although within the context of sociology much is known about QOL, there seems to be an impasse; there are many systems of QOL measures but few QOL theoretical frameworks (Sirgy, 1986). The second answer must be found in the relatively new domain of design disciplines. All disciplines have customary ways of thinking and doing things and the discipline of interior design is no exception. These conventions include a logical taxonomy, a specialized vocabulary, an accepted body of theory and principles, a means to a systematic research strategy, and techniques for replication and validation (Dressel & Mayhew, 1974). Currently, the discipline of interior design is without a normative definition, theoretical framework, and a research model for QOL. However, critically examining the extant QOL social science research and then coupling this knowledge with normative design theory could construct a more holistic theoretical framework of QOL. This accomplishment would be beneficial for both the social sciences and the design discipline of interior design in the understanding and application of QOL constructs. To that end, a theoretical model of QOL will be presented that: (1) considers the individual holistically as body, mind, and spirit (Fosarelli, 2002); (2) uses the individual's connection, communication, and consciousness with the space and time of the physical environment as an ecological QOL indicator; and (3) employs a modified Maslowian ontogenic model that represents increasing levels of learning as need satisfaction. The merger of these propositions

will be presented in a matrix that outlines nine design strategies to increase the quality of life within the design of interior space. These spatial patterns will be presented to illustrate actual spatial configuration and orientation that correlate to the particular criteria of QOL developed in the matrix.

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Frank Lloyd Wright and the Design Process

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ABSTRACT
This paper presents an insight into the design process used by Frank Lloyd Wright. Although Wright's work is often described as appearing fully-conceived in his head and then drawn in a single sitting onto the paper, the archival documents, correspondence and actual physical building of the A.D. German Warehouse tell a different story. The A.D. German Warehouse was designed ca. 1914 for Richland Center, Wisconsin, and was to be the only building Wright ever designed for the town of his birth. Construction was interrupted in 1917 because of budgetary constraints. Wright engaged with the project again in 1934. Archival documents show that Wright used an iterative design process, responded to client requests and needs, and, at the same time, retained his vision for the design of this cold storage warehouse. Wright's work and buildings are often enshrined in mythological tales of design genius. This presentation seeks to dispel the notion of a singly conceived design by demonstrating the true nature of his work on this building.

The research presented here involved an archival study of documents, a physical examination of the building, interviews with local residents, and a review of existing pieces written about the Warehouse. Analyses of the drawings produced at different stages of the project were used to construct a view into Wright's design process.

When the warehouse was originally designed and constructed, Wright was also working on Taliesin (located approximately eleven miles from the warehouse project), Midway Gardens and the Imperial Hotel. The second design iteration marked the second phase of Wright's career when he was working on projects such as Fallingwater. The A.D. German Warehouse project provides a rich view into Wright's approach during these two periods.

Wright's drawings for the A.D. German Warehouse rehabilitation have never been published and were found in the archives located at Taliesin West in Arizona. The complete holdings consist of approximately 100 drawings and sketches for the project including floor plans, sections, elevations and

furniture design sketches. The A.D. German Warehouse original design was important enough to Wright that he published it in Wijdeveld's 1925 Wendingen collection of his projects which also included Midway Gardens, the Imperial Hotel and the Larkin Building. (Wright, 1965 reprint edition). Thus, although the project changed multiple times, Wright still thought it representative of his best work.

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Sustainable building design initiative: A collaboration between interior design and engineering

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Virginia Tech

ABSTRACT

This presentation discusses a collaborative project between faculty and students in an interior design program with those in an electrical engineering program to create the “House of the Future.” Through the use of direct current, the engineers and interior designers sought to create a model home powered exclusively through wind and solar energy. The selection of DC power was made for multiples reasons: to reduce energy loss through multiple converters, to increase safety for building occupants and contractors, and to question the use of AC as the predominant form of electricity in an aging power grid. A DC powered building can be completely “off the grid.”

The multidisciplinary team worked collaboratively on this project for two years. This presentation will discuss the successes and failures of the multiple design iterations and electrical experiments. The final modeled environment will also be presented as well as a modular, DC powered wall systems that allows for portable electronics to be powered when needed. This includes cell phones, IPods, IPads, laptops and other devices. Additionally a kitchen that has integrated power in the countertop will also be shared.

Although the issue of questioning the use of AC power may seem unrealistic to some, it should be noted that all portable electronics and most light fixtures already come powered directly and then have to use transformers to be able to “plug in” to alternative current. Thus, this switch to DC provides great energy savings. Companies such as Armstrong Ceilings have formed a group to devise new components called EMerge Alliance. Emerge Alliance is dedicated to the rapid adoption of DC power as a replacement for our aging AC power grid. This group fully embraces sustainability.

According to the U.S. Energy Information Administration, in 2009 the residential sector accounted for 22% of all energy use, commercial for 19% and Industrial for 30%.

(http://www.eia.gov/totalenergy/data/annual/#consumption, Figure 2,1a). Of the amount for commercial buildings, roughly 33% is used in lighting alone. (USGBC, 81). According to Emerge Alliance, “These same buildings also use a majority of digital electronic devices that are inherently DC powered. This means that more AC power must be converted to DC at the device level to power equipment like electronic lighting ballasts, solid state lighting (i.e. LEDs), lighting sensors and controls, HVAC controls and actuators, and assorted computer/IT equipment.” (www.emergealliance.org, 2011)

The implications for interior design are staggering. Interior designers, working with industrial designers, architects, and engineers, will be the ones to design new furniture, furnishings, kitchens, baths, open office spaces and multiple other venues for the exploration of this new approach. This project provides a model for collaboration between disciplines on a dynamic new technology that has the potential to reshape the interior in new and exciting ways.

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Designing to Promote Physical Health for the Obese in Commercial Interiors

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Purpose

The purpose of this phenomenological study was to assess 1) interior designers' perceptions concerning the design of commercial workplace interiors that encourage and support physical activity, and 2) design strategies used to encourage employee physical activity within the workplace. This study was developed in part to determine perceived responsibility of the interior design profession toward the national obesity epidemic (i.e. HSW). This presentation will invite discussion about the need to encourage physical activity in the workplace and whether it may re-shape the way educators teach commercial design.

Methodology and Framework

This phenomenological study was conducted with practicing, commercial interior designers employed by large firms. A modified Analysis Grid for Environments Linked to Obesity (ANGELO) Framework was used to guide interview questions in an attempt to understand the obesogenicity of environments and environmental elements for intervention (Swinburn, et al., 1999) (see Figure 1). Questions pertained to how participants perceive their role in 1) creating environments that impact obesity, and 2) developing design solutions to enhance physical activity in commercial interiors. The constant comparative method (CCM) was used for qualitative data analysis in the grounded theory approach.

Findings

All seven participants (primarily female) held interior design degrees with the majority falling into the thirty to thirty-nine age range. Four worked in large firms with one hundred or more people. Level of experience

ranged from four to thirty-two years (see Figure 2). Five themes with corresponding subthemes emerged from this study (see Table 1). The most common theme related to education as they did not feel they had sufficient training or exposure to design commercial interiors to support physical activity. Other themes included health (public and employee), design strategies (building design and company design), personal views (positive and negative) and future intentions (see Figures 3 & 4). Findings indicate that designing for a physically-active workplace moves beyond the incorporation of fitness centers within the corporate environment. It involves thoughtful placement of stairs, circulation patterns, floor to floor movement and increased awareness in the business culture to invite physical activity within the workplace.

Significance and Relevance

Designers have been educated to develop efficient circulation patterns and adjacencies to enhance productivity; however, one consequence is a sedentary workplace that discourages physical activity. Reduced physical activity links to increased sick leave and elevated indirect costs to the employer (King & Sallis, 2009; Burney, et al.). While momentum is gathering to encourage physical activity in community/urban planning, more needs to be done to encourage the same in interior spaces; particularly in workplaces that offer a setting for reaching large numbers of employees from varying socioeconomic and ethnic backgrounds.

Obesity remains one of the biggest public health challenges the country has ever faced (World Health Organization, 2011). In a world of 400 million obese and 1.6 billion overweight adults, interior designers, as much as nutritionists or doctors, have the opportunity to encourage physical activity and healthy lifestyles (Stone, 2008). As educators, how do we encourage the next generation to design obesity-prevention methods into the workplace?

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Appendix

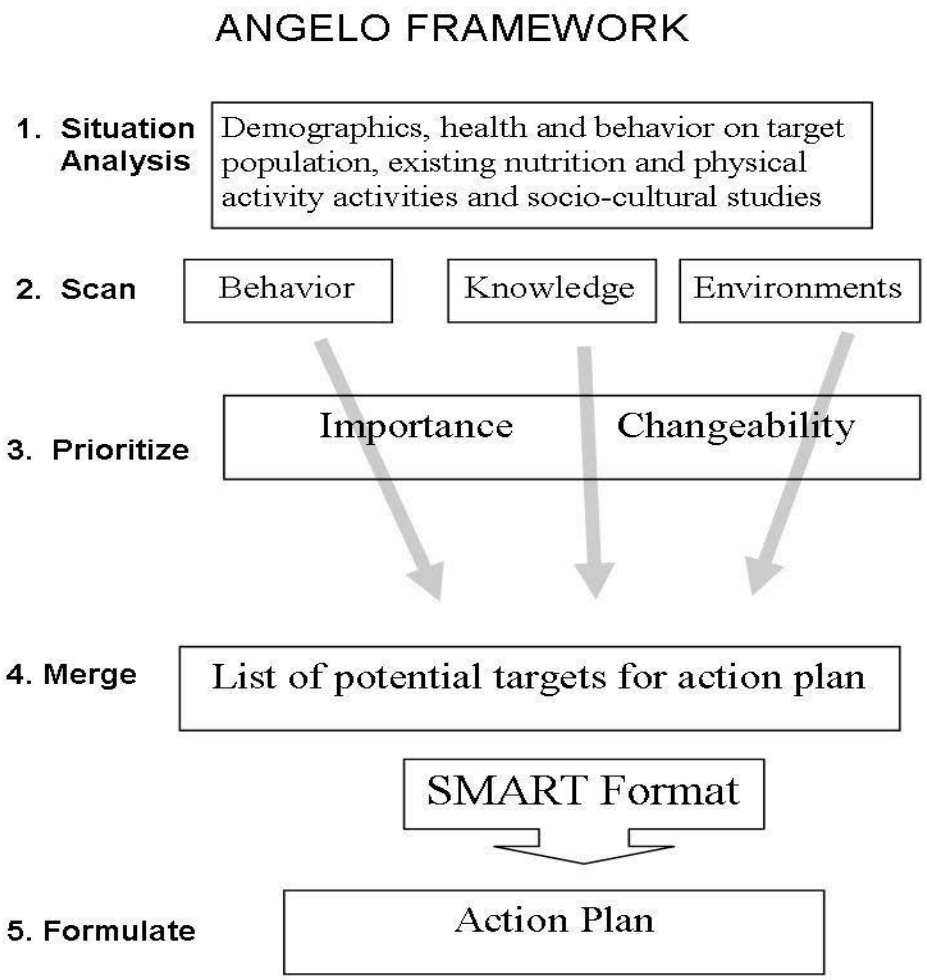
Table 1. Themes and sub-themes of physical activity incorporation into commercial interiors. (Table 1)

Figure 1. Modified ANGELO Framework. (Figure 1)

Figure 2. Demographics of commercial interior designers. (Figure 2)

Figure 3. Issues identified regarding the incorporation of physical activity into workplace design solutions. (Figure 3)

Figure 1. Modified ANGELO Framework.



Source: Swinburn, et al, 1999

Figure 2. Demographics of commercial interior designers.

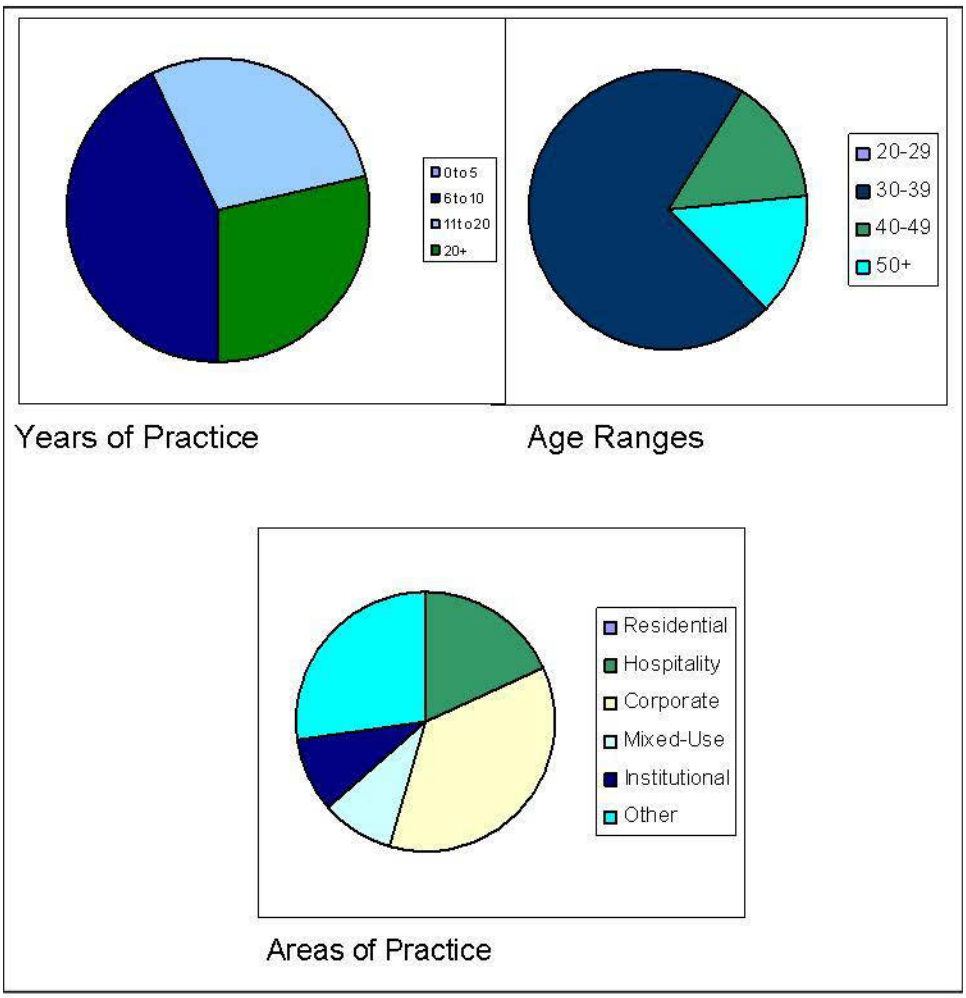


Figure 3. Issues identified regarding the incorporation of physical activity into workplace design solutions.

Table 1. Themes and sub-themes of physical activity incorporation into commercial interiors.

	Theme	Sub-theme(s)	Participant Quote

1	**Education**	• Lacking Resources
		  ○ No continuing education offerings
		  ○ No training from school
		  ○ Employer support
		• Limited Knowledge
		  ○ Lack of exposure to subject
		  ○ Lack of client encouragement
		• Assertion of statements
		  ○ Positive attitude
		  ○ Negative attitude
			"I do not feel that I know enough about physical activity encouraging design strategies to make many decisions about it. I have opinions and ideas about how to encourage physical activity, but I could be off-base in my thoughts. Since I have not had any education in this particular field I cannot say that I am qualified to make decisions regarding these strategies."

2	**Health**	• Employee Health
		  ○ Productivity
		  ○ Employee satisfaction
		• Public Health
		  ○ Healthcare costs
			"I believe physical activity promotes 'active' work environments that not only help promote positive health but also encourages collaboration among employees. Collaboration encourages the exchange of ideas. This spontaneous collaboration is a good example of how good design is good business."

3	**Design Strategies**	• Building Design
		  ○ Extra cost
		  ○ Client Support
		  ○ Firm Support
		• Company Design
		  ○ Employee satisfaction
		  ○ Business Productivity
			▪ "Circulation patterns
			▪ placement of individuals and their workstations,
			▪ encouragement of activity between floors,
			▪ being mindful of team/individual spaces."

4	**Personal Views**	• Positive
		  ○ Desire more education
		  ○ Very important topic
		• Negative
		  ○ Lack of interest
			"I think it should be a part of each design project just as sustainability practices and accessibility is an integral part of our interior design." "Space is a premium and it would

		○ Client dissatisfied • Client Perspective • Cost of Business	have to start with the owner. They would not be generating income for this."
5	**Designers Future Intentions**	• Start Practicing physical activity incorporation • Continued Practice of Physical activity • Advantages • Disadvantages • Personal Thoughts	"As a firm, we view wellness as a benefit of design and it frequently becomes a topic of conversation in schematic design, programming, and charettes." "I believe that the more I learn about how to practice physical activity encouraging interior design, the more I will do it."

The Secret Life of the Equitable Building: How Office Interiors Change

Linda Zimmer

University of Oregon

ABSTRACT

Modern office buildings have a vibrant inner life. Designed as permissive envelopes to maximize rental income the demand for highly flexible lease spaces has historically driven form (Willis, 1995). Lease spaces are continually reconfigured, such that over fifty years Brand (1994) estimates the cost of the space plan to be three times that of shell and services. This constant change is now being reexamined given our imperative to make buildings more sustainable. In this study, the Equitable (now known as the Commonwealth) building, an influential modern office building designed by Pietro Belluschi acts as a pilot case study to examine interior changes over time. (Figure 1)

One of the first modern office buildings constructed after World War II (1948), the Equitable building was designed to provide “the finest office space available, space so optimal that it would be in constant demand and never become obsolete” (Clausen, 1991). The concept of universally flexible tenant spaces was a core concept of the building. To that end, Belluschi employed an innovative glass curtain wall and geothermal heat pump, continuous ducts to carry communications, electrical and HVAC, reconfigurable electric lighting, minimal interior columns and a centralized core, all elements widely emulated in subsequent buildings. (Figures 2 and 3)

Despite massive changes in office planning and technology, the Equitable building has indeed, been continually occupied, updated and reconfigured. In many municipalities including Portland Oregon every significant lease space change is documented in building permit drawings. (Figure 4) and these records were used to compile a rich database of over 250 permit drawings for the Equitable Building. Drawings

have been reviewed and catalogued from microfiche records and the database has been sorted by date, floor, drawing type, change, tenant and designer. A chronological sort reveals the timing, extent and circumstances of changes and ongoing work is being done to compare and show subsequent generations for selected floors. In this way I hope to identify elements that persist and those that are short-lived.

Although the study is by no means complete, the permit record shows patterns of change driven by tenant changes as well as those driven by other forces such as codes, building systems and economics. Early findings show that the two different floor plates underwent changes at different rates and were planned using substantially different strategies. The much admired curtain wall is a significant determinant in planning and a custom spline connecting partitions to narrow mullions was not widely adopted. The 1948 egress system does not comply with current codes and the size and layout of lease spaces have become increasingly constrained as a result. In addition, periodic life safety upgrades and changes in building ownership have resulted in substantial reconfiguration of tenants.

This study provides a glimpse into the physical history of office space over the last sixty years and documents changes and their catalysts. It acts as a test case for The Secret Life of Buildings project that will chronicle the unique physical history of other Iconic buildings and hopefully inform more sustainable planning.

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APPENDIX

Figure 1: Equitable Building Exterior (Photograph by Ezra Stoller, Architecture Forum, September 1948)
Figure 2: Photo of original office layout (Photograph by Ezra Stoller, Architecture Forum, September 1948)
Figure 3: Layout of Typical Office Floors 7-13 showing the planned configuration of small office suites
Figure 4: Typical Lease Space Permit Plan for Floor 2-6 showing a full floor tenant

SEATTLE
ANCOUVER
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ORTHERN PACIFIC
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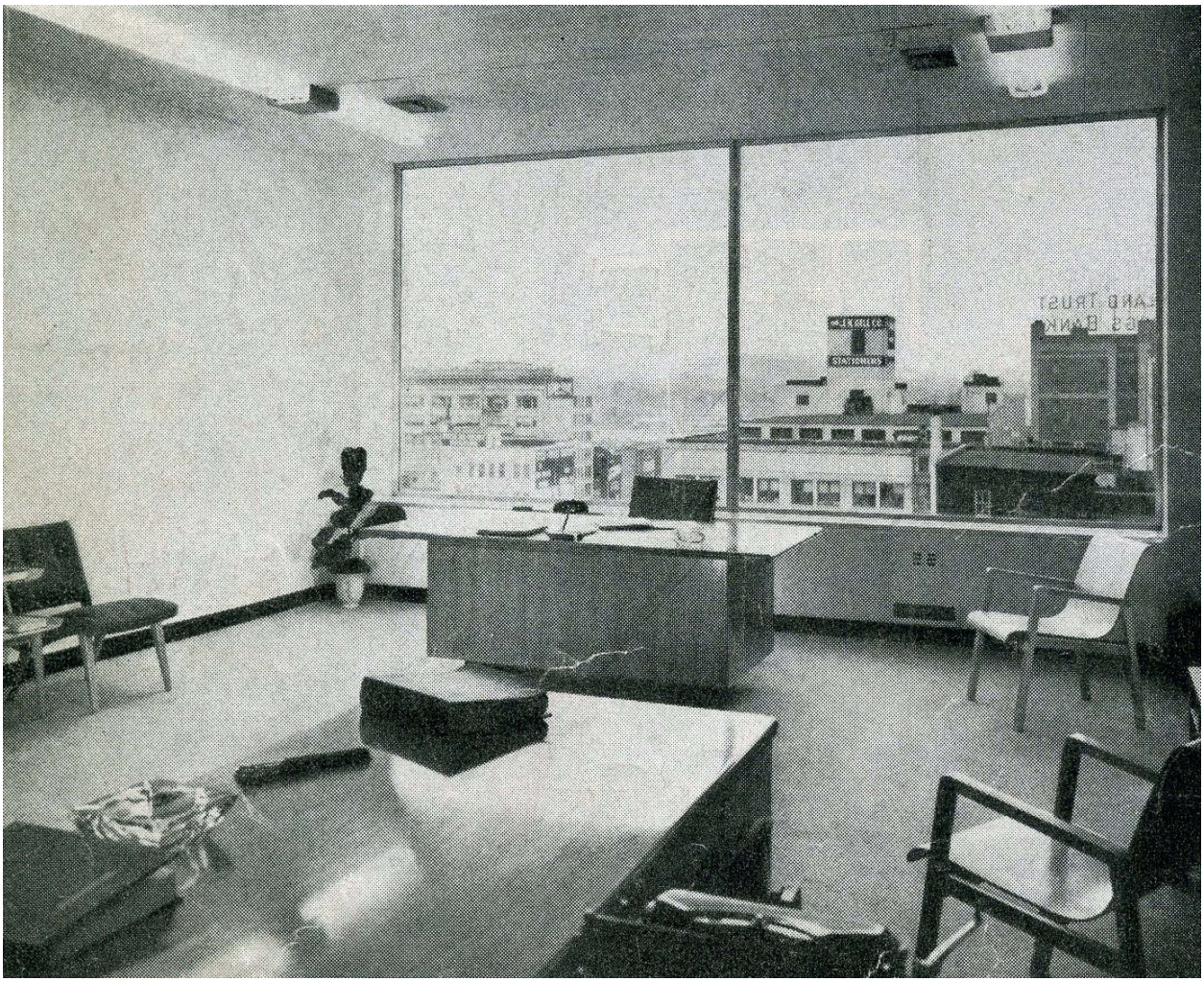
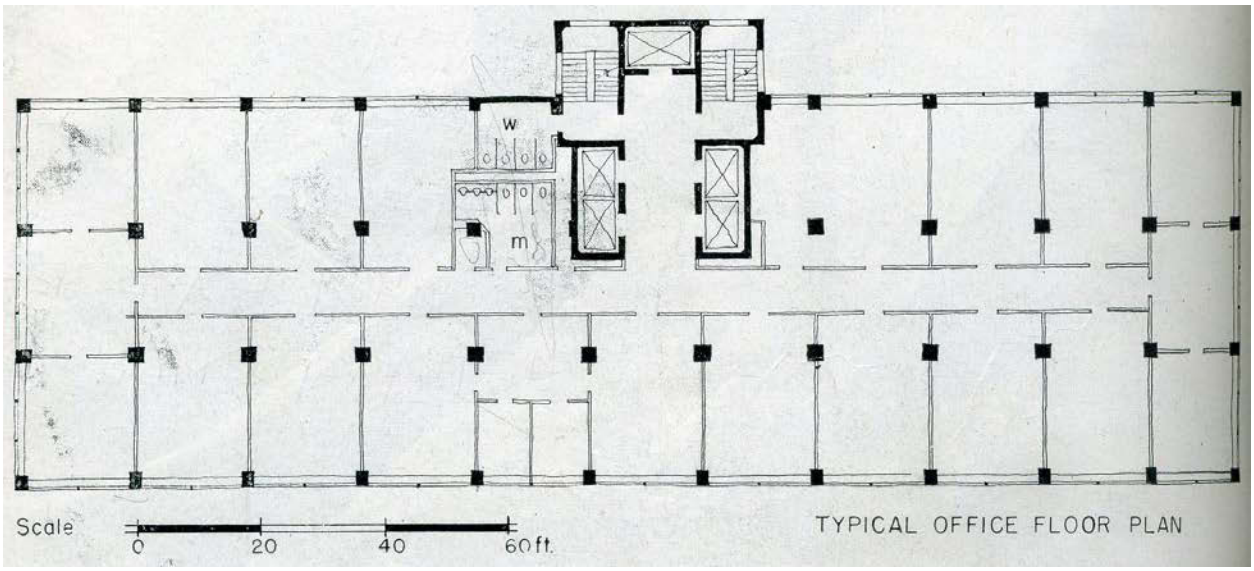
FOUNTAIN

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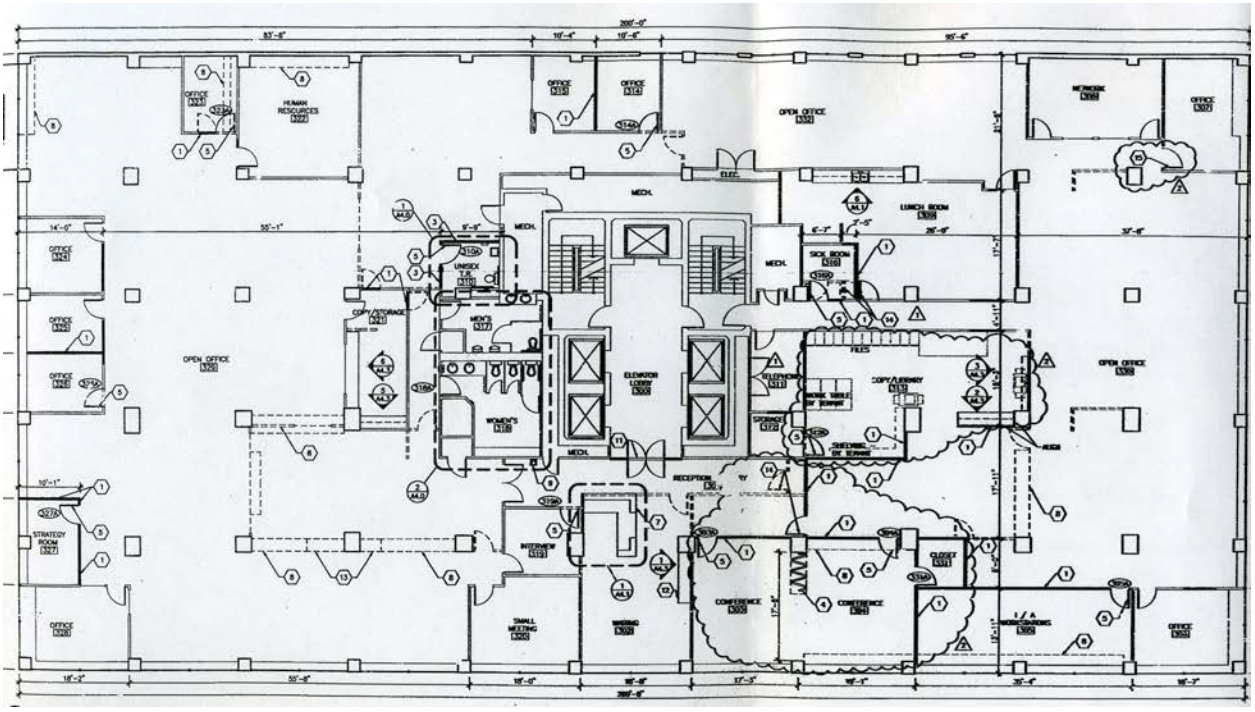
TYPICAL OFFICE FLOOR PLAN


OFFICE
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ELEVATOR LOBBY
FILES
COPY/LIBRARY
OPEN OFFICE
RECEPTION
STRATEGY ROOM
CONFERENCE
CONFERENCE
CLOSET
OFFICE
SMALL MEETING
WAITING
OFFICE

PRESENTATIONS
SCHOLARSHIP OF TEACHING + LEARNING

Bicultural Thinking in Design Studio Learning: Eastern vs. Western Design Thinking

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University of Oregon / Hanyang University

ABSTRACT

The purpose of this paper is (1) to disseminate different cultural thinking styles found in American and Korean student work for an international exchange studio project and (2) to discuss how bicultural thinking can improve design learning while also cultivating cultural awareness. This paper also argues that bicultural thinking should be considered in design studio instruction to strengthen studio performance, particularly when Asian international students participate.

It is imperative that the US interior design profession recognizes the interdependent and complex world economy. CIDA professional standards (2011) require interior design programs to prepare students for such a work force. However, anecdotal experiences of teaching interior design in the US suggest that global contexts are still limited to Western-Eurocentric contexts (Drab, 1998) and that cultural contexts are often superficially or fragmentally treated as aesthetic alternatives through a western point of view. More attention to cultural sensitivity is needed (Guerin, 1991). Researchers have found that cultural differences in metaphysics between westerners and easterners exist, and the different viewpoints elicit particular cognitive processes and foster particular learning performances for each group (Nisbett, 2003, see Table 1).

In summer 2009, conversations with two American and several Korean students who were participating in an international graduate seminar at a Korean university to exchange design researches suggested two interesting cultural aspects: different thinking styles and mutual respect for another culture. To further explore such cultural differences, a joint studio project, Tourist Information Center of Korea,

was administered in an interior design studio at the two universities (one Korean and one American) challenging the bicultural student groups to identify cultural images of Korea and to manifest them in their design proposals. Twelve graduate students at the Korean university participated during the fall 2010 semester. Sixteen students (a mix of graduate and undergraduate) at the American university participated during the winter 2011 quarter. A faculty member from each university visited the exchange campus for a week or two to share cultural insights.

The results suggest some major cultural differences that exist between the two groups. Confirming Nisbett (2003), design approaches by the American students were more directional, whereas the Korean students' approaches were relatively complex and abstract in nature. The presentation styles were apparent for these differences. The results support Nisbett's notion that easterners focus on relationships of substances to understand the "complex and cyclical" world and westerners focus on universal rules to understand the "simple and linear" world. The Korean students tended to see more spatial relations, but had difficulty simplifying or categorizing them and were less engaged in studio discussion. American students' approaches were much more straightforward based on given problems.

These findings suggest that educators should be aware of inherent cultural differences between bicultural groups in design learning. Eastern thinking can contribute to diversification of design alternatives and ideas, while western thinking can contribute to the categorization of complex relationships in a logical manner. Careful pedagogical implications of the bicultural thinking would strengthen the academic performance of both groups while maximizing cultural awareness in global contexts.

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APPENDIX

Table 1: Attributes of Bicultural Thinking (Nisbett, 2003). (bicultural thinking.pdf)

Figure 1: Project Descriptions. (project description1.jpg, project description2.jpg)

Figure 2: Student Samples of Programming (group assignment). (group assignment sample.pdf)

Figure 3: Final Presentation Board by Korean Students (group project). (Korean student presentation.pdf)

Figure 4: Final Presentation Boards by American Students (individual project). (USstudent presentation sample.pdf)

	Eastern	Western
Metaphysics	The world is complex, cyclical, dynamic, and changeable. It consists of continuous substances. Outcomes change if the circumstances change. Balance and harmony among contexts are important.	The world is simple, static, and linear. It is composed of discrete objects. Universal rules exist to govern the nature; therefore, outcomes do not change, regardless of circumstantial changes.
Social structure	Collective and interdependent. Harmony in relationships is a chief goal of social life.	Individualistic and independent nature.
Sense of self	Connected and conditional agent. Collective actions. Group goals are more important than personal goals.	Unitary free agent in the world. Freedom of individual actions. Personal merits and controls are important.
Perceptual style	Wide-angle lens: pay attention to contextual relationships and their environment. Events are caused by complex, interrelated contextual factors.	Tunnel vision: pay attention to objects. Separate them from the environment. Events are primarily understood as properties of objects.
Cognitive process		
Reasoning	More focus on external cause and interrelationships.	More focus on disposition of a focused object or person causing the event or result.
Organization of knowledge	Lack of interest in object classification. Divergence.	Categorization and convergence.
Problem solving	Harmony. Midway approach (avoid extreme propositions). Accept contradictory propositions.	Formal logic to make a decision, simplicity, objectivity (rule making), and fragmentality. Avoid contradictory propositions.
Learning style	• Holistic views: not familiar with debate and avoid contradiction and debate (introvert) • Seek for wisdom • More contextual explanation • More capable of relating objects to the contexts • Better skills in spatial tasks and divergence	• Analytical/critical thinking: encourage debating (extrovert) • Seek for universal rules • More attribute-based classification • More capable of focusing on greater details of an object and its properties in an isolated mode • Better skills in causal analysis and convergence

Hypothetical Scenario:

The following section will give you a starting point for investigating more detailed information for your project program. You will be engaged in both a team project and an individual project. For programming, you will work with your peers to develop your own design program that is compelling to solve problems specified by your clients. Based on the design program that your team comes up with, you will develop your own design proposal in response to the program. Therefore, it is very important for your team to identify the most critical information to solve the design problems and establish compelling programming concepts for better design outcomes. This project is sponsored by the UO/Hanyang Faculty Exchange Program, the Global Scholars Program, and the Korea Tourism Organization. Selected projects may be published and/or displayed.

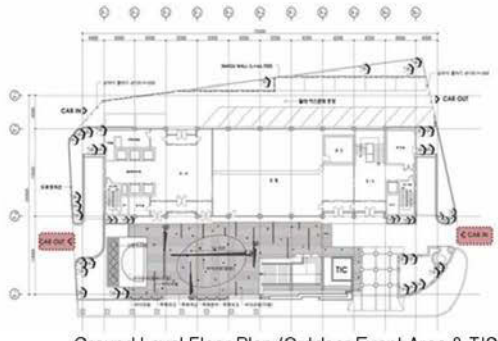
RFP for Tourist Information Center (TIC) of Korea, Korea Tourism Organization (KTO) Headquarters

http://english.visitkorea.or.kr/enu/GK/GK_EN_2_7_2_1.jsp

Korea Tourism Organization Headquarters seeks an innovative design proposal for its Tourist Information Center (TIC) that can enhance visibility of the TIC, manifest the image of Korea and its future, and engage visitors in positive experiences within the center as a tourist destination. KTO is a non-profit organization, and the main function of the TIC is to provide tourists or visitors with services and useful information on travel, accommodations, and tourist attractions in Korea. You can visit the website above to find more details about the center.

Tourist Information Center (TIC), Headquarters Profile

Location: The TIC is located at the KTO Headquarters in downtown Seoul. This area of Seoul is one of the most popular tourist destinations in Korea. The center is in very close proximity to public transportation systems (subway lines and buses), business districts, market places, government buildings, and Korean palaces. In particular, the center is adjacent to Cheonggyecheon Stream, which has been restored by a massive urban renewal and restoration project that removed a high-rise highway and asphalt paving that used to cover the entire stream. The stream is now one of the hot spots among tourist destinations in Seoul. The TIC is approximately 1,500 m^2 (16,000 sf) and located in the first basement floor of the KTO Headquarters. The TIC has gone through several renovations, and one significant renovation in 2007 was to add an information kiosk on the street level to improve the center's visibility. Unfortunately, there is still lack of connectivity between the kiosk and the TIC. Tourists who visit the kiosk tend to not visit the center.



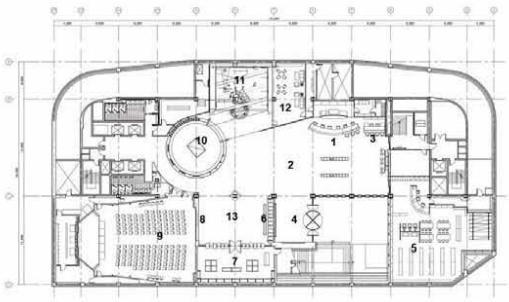
Ground Level Floor Plan (Outdoor Event Area & TIC Kiosk)

TIC Kiosk

Outdoor Event Space

Main Entryway

Main Entry: The TIC has direct access from the street level. To increase visibility, the center added a street level kiosk and an outdoor event area. However, staffs feel the basement and the street level are still not connected and the circulation to invite visitors in is somewhat awkward. The TIC is particularly interested in innovative design ideas to increase visibility of the center and its connectivity from the street level. Staffs are open to all ideas as long as the suggestions maintain the structural system.



1. Information Desk
2. Main Hall
3. Travel Agency Desk
4. Foyer
5. Library
6. Gift Shop
7. Cultural Property Artisans Hall
8. Wall AD Screen
9. Auditorium
10. Korean Wave Hall
11. Medical Tourism Center
12. Main Office/Complaint Center
13. Promotion/Temporary Exhibition Space

Basement Floor Plan (TIC)

Types of Services: Tourist Information / Convenience Services / Reservations / Exhibitions / Promotions

Tourist Information and Reservations

a. **Information Desk (Primary Function of the Center):** The primary audience of this service is individual tourists, small groups, and/or business travelers. The center offers three language services (English, Japanese, and Chinese). The center provides nation-wide information on tourist attractions and events in the form of leaflets, brochures, books, and audio-visual presentations. The center also works closely with local/regional governments to provide local tour information, as well. The center deals with an extensive number of publications, including periodicals and brochures by KTO and regional governments. Effective use of storage space is critical to support this function. The center offers additional services such as sightseeing planning, transportation, and lodging information.
b. **Travel Agency Desk (Lease):** Package tours, hotel and transportation reservation services.
c. **Library:** Open to public. Primary users, though, are employees of KTO. Closed Sat., Sun., holidays.

Cultural Experience Opportunities

a. **Korean Traditions:** The center offers some events during the third week of each month and for special holidays to engage visitors in traditional Korean experiences, such as trying out traditional Korean costumes, writing one's name in Korean, and playing traditional games. These events are held in the main hall next to the information desk.
b. **Korean Wave (Hallyu) Hall:** This exhibition area was opened in 2004 and was renovated in 2006. This area is quite a popular tourist destination for visitors from Asia. The area showcases Korean entertainment businesses including movies, music, and TV series. Life-size pictures of Korean celebrities and their handprints are exhibited and video clips are shown.

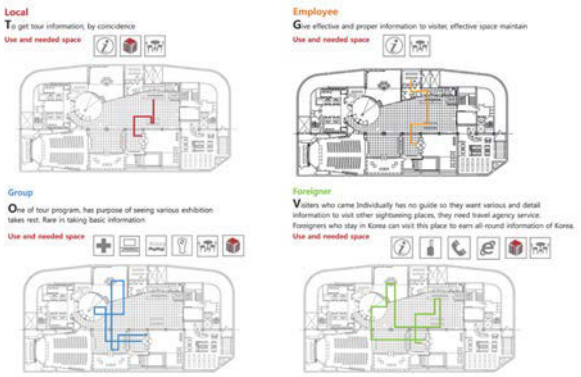
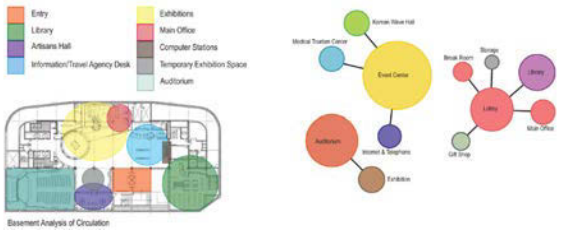
Promotions/Advertising

a. **Medical Tourism Promotion Center:** This center opened in 2009. It provides information on medical services in Korea and three language services (English, Japanese, and Chinese) are available. Also, visitors can check their heath using displayed items free of charge. At this point, the exhibition is permanent, but it could be changed based on promotional changes or national brand strategic changes.
b. **Local/Regional Tour Promotional Events and Seminars:** Occasionally, local/regional governments or tourism organizations rent a portion of the center to promote cultural events and/or tourist attractions occurring in their regions. The auditorium is the most popular space for local/regional organizations to host tourism seminars or such events. Promotion/Temporary Exhibition Space (No. 13 in the basement plan) is often used to accommodate receptions or temporary exhibitions. Also, illustrated information on key local/regional tourist attractions and events is introduced on a wall.

Convenience Services: Internet Lounge, Free International Call Center, Beverages (vending machine), Other Information

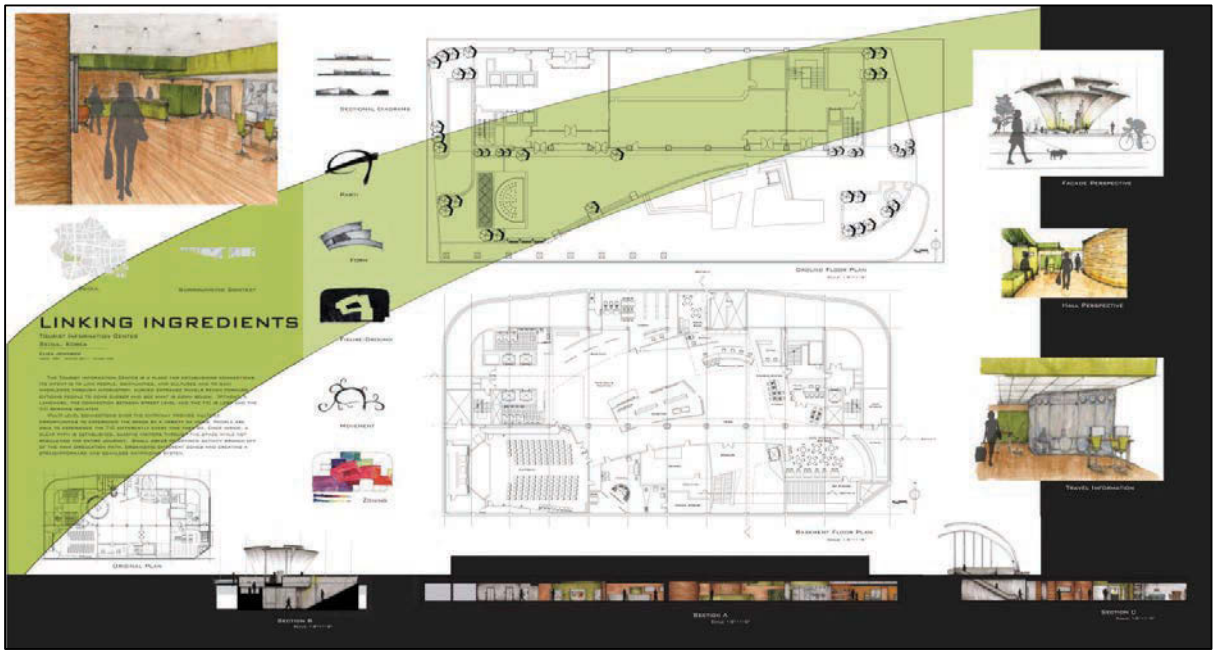
Shopping: Gift Shop and Artisans Gallery

Korean Cuisine Studio: The TIC will introduce a Korean Cuisine Studio outside the main entryway

Korean student work (group assignment)	American student work (group assignment)
Spatial analysis  **Programmatic concept** 	**Spatial analysis**  **Programmatic concept**

Sample 1 (80”X80”)

Sample 1 (96”X38”)



Sample 2 (72”X41”)

Strengthening Collegiality and Learning in the Interior Design Classroom through Strengths-Based Education

Diana Allison and Darla Green

Johnson County Community College, Overland Park, KS

Abstract

The ability to listen, learn, collaborate, and communicate are essential skills for the interior design student. Students come to the classroom with varying degrees of mastery in these areas and little understanding of why they approach these skill sets in the way they do. New research shows learning styles and learning style inventories are useful in helping the student and the instructor to better understand student's strengths (Merriam, Caffarella, & Baumgartner, 2007). These strengths, once identified, provide the student with self-knowledge, helping them understand why and how they process information. The student is empowered with this information that has impact in all areas of their life.

Strengths-based education involves five principles: 1) identifying students' strengths; 2) personalizing the students' learning experience based upon their strengths; 3) networking and communicating students' strengths with those who will support and acknowledge strength-based success; 4) deliberately applying strengths inside and outside of the classroom; and 5) intentional development of the students' strengths (Lopez & Louis, 2009). Strengths-based education was applied in five classes in our interior design department during 2011.

The first step was accomplished with 46 students and four faculty taking the Clifton StrengthsFinder 2.0™, developed by Gallop, which uncovers a person's strengths (Clifton, Anderson, & Schreiner, 2006; Lopez & Louis, 2009). Through a series of questions this assessment forces decisions about given scenarios. In the end, the person's five top strengths, as determined by the 34 strength categories are uncovered (see Figure 1). Rath & Conchie (2008) have further organized these categories according to four domains of leadership strengths (see Figure 2). Findings go beyond identifying

personality traits by showcasing innate talents that can be further developed and be used to better understand others in classroom, team, and collaborative settings.

Steps two through five were accomplished using class time to discuss students' strengths relating them to specific projects and teamwork. Team discussions and journaling were used to further advance students' understanding. In addition, counselors trained in the StrengthsQuest™ program were brought into the classroom to lead various exercises to further students' understanding of their unique strengths. As students learned about their strengths, it helped them understand how to focus and fortify their portfolio, cover letters and resumes based on these strengths. It gave them insight into their classmates' and instructors' approaches to learning and to collaborative work. Students' comments included such things as, "*I wish we had done this in our first class in the program*"; "*I wish all of our instructors knew what our strengths were before they put us on teams*"; and "*Now I understand why you approached that the way you did*".

With the assessment of only 46 students there is no statistical significance in the findings (see Figure 3). However, the visible evidence of better student interaction and the response of the students to discovering their strengths and utilizing them in the class have been very positive. Instructors are able to use this information in class preparation and student interaction. Collegiality in the classroom has increased and students are more engaged in their learning. It is planned to use this instrument in additional classes this spring.

References (APA)

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Lopez, S. & Louis, M. (2009). The Principles of Strengths-Based Education. *Journal of College & Character, 10(4),*1-8.

Merriam, S., Caffarella, R., & Baumgartner, L. (2007). *Learning in Adulthood: A comprehensive guide, 3rd edition.* San Francisco: Jossey-Bass.

Rath, T. & Conchie, B. (2008). *Strengths Based Leadership: Great leaders, teams, and why people follow.* New York: Gallup Press.

Appendix

Figure 1. Brief Description of 34 Clifton StrengthsFinder Themes (Figure 1. Brief Description.pdf)

Figure 2. Thirty-Four Strength Categories Organized by Four Domains of Leadership Strength (Figure 2. Four Domains of Leadership.pdf)

Figure 3. Strengths Frequencies of Forty-six Students and Four Faculty in Five Classes (Figure 3. Strengths Frequencies.pdf)

Figure 1. Brief Description of 34 Clifton StrengthsFinder Themes (Gallop, 2000)

Reference Card

ACHIEVER People especially talented in the Achiever theme have a great deal of stamina and work hard. They take great satisfaction from being busy and productive.

ACTIVATOR People especially talented in the Activator theme can make things happen by turning thoughts into action. They are often impatient.

ADAPTABILITY People especially talented in the Adaptability theme prefer to "go with the flow." They tend to be "now" people who take things as they come and discover the future one day at a time.

ANALYTICAL People especially talented in the Analytical theme search for reasons and causes. They have the ability to think about all the factors that might affect a situation.

ARRANGER People especially talented in the Arranger theme can organize, but they also have a flexibility that complements this ability. They like to figure out how all of the pieces and resources can be arranged for maximum productivity.

BELIEF People especially talented in the Belief theme have certain core values that are unchanging. Out of these values emerges a defined purpose for their life.

COMMAND People especially talented in the Command theme have presence. They can take control of a situation and make decisions.

COMMUNICATION People especially talented in the Communication theme generally find it easy to put their thoughts into words. They are good conversationalists and presenters.

COMPETITION People especially talented in the Competition theme measure their progress against the performance of others. They strive to win first place and revel in contests.

CONNECTEDNESS People especially talented in the Connectedness theme have faith in the links between all things. They believe there are few coincidences and that almost every event has a reason.

CONSISTENCY People especially talented in the Consistency theme are keenly aware of the need to treat people the same. They try to treat everyone in the world with consistency by setting up clear rules and adhering to them.

CONTEXT People especially talented in the Context theme enjoy thinking about the past. They understand the present by researching its history.

DELIBERATIVE People especially talented in the Deliberative theme are best described by the serious care they take in making decisions or choices. They anticipate the obstacles.

DEVELOPER People especially talented in the Developer theme recognize and cultivate the potential in others. They spot the signs of each small improvement and derive satisfaction from these improvements.

DISCIPLINE People especially talented in the Discipline theme enjoy routine and structure. Their world is best described by the order they create.

EMPATHY People especially talented in the Empathy theme can sense the feelings of other people by imagining themselves in others' lives or others' situations.

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REFERENCE CARD

FOCUS People especially talented in the Focus theme can take a direction, follow through, and make the corrections necessary to stay on track. They prioritize, then act.

FUTURISTIC People especially talented in the Futuristic theme are inspired by the future and what could be. They inspire others with their visions of the future.

HARMONY People especially talented in the Harmony theme look for consensus. They don't enjoy conflict; rather, they seek areas of agreement.

IDEATION People especially talented in the Ideation theme are fascinated by ideas. They are able to find connections between seemingly disparate phenomena.

INCLUDER People especially talented in the Includer theme are accepting of others. They show awareness of those who feel left out, and make an effort to include them.

INDIVIDUALIZATION People especially talented in the Individualization theme are intrigued with the unique qualities of each person. They have a gift for figuring out how people who are different can work together productively.

INPUT People especially talented in the Input theme have a craving to know more. Often they like to collect and archive all kinds of information.

INTELLECTION People especially talented in the Intellection theme are characterized by their intellectual activity. They are introspective and appreciate intellectual discussions.

LEARNER People especially talented in the Learner theme have a great desire to learn and want to continuously improve. In particular, the process of learning, rather than the outcome, excites them.

MAXIMIZER People especially talented in the Maximizer theme focus on strengths as a way to stimulate personal and group excellence. They seek to transform something especially talented into something superb.

POSITIVITY People especially talented in the Positivity theme have an enthusiasm that is contagious. They are upbeat and can get others excited about what they are going to do.

RELATOR People who are especially talented in the Relator theme enjoy close relationships with others. They find deep satisfaction in working hard with friends to achieve a goal.

RESPONSIBILITY People especially talented in the Responsibility theme take psychological ownership of what they say they will do. They are committed to stable values such as honesty and loyalty.

RESTORATIVE People especially talented in the Restorative theme are adept at dealing with problems. They are good at figuring out what is wrong and resolving it.

SELF-ASSURANCE People especially talented in the Self-Assurance theme feel confident in their ability to manage their own lives. They possess an inner compass that gives them confidence that their decisions are right.

SIGNIFICANCE People especially talented in the Significance theme want to be very important in the eyes of others. They are independent and want to be recognized.

STRATEGIC People especially talented in the Strategic theme create alternative ways to proceed. Faced with any given scenario, they can quickly spot the relevant patterns and issues.

WOO People especially talented in the Woo theme love the challenge of meeting new people and winning them over. They derive satisfaction from breaking the ice and making a connection with another person.

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Figure 2. Thirty-Four Strength Categories Organized by Four Domains of Leadership Strength (Rath& Conchie, 2008, p.24)

The Four Domains of Leadership Strength			
Executing	**Influencing**	**Relationship Building**	**Strategic Thinking**
Achiever	Activator	Adaptability	Analytical
Arranger	Command	Developer	Context
Belief	Communication	Connectedness	Futuristic
Consistency	Competition	Empathy	Ideation
Deliberative	Maximizer	Harmony	Input
Discipline	Self-Assurance	Includer	Intellection
Focus	Significance	Individualization	Learner
Responsibility	Woo	Positivity	Strategic
Restorative		Relator	

Figure 2. Strengths Frequencies of Forty-six Students in Five Classes and Four Faculty

Strengths Frequencies																																
	Executing									Influencing								Relationship Building								Strategic Thinking							
	Achiever	Arranger	Belief	Consistency	Deliberative	Discipline	Focus	Responsibility	Restorative	Activator	Command	Communication	Competition	Maximizer	Self-Assurance	Significance	WOO	Adaptability	Developer	Connectedness	Empathy	Harmony	Includer	Individualization	Positivity	Relator	Analytical	Context	Futuristic	Ideation	Input	Intellection	Learner	Strategic
2011	2 Classes: Capstone: a 4th semester class																															
Spring; N= 17	8	1	1	1	2	2	2	6	1	1	-	3	1	2	1	-	3	3	2	6	2	2	3	1	2	5	1	-	2	2	6	4	5	6
	Total: 24									Total: 11								Total: 26									Total: 26							
	3 Classes: 1 Space Planning: a 2nd Semester class; 1 Residential Design& 1 Capstone: 4th semester classes																															
Fall; N=29	8	1	2	1	5	3	1	10	2	5	3	4	1	2	1	2	5	6	6	7	12	1	1	4	6	8	1	1	2	5	7	6	11	10
	Total: 33									Total: 23								Total: 53									Total: 43							
	Totals for 2011: 5 classes																															
Total 2011; N=46	16	2	3	2	7	5	3	16	3	6	3	7	2	4	2	2	8	9	8	13	14	5	4	5	8	13	2	1	4	7	13	10	16	16
	Total: 57									Total: 34								Total: 79									Total: 69							
Faculty																																		
N=4	1							2	1										1	1				2	1	1				2	1	1	3	3
	Faculty Total: 4									Total: 0								Faculty Total: 6									Faculty Total: 10							

Correlation between Design Concepts and Creativity

Cherif Amor and Pati Debajyoti

Texas Tech University

ABSTRACT

Issue

The notion of design concept remains one of the most misinterpreted design syntax within and among design disciplines (Rengel, 2003). In the 2011 Professional Standards, the Council for Interior Design Accreditation (CIDA) Standard 4 underscores the necessity to "synthesize information and generate multiple concepts and/or multiple design responses to programmatic requirements" and "demonstrate creative thinking and originality through presentation of a variety of ideas, approaches, and concepts" (2011 Professional Standards, p. II-15).

Hence the development of the conceptual phase is among the design prerequisites in teaching interior design students how to solve design problems and demonstrate creative thinking and originality. Then, the question would be how do design educators address the present pedagogic correlation between the formulation of a design concept and the generation of creativity through a variety of ideas?

The purpose of this study is to identify the design techniques used to formulate the conceptual phase, including but not limited to context, applications under study, site, and precedents; but also to decipher how the design concept can be translated into innovative and creative design compositions.

Methodology

To do so, a senior collaboration studio bringing together architecture, interior design and landscape architecture students served as the pedagogic platform for the present study. Thirty seven students (12 architects, 13 interior designers, and 12 landscape architects) constituted the sample population that was split into six groups—5 groups of six students and one group of 7 students. There was an average of two-three interior designers, two architects, and two landscape architects per group.

Students were exposed to different types of concept forms and representations--diagrams, illustrations, or texts (Leupenn, Grafe, Koernig, Lampe, Zeeuw; 1997). Similarly students were introduced to concepts used in works of Le Corbusier's Villa Savoye, Poissy (see Figure 1); Alvar Alto's Neue Vahr Apartment Buildings, Bremen (see Figure 2); John Utzon's Basgvaerd Church, Copenhagen (see Figure 3); and Hassan Fathi' s Gourna, Luxor (see Figure 4). These concepts were purposefully selected to include the following influencing variables—site, climate, symbolism, application, and style. Furthermore students were introduced to the concept of creativity through design illustrations using Torrance's (2002) theory that includes fluency, flexibility, originality, and elaboration.

Discussion/Findings

Findings suggest that the exposition of students at early phases of the project development to different types of concepts facilitated the generation of multiple concepts for the same programmatic requirement while demonstrating creativity. Supporting previous research, it was found that concept formulation affects the selection and manipulation of basic design elements and organization. A significant finding of the present study indicated that there is a strong relationship between well-formulated concepts and creativity. Other reflections on the findings of the present research relative to collaboration, schematic, and preliminary design phases will be discussed with the conference attendees for feedback.

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APPENDICES

Appendix A: Appendix A: Project Outline

Appendix B: Conceptual Phase Requirements

Appendix C: Figures

Figure 1: Le Corbusier's Villa Savoye, Poissy

Figure 2: Alvar Aalto *Neue Vahr* Apartment Buildings, Bremen

Figure 3: John Utzon's Bagsvaerd Church, Copenhagen

Figure 4: Hassan Fathy's Gourna, Luxor

Appendix A: Project Outline

PROJECT OUTLINE

INTRODUCTION

For the last decade American cities have gambled on different strategies for reviving their aging downtowns; restoring old neighborhoods, revitalizing park and recreation areas and investing in business districts. The site of this project is one of these municipalities that have undertaken the serious work of reviving its downtown. This project introduces collaboration in the complex, multi-disciplined design problem of providing a place where the various activities will have adequate facilities and where the various clients will have comfortable and enjoyable experiences.

RATIONALE

- To understand and work as a multi-disciplinary team on development of interior and exterior spaces incorporating those uses expectations and contextual conditions that support interdisciplinary collaboration and satisfy community needs.
- To generate a design solution that synthesizes the responses of architects, interior designers, and landscape architects to all structural, site and programmatic issues encountered in the design process.
- To develop an interaction of people using the building with convenient, direct and engaging interior and exterior views, routes, experiences, and settings.
- To become more aware and apply Green Design and Universal Design as a response to providing supportive environmental factors and features for meeting special needs requirements.
- To become sensitive to and appreciate the special problems encountered in the design of three applications in the same building.

ASSIGNMENT

The proposed design must encompass the building and all site development to render it feasible addition to the existing facilities. It is expected that the new facility will present a unique and creative design solution, making the building and site a unique experience in Dallas metropolitan area. The building shell/carapace and interior environment should reflect a new contemporary urban image based on creative and innovative design solutions.

The project will be a multi-use facility and will incorporate environmentally, responsible, energy-efficient design. It will be a combination of housing, professional offices, and food service. The building must attain high standards of energy efficiency, environmental performance, be healthy with high indoor air quality and humane building design.

Attention will be given to site-specific issues of climate responsiveness. The building is intended to house three applications-hospitality, commercial, and housing applications. Programmatic requirements will be shared later on.

PROJECT REQUIREMENTS

In this project each team is asked to develop a common approach from which to concurrently resolve and integrate the decisions design encountered, in 1) architectural composition, 2) interior adaptations, layout and the design decisions encountered, and 3) outdoor environments, spaces and activities.

- The analysis phase should lead to a programmatic outcome that would highlight different activities and square footage necessary for the accomplishment of the present project.
- The designs must respond to social and cultural needs of the community; be compatible with zoning and land use requirements; be contextually connected to the urban fabric; and have a sense of orientation for views, changing weather and seasons, and sense of time.
- Similarly the project presents some constraints that requires well-informed decisions such as:

1. External envelope and site approach should reflect a new groundbreaking urban image.
2. Provision of an internal vertical void space to house several purposes and permit flexibility of space i.e., spatial composition and relationships.
3. Fifth façade should be explored to fit new activities and generate an original roofscape.
4. Transition from outdoor to indoor and vice-versa should reflect the symbolism of the three major activities—restaurant, professional offices, and condominiums.
5. Compliance with themes of research—green design, codes and regulations, fenestrations, lighting, building materials and acoustics, as well as HVAC.

PRESENTATION REQUIREMENTS

You will be receiving a list of requirements for each of the following design phases:

- Conceptual Phase: Due October 10
- Schematic Phase: Due October 20
- Preliminary phase: Due November 10
- Final phase: Due December 8.

Appendix B: Conceptual Phase Requirements

CONCEPTUAL PHASE REQUIREMENTS

DRAWING REQUIREMENTS:

- 30" x 20" boards—One board per student
- drawing surface: designer's choice
- media: designer's choice
- must be visually clear at a distance of 10' -0"

CONCEPTUAL PHASE IS INFLUENCED BY, BUT NOT LIMITED TO:

- Context: region, city, neighborhood, climate….
- Applications: retail, hospitality, residential
- Site: orientation, topography, adjacencies
- Precedents: case studies
- Budget: if any…
- Client's goals and requirements…

CONCEPT SHOULD INCLUDE BUT NOT LIMITED TO:

- Conceptual statement
- Conceptual Design & Explanatory Graphics
- Illustrations
- Sketches
- Annotations
- Concept mode, if any, no more than 12" x 12" – ONE MODEL PER GROUP

CREATIVITY/CORRELATION CONCEPT TO DESIGN:

- How much we are borrowing from the research phase to define the concept?
- How much we are borrowing from the concept to generate creativity?

PRESENTATION

- Verbal
- Visual
- Respect of Due date and time

PRESENTATION IS DUE MONDAY, OCTOBER 10
CONCEPT BOARDS SHOULD BE DISPLAYED AND READY FOR CRITIC @ 1:00 PM

Appendix C: Figures/Illustrations

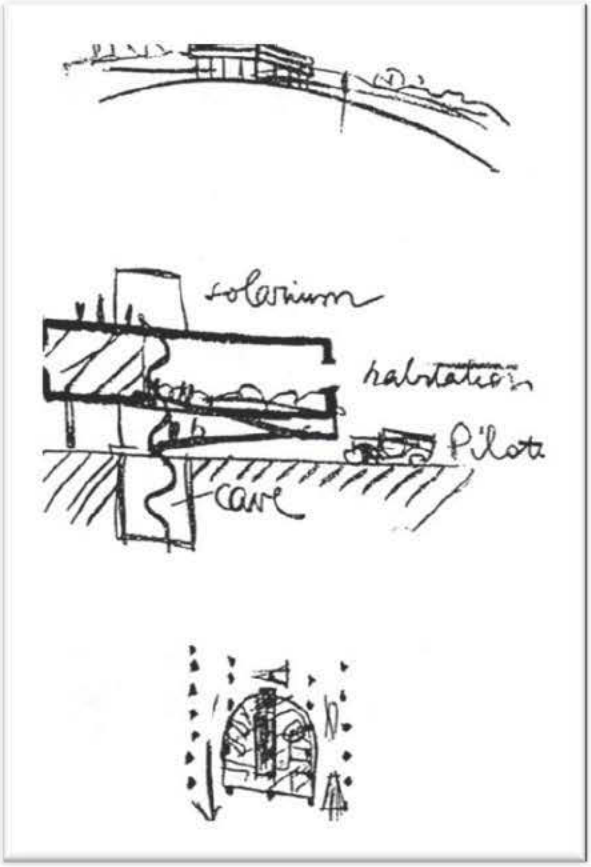


Figure 1: Le Corbusier's Villa Savoye, Poissy
Concept Illustration: ***"La maison est une machine a habiter"***

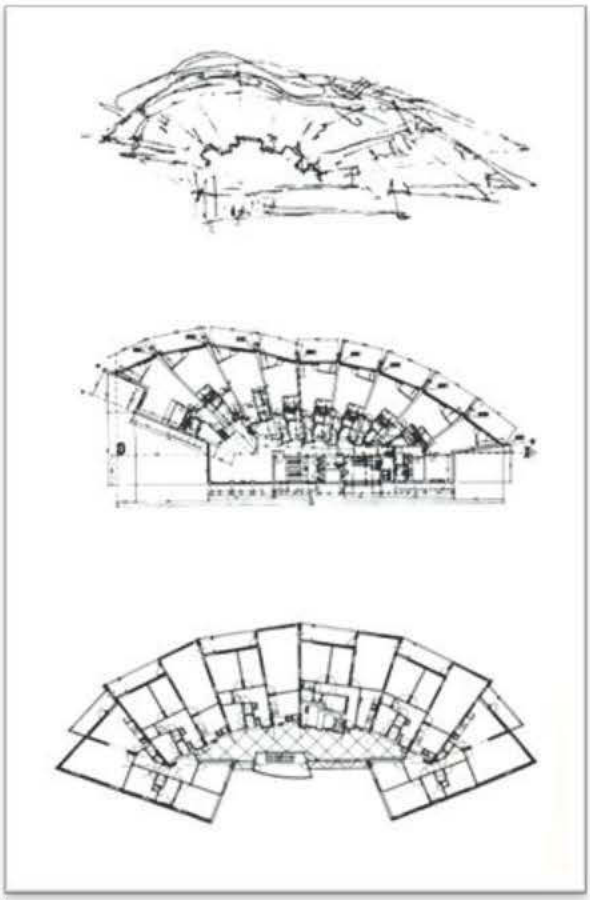


Figure 2: Alvar Aalto's Neue Vahr Apartment Buildings, Bremen
Concept Illustration: **"Community Life and Exposure"**

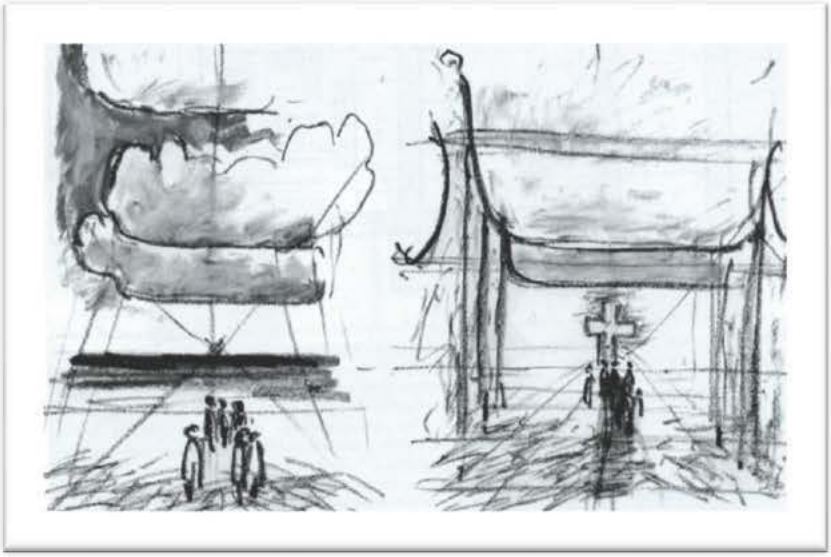


Figure 3: John Utzon's Basgvaerd Church, Copenhagen
Concept Illustration: **"The Cloud Canopy"**

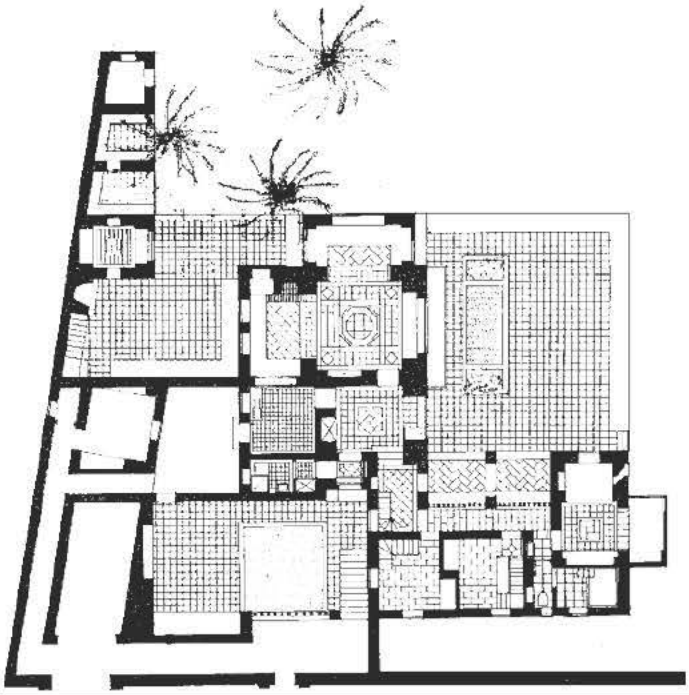


Figure 4: Hassan Fathy's Gourna, Luxor
Concept Illustration: **"Borrowing from Vernacular Traditions"**

Think Global, Design Local: utilizing ecotourism principles to foster a global perspective in the beginning design student

Miranda S. Anderson

University of Idaho

ABSTRACT

The introductory interior design course is tasked with teaching the richness of the interior design profession while also debunking any myths about the industry. It is an introduction to the dynamic world of design, and the responsibilities embedded within it. Despite a recent scan of introductory interior design texts still indicating primarily western-based content, the development of a global perspective is of increasing importance in design education. Standard 2 of the Council of Interior Design Accreditation Professional Standards 2011 addresses “Global Perspective for Design”, stating that, “Entry-level interior designers have a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts” (CIDA 2011). Learning expectations for this standard include such concepts as sustainability, globalization, design variances by socio-economic populations, and opportunities for learning about other cultures.

This paper discusses a pedagogical approach to integrating such learning objectives at the earliest stages of design education. In one introductory course, the employment of ecotourism principles as a framework allowed students to more fully comprehend the complex ecological, socio-economic, and cultural impacts of their design decisions. Student teams were tasked with developing concepts for the design of an ecotourism resort, each team focusing on a different location in the world (Figure 1). Teams were required to follow the ecotourism principles as outlined by The International Ecotourism Society (TIES) that defines ecotourism as, "Responsible travel to natural areas that conserves the environment and improves the well-being of local people”. Although ecotourism efforts focus on travel and tourism, the principles can help to inform the design process:

- minimize impact
- build environmental and cultural awareness and respect

- provide positive experiences for both visitors and hosts
- provide direct financial benefits for conservation
- provide financial benefits and empowerment for local people
- raise sensitivity to host countries' political, environmental, and social climate (TIES 1990).

Ecotourism principles not only address the ecological impacts, but also the cultural and socio-economic effects of travel and tourism. Such principles can become scaffolding for introducing social responsibility and environmental ethics to the beginning design student. Far beyond an awareness of green rating systems and certifications, students must also consider the cultural or economic impacts of their design decisions. In a materials economy where products and materials travel the globe daily, it is all too easy to forget the implications of such choices. Following in-depth research of their selected regions, student designs reflected a variety of design considerations including local climate, cultural traditions, economics, and natural resources (Figures 2 and 3). Through the experience they not only learned of a new culture, but forged a path towards a socially and environmentally responsible design career.

> We begin to make human systems and industries fitting when we recognize that all sustainability (just like politics) is local. We connect them to local material and energy flows, and to local customs, needs, and tastes, from the level of the molecule to the level of the region itself. (McDonough: 123).

REFERENCES (APA)

Council for Interior Design Accreditation (CIDA). (2011, July). *Professional Standards 2011*. Retrieved September 19, 2011 from Council for Interior Design Accreditation website: www.accredit-id.org/professional-standards

The International Ecotourism Society (TIES). (1990). *What is Ecotourism?* Retrieved September 19, 2011 from The International Ecotourism Society website: www.ecotourism.org What_is_Ecotourism.htm

McDonough, W., and Braungart, M. (2002) *Cradle to Cradle: Remaking the Way We Make Things*. New York: North Point Press.

APPENDIX

A. Figure 1 (2 pages): Excerpts from Think Global, Design Local project abstract.

   File Name: Figure1_project abstract.pdf

B. Figure 2 (1 page): Student design proposals examples / excerpts, Egypt

   File Name: Figure2_project example_Egypt.pdf

C. Figure 3 (2 pages): Student design proposals examples / excerpts, Chile

   File Name: Figure 3_project example_Chile.pdf

INTRODUCTION TO INTERIOR DESIGN

Think Global, Design Local

Project 3

Ecotourism: *"Responsible travel to natural areas that conserves the environment and improves the well-being of local people.*
- The International Ecotourism Society (TIES), 1990

Project Objectives / Outcomes

Learn and integrate **–**

Integrate knowledge concerning the elements and principles of design in reference to interior environments and design theory into creative problem solving processes.

Communicate **–**

Effectively use verbal, graphic, and writing skills to communicate concepts, goals and design decisions.

Clarify purpose and perspective **–**

Address significant social, environmental cultural and economic challenges posed by built and natural environments creatively and collaboratively.

Practice citizenship

Understand the specific roles and ethical and legal responsibilities of the interior design profession to protect the health, safety and welfare of the public.

Project Abstract

Ecotourism is a term that you hear more and more in the hospitality design industry. It combines our desire to travel and experience other cultures and locations with our growing concern for the environment and a general respect for PLACE. In a world of increased globalization, it is important to remember that each PLACE is unique and the design of the built environment in that place should respond to its unique context.

For this project, you and your team are responding to a request from a client interested in developing a chain of global Ecotourism hotel and retreat centers. However, rather than being the same design repeated in multiple locations, the client would like each location to be unique and responsive to PLACE as well as employ the environmentally and socially responsible design principles of TIES.

Ecotourism is about connecting conservation, communities, and sustainable travel. This means that those who implement and participate in responsible tourism activities should follow the following ecotourism principles:

- *minimize impact*
- *build environmental and cultural awareness and respect*
- *provide positive experiences for both visitors and hosts*
- *provide direct financial benefits for conservation*
- *provide financial benefits and empowerment for local people*
- *raise sensitivity to host countries' political, environmental, and social climate*

Be sure to refer to TIES website for more information and to download the principles:
www.ecotourism.org

Here are some additional websites that might be helpful:
http://www.ecogreenhotel.com/green_hotels.php
http://www.yourhomeplanet.com/ecolodgical/case_studies.php
http://www.ecotelhotels.com/
http://www.sustainabletravelinternational.org/
http://greenhotels.com/index.php

Finally, you may want to look up LEED hotels at:
www.usgbc.org

PROJECT OUTLINE (Additional project briefs with instructions are provided for each phase)

PHASE I: Pre-Design and PLACE research

1. PLACE Research Summary
2. Concept Collage (compiled in digital PowerPoint Slides)
3. Case Study Analysis

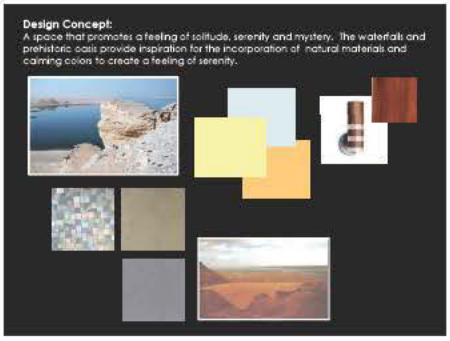
PHASE II: Ecotourism Resort Schematic Design

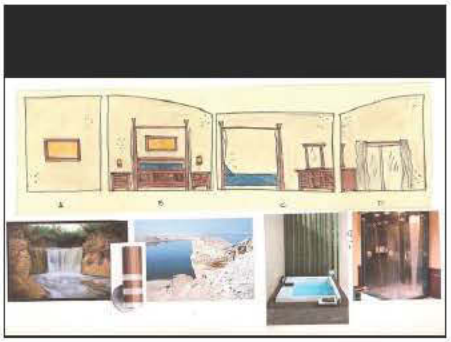
1. Concept development
    a. Design concept statement and "Mood" board
    b. Design Goals
2. Context for dwelling unit design
    a. Specific site selection within country and region
    b. Part of a larger structure or individual structure (decision based on climate and cultural research of PLACE)
3. Program adaptations for a typical dwelling unit design
    a. Size requirements: 36 sq. meters (387.5 sq. ft.) maximum. Students must design using the metric system.
    b. Single or double occupancy type determination
    c. Spatial development

PHASE III: Design Communication

1. Design and drawing development
    a. Floor plan, finish plan, furnishings plan, interior elevations, perspectives and section drawings
2. Finish and furnishings selections
    a. Finish and furnishings schedules
    b. Digital finish and furnishings board
3. Final presentation development
    a. Final rendered and labeled drawings
    b. PowerPoint visual/oral presentation to class including a compilation of project process (all phases) and final design proposal

Student Design Proposal Examples / Excerpts - Egypt





Student Design Proposal Examples / Excerpts - Chile

Student Design Proposal Examples / Excerpts - Chile

Pedagogical Models from a Lighting Design Studio

Abimbola O. Asojo

University of Minnesota

Interior designers must be able to coordinate type, quality, location, and cost of lighting in order to create functional and aesthetic spaces that comply with codes, conserve energy, and contribute to health, safety, and welfare. Therefore, the main goal of this course was to develop and deliver an advanced lighting design course that integrates computer visualization techniques for representation, simulation, and quantification of lighting to third year interior design students. Emphasis was on teaching representation, simulation, and quantification of lighting through the use of programs such as Form.Z, Autodesk Viz, AutoCAD, Autodesk Revit, AGI32, Visual, and 3D Max. The course was made possible by external funding received in fall 2008 from the Nuckolls Foundation. The course has become a permanent course in the Interior Design curriculum and resulted in the development of a Master of Science in Interior Design with an area of concentration in architectural lighting.

The course began by presenting the notion of lighting as a dynamic variable affecting space and the built environment. Students built a professional vocabulary through field trips to lighting firms and manufacturers. These trips provided an immediate context for their design explorations. In class exercises involved three-dimensional modeling, quantification of lighting, and utilization of computational lighting analysis and representation techniques. In addition, students' simulated lighting design solutions through the use of three-dimensional modeling and visualization. During the course, several lighting projects were assigned in which the students solved the lighting design problems using the three distinct stages: information gathering and programming, conceptual design, and design development.

Anderson's ACT-R theory was used to guide interior design students through the process of learning

about lighting design problem solving. Anderson's ACT-R theory focuses on three stages of skill acquisition: cognitive, associative, and autonomous stages. These three stages offer several implications for teaching lighting design problem solving. Anderson's ACT-R Implications for teaching are as follows:

(i) Students develop an accurate and elaborate declarative representation of the desired procedure (actions) and conditions under which it should be used.

(ii) Teaching is accomplished using the expository (teacher-centered instruction) or discovery methods.

(iii) Feedback is an important component, because it fosters proceduralization.

(iv) Continued practice leads to automatization (Anderson, 1995).

The accompanying chart, Table 1 in the appendix section summarizes the application of ACT-R theory to teaching lighting design problem solving to interior design students. Students are taught accurate and elaborate knowledge of lighting design principles, in order to help them design and specify lighting systems. Learning is achieved through expository and discovery methods. Feedback is given during all three distinct stages of problem solving to correct any disequilibrium students may have. Eventually, students achieve automaticity due to continued practice.

This presentation highlights some significant accomplishment and activities as a result of the Lighting design studio since fall 2008. The goal is to have a dialogue with other Interior Design educators about lighting in Interior Design curriculum to serve as a framework for other programs.

References

(APA)

Anderson, J.R. (1982). Acquisition of cognitive skill. *Psychological Review,* 89, 369-406.

Anderson, J.R. (1990). *The Adaptive character of Thought.* New York: Erlbaum.

Anderson, J.R. (1995). *Cognitive Psychology and its Implication.* New York: Freeman.

Winchip, S.M. (2005) *Designing a Quality lighting Environment.* New York: Fairchild.

Aspelund, K. (2006). *The Design Process.* New York: Fairchild Publications, Inc.

Appendix A - Table 1: Anderson ACT-R General Implications for teaching lighting design problem solving

- (File name - Asojo_Appendix A_IDEC 2012 proceedings.pdf)

Figure 1 – Images from the Lighting Design Course, solutions for the Store Lighting Design project – (File name – Asojo_Figure1_ IDEC 2012 proceedings.jpg)

Figure 2 – Fixture Design, 1st place winning entry in Luraline Fixture design competition – (File name – Asojo_Figure2_ IDEC 2012 proceedings.jpg)

Figure 3 - Light Fixture Design and Saint Thomas More Rectory Lighting Design - (File name – Asojo_Figure3_ IDEC 2012 proceedings.jpg)

Appendix A

Table 1: Anderson ACT-R General Implications for teaching lighting design problem solving.

Task	Process
Develop accurate and elaborate declarative representation of Lighting design principles	Examples of lecture topics covered in the fall 2009 Lighting design studio to help students develop an accurate and elaborate representation: • Introduction to lighting, lighting basics, design process, lighting concepts, design elements and principles, and architectural elements; Lighting plans, Reflected Ceiling plans, Electrical plans; • Lighting Workshop on 3D Studio Max; • Perception and Psychological aspects; Vocabulary and Luminaire types; • Field trip to Lighting Showroom; • Lamp characteristics; Light Sources and Color, Distribution, Lumen output, Beam spread, Efficient light sources, Efficacy and Rated life, Material Efficiency; Guest Presentation. • Photometric, Five lighting Metrics, and Calculations; • AGI 32 • Daylighting, Luminaire techniques and selection; Electricity and Electrical controls; Outdoor Lighting; • Electrical and Wiring lecture; • Energy management, Codes, Economics, Health, Sustainability, Mechanical systems, Security systems, and Fire suppression systems; USGBC LEED Rating Systems – Light pollution reduction credit, Energy performance credits, Controllability of lighting systems credit, Daylighting and Views credit; Alternative energy systems: Photovoltaics and Wind turbines; • Introduction to Revit Guest Speaker; • Pin up Design Development Project 4 and; • Project 4 presentation. Note: Course materials, syllabus, lectures, project sheets, and PowerPoint files were posted online
Expository Methods (Teacher centered instruction)	Using the expository methods involves teacher centered instruction to help students develop declarative knowledge. The above listed topics are presented in PowerPoint and interactive presentation lecture format and field trips to lighting labs and lighting showrooms.
Discovery Methods	The discovery method allowed students to learn through discovery. The following four lighting design projects were assigned to enhance discovery: Lighting Analysis , St Thomas More Rectory , Light Fixture Design , and Store Lighting Design
Feedback Component	Feedback is an important component, because it fosters proceduralization. Three distinct Phases (Initial Phase – Information Gathering and Programming, Design Concept Phase, and Design Development Phase) are identified for each design project and feedback from the instructor and jurors occurred during these three distinct phases. Any misconceptions and disequilibrium is fixed with feedback and constant desk critiques and pin ups.
Automatization	Continued practice led to automatization and this was evident by the increase in the quality of the work developed by the students as the semester proceeded.

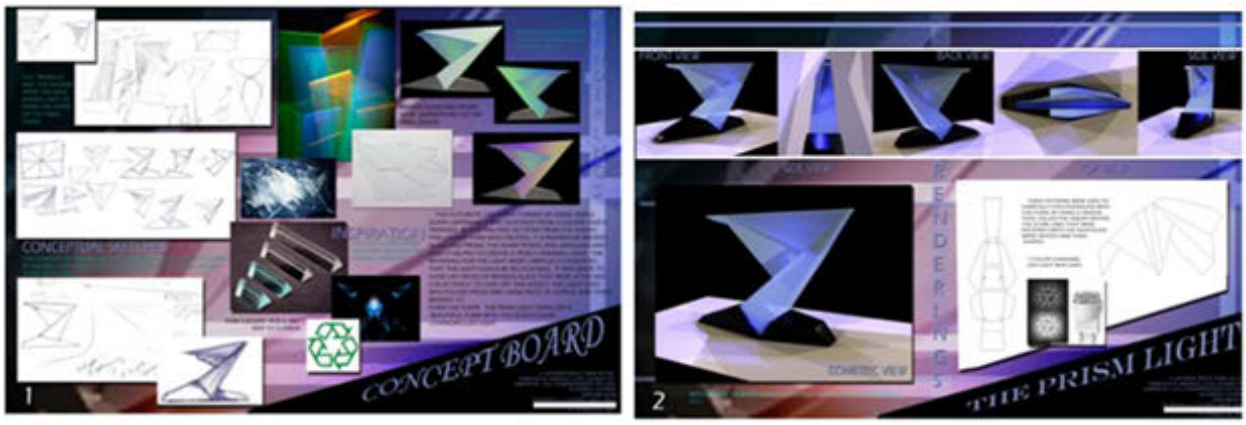
MICHAEL KORS
AT SUVARNABHUMI INTN'L AIRPORT, BANGKOK

MICHAEL KORS
AT SUVARNABHUMI AIRPORT INTN'L, BANGKOK

HERMES

HERMES

DOLCE & GABBANA


CONCEPT BOARD
1
RENDERINGS
THE PRISM LIGHT
2

Board 3 of 3
St Tomas More Rectory
Detail
Ceiling Cloud Detail
Section

LIGHTING DESIGN 2009
TAYLOR FLECK

MATERIALS
SHAPE
TEXTURE
FUNCTIONALITY
SOFT DELICATE EVOLVING
ORGANIC
WEAVING FLOATING TRANS-
LUSCENT SPARKLE SHADOWS
LIGHT DARK
TEXTURE WARMTH COMFORT
DIFFUSED INCANDESCENT
PATTERNS DENSE AMBIANCE
COCOON

Theoretical Framework based on Exploration of Abductive Learning Theory to Enhance Design Thinking in the Interior Design Studio

Authors: Angela Boersma and Tina Patel

Institution: South Dakota State University

Abstract

Problem Statement

Design thinking, as Connell, T.J. defines it, is a process to encourage thinking like a designer; weighing and refining the creative, practical, strategic, tactical, and pragmatic goals and objectives presented by a problem (Guerin & Martin, 2010). In interior design studio culture today, so much attention is paid to collection of evidence in student work that the thinking behind it gets little or no attention, thus reinforcing a common prepossession: is design more a matter of opinion than the result of rigorous thought process? Thinking is typically divided into two types: inductive (starting with the specifics and moving towards general laws) and deductive (starting with the principles and moving towards the particular application), which dates back to Aristotle. Charles S Pierce (1903) explored a third way of thinking, abductive reasoning, which involves making lateral connections among seemingly disconnected phenomena to see something new. Based on this theory, the techniques like transference, rescaling, inversion and reassembly can be used as forms of design thinking in the creative design studios, according to Thomas Fisher (Guerin & Martin, 2010).

The objective of this teaching forum is to present firstly a new theoretical framework by exploring abductive theory that can be utilized to improve design thinking in interior design studio projects during the programming and concept development phase of design. The proposed framework is applied as

learning and teaching methods and processes to the interior design studio project at junior level. The presentation illustrates the perceived benefits and limitations of this framework through students' process work and their reflections.

Methodology

Grounded Theory, one of the methods of qualitative research, is adapted to critically analyze the theories and empirical findings from marketing, design and educational psychology journals; literature based on abductive reasoning; Fisher's and Kulko's strategies; and design process from interior design texts used in the program. Above findings are integrated, and a new framework explains how it could enhance traditional design education, thinking and training (See Appendix A, B and C). This framework was utilized in an exploratory study as a design method and process in the junior (Fall) level interior design studio setting.

Students in the studios became familiar with this teaching and learning model, explored iterative and lateral process of thinking, thus, started organizing, manipulating and filtering the data gathered into a cohesive structure.

Analysis of Outcomes

The benefits of using this method in teaching and learning were significant and immediate. The framework became a tool for students to understand the evidences they had gathered, explore them further, and draw inferences to the best explanation of their concept.

One drawback that emerged was that some students invested too much time exploring the imagery to relate to their research and were not able to draw appropriate analogies to transfer and rescale them towards the concept.

However, this process did facilitate the students' understanding of the iterative process of design – the act of making as an act of thinking.

References: (APA Format)

Fisher, T. (2010). Design Thinking: A Solution to Fracture- Critical Systems. *DMI News & Views, June, Available:* **http://www.dmi.org/dmi/html/publications/news/viewpoints/nv_vp_tl.htm**

Guerin, A. D., & Martin, S. C. (2010). *The State of the Interior Design Profession.* New

York: Fairchild Publications, Inc.
Kulko, J. (2010). Abductive Thinking and Sense-making: The Drivers of Design Synthesis. *MIT Design Issues*, 26, (no.4),15-28.
Nussbaumer, L.L (2009). *Evidence-Based Design for Interior Designers*. New York: Fairchild Publications, Inc.
Rengel, J. R. (2003). *Shaping Interior Space*. New York: Fairchild Publications, Inc.

Appendices:

Appendix A: Analysis of Design Process *(Abductive Framework Appendix A.pdf)*

Appendix B: Analysis of Design Thinking – Inductive, Deductive Abductive Reasoning Models *(Abductive Framework Appendix B.pdf)*

Appendix C: Synthesis of Authors' Interpretation/New Theoretical Framework *(Abductive Framework Appendix C.pdf)*

APPENDIX A: Analysis of Design Process

analysis

Identify, dissect, and analyze the problem

programming

Recognize problem, Commit to project, Accept the project, Contract written, Retainer obtained

Define problem, State goals and objectives, Gather information: facts Interview clients, use surveys, questionnaires, conduct observations etc. Research to develop a strong evidence base, analyze facts. Organize information and develop program requirements. Continue to analyze facts. (Nussbaumer 2009)

authors' interpretation

Immerse: (Understand every dimension of the project) Gather evidences via client interviews, site visit, case studies and research.
Information index:
--site and environmental quality
--context & conditions
--client, culture & function
--time

Engage:
Establish the purpose of the project
--Goals and objectives
--Further research
--Theories
--Precedents

Explore:
--Other avenues of design for project inspiration
--Create inspiration collages/story boards
--Draw analogies

Strategize:
-Analyze and evaluate the data
-Draft tentative design concept statement and design strategies
-Draw Matrix
-Draw bubble diagrams and adjacency diagrams

synthesis

Put the parts together to implement a solution

concept development

An idea or series of idea that establishes the basic design approach of the project. Externalized by:
-Concept Statements
-Concept diagrams
-Sketches
(Rengel, 2007)

authors' interpretation

Concept: A 'central idea' that informs your design approach

Imagine and Create: (How to externalize the central idea)
Distill the 'central idea'. It can be word pair or a verbal expression
--Articulation of the inspiration by way of transference and drawing analogies
--Parti Diagrams
--Illustrative sketches of ideas (iterative process)
--Diagrams of spaces, conceptual drawings (space plan, perspectives, details)

This phase is progressive but may be cyclical

schematic design

design development

construction documents

APPENDIX B: Analysis of Design Thinking: Inductive, Deductive, Abductive Reasoning Models

deductive reasoning:

The logic of what must be-reason from general to the specific

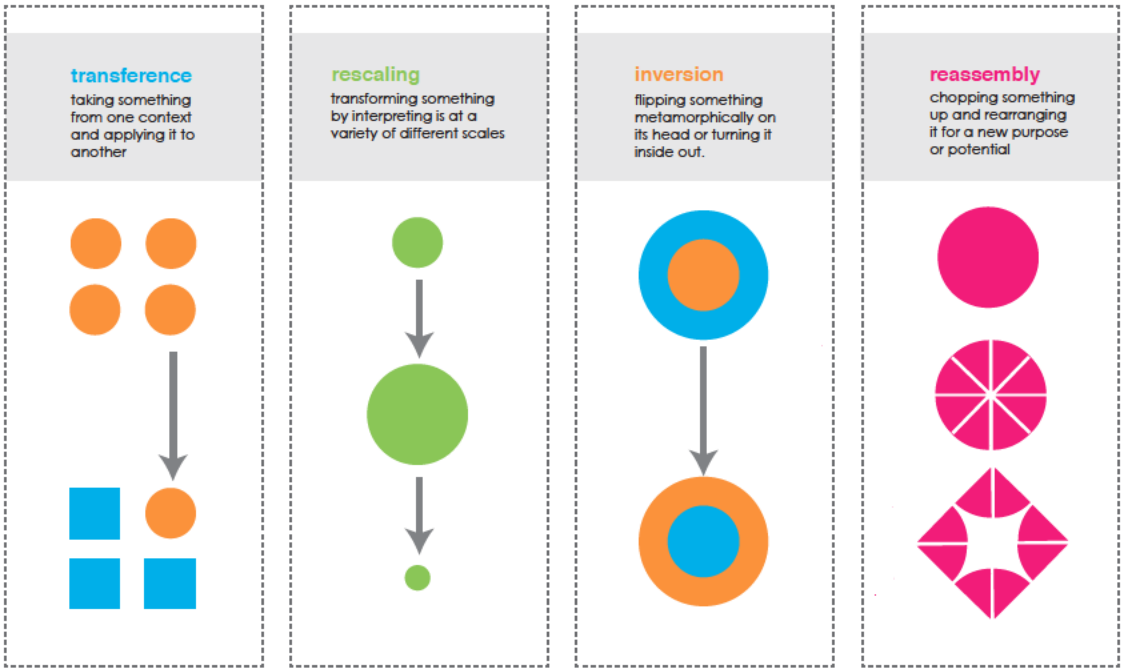
inductive reasoning:

The logic of what is operative-reason from the specific to the general

abductive reasoning:

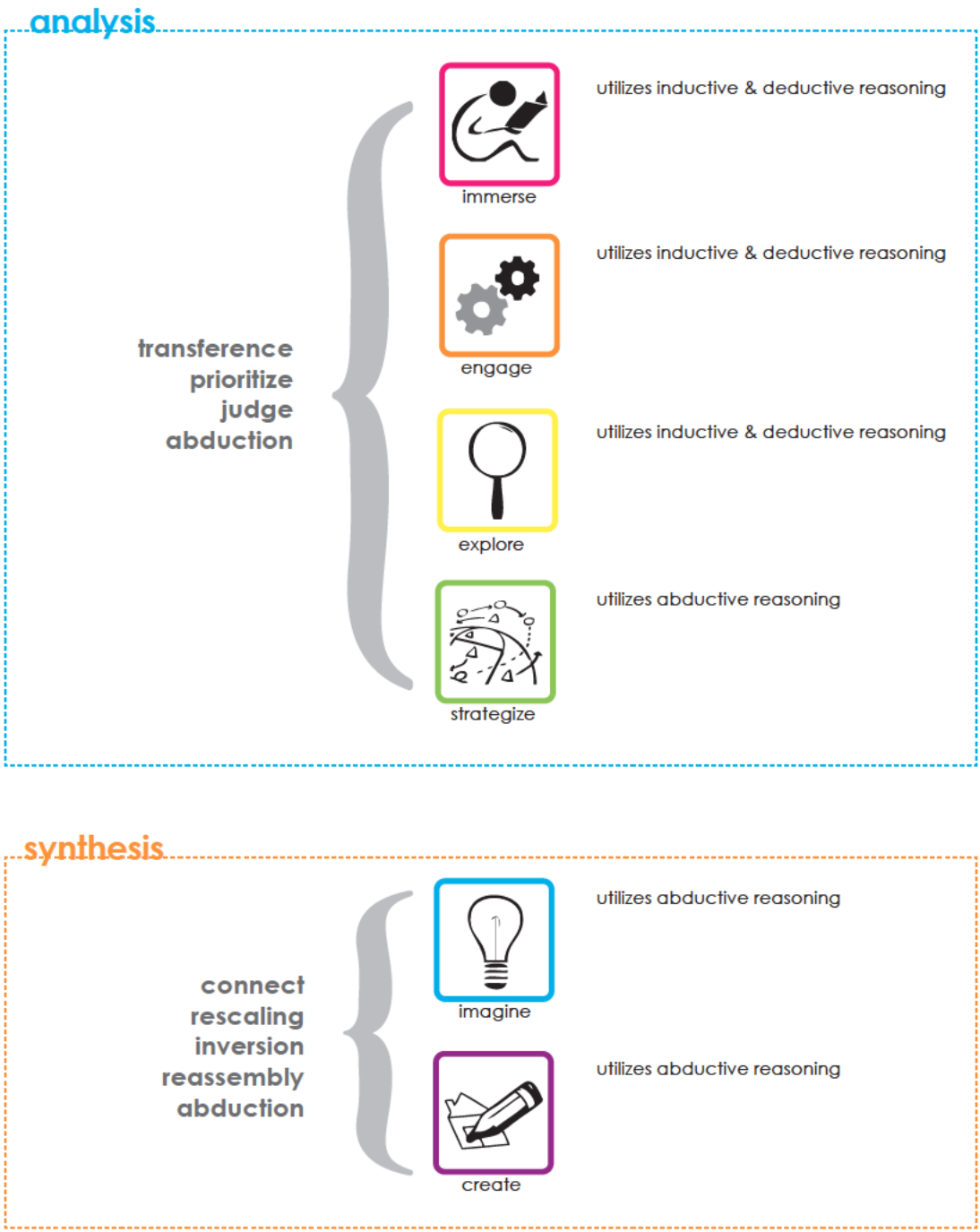
Involves making lateral connections among seemingly disconnected phenomena to see something new

Abductive Reasoning Strategies (Tom Fisher, 2010)



Abductive Reasoning Strategies (John Kulko, 2010)

APPENDIX C: Synthesis of Authors' Interpretation/New theoretical Framework (Patel & Boersma)



COLOR'S ROLE IN WAYFINDING: THE EFFECTIVENESS OF COLOR TO AID IN WAYFINDING AT A PEDIATRIC CLINIC

Nancy Bounds, Mitzi Perritt, Ray Darville

Cromwell Architects and Engineers

Pat Salmi

University of Minnesota

ABSTRACT

Question

Today's massive medical environments challenge patients' sense of direction. A patient's attention can be diverted by perceptional filters or environmental press (Murray, 1938). Environmental press results from an over-stimulating environment. Perceptional filters are internal distractions that take one's attention away from the focus activity (University of Michigan, 2010). Passini and Arthur (1992) believed that effective wayfinding includes signage and other graphic communication, clues inherent in the building's spatial grammar, logical space planning, audible communication, tactile elements, and provisions for special needs users.

Framework

Color and wayfinding have been researched individually, but sparse documentation exists on their related roles in helping people find their way in complex medical environments. Since Lynch's (1960) seminal work on wayfinding, planners have attempted to incorporate wayfinding during design development. Planners must consider both design and human factors (Kopec, 2006). Multiple interior finishes provide opportunity for meaningful color placement for wayfinding cues.

Process

This study examined patients' responses to color in a pediatric clinic. In Phase One, parents completed surveys where a color-coded interior scheme (Figures 1 and 2) contributed to the wayfinding design. Measures were recorded for color awareness, color recall, stress level, ease/difficulty in finding one's way, and opinion of the wayfinding cues. In Phase Two, the researcher divided survey groups by

color of corridor. The experimental group received color cues in the staff's verbal directions; the control group did not.

The researcher collected data from 302 participants through a survey instrument (Figure 3). Phase One used 122 participants, and Phase Two used 180. During Phase Two, 51% of patients received specific verbal color instruction.

Of respondents, 50% were 26-40 years old, 23.2% were 18-25 years old, and 5% were 55 or older. Females comprised 84% of the sample; men comprised 56%.

Over 81% of participants stated that they noticed the clinic colors. Over 72% noted that color helped them find their way to the more remote locations in the clinic.

Males and females, almost equally, indicated that color assisted them in successful wayfinding (Figure 4). Findings did not indicate a significant difference in gender (Cramer's $V = .005$, $p = .940$).

Floor/wall colors were slightly more effective than signage in aiding navigation (Figure 5). Participants noted that color-coded floors/walls helped them find their way the most.

Of all participants, 58.4% remembered the correct corridor color. Of patients receiving verbal color directions, 69.3% remembered the correct corridor color. This 10% percent increase indicated that awareness of surrounding colors is enhanced when color descriptors are included in verbal directions.

Conclusions

Findings suggest that the impact of wayfinding design and color application can be maximized when integrated early in the design process. As a basic design element, color plays a definite role in helping humans organize the visual environment and thus, has its place in the total wayfinding package.

Color is a primal language often underutilized and treated merely as décor. This study advanced the body of knowledge regarding color's meaningful and powerful capacity to lead.

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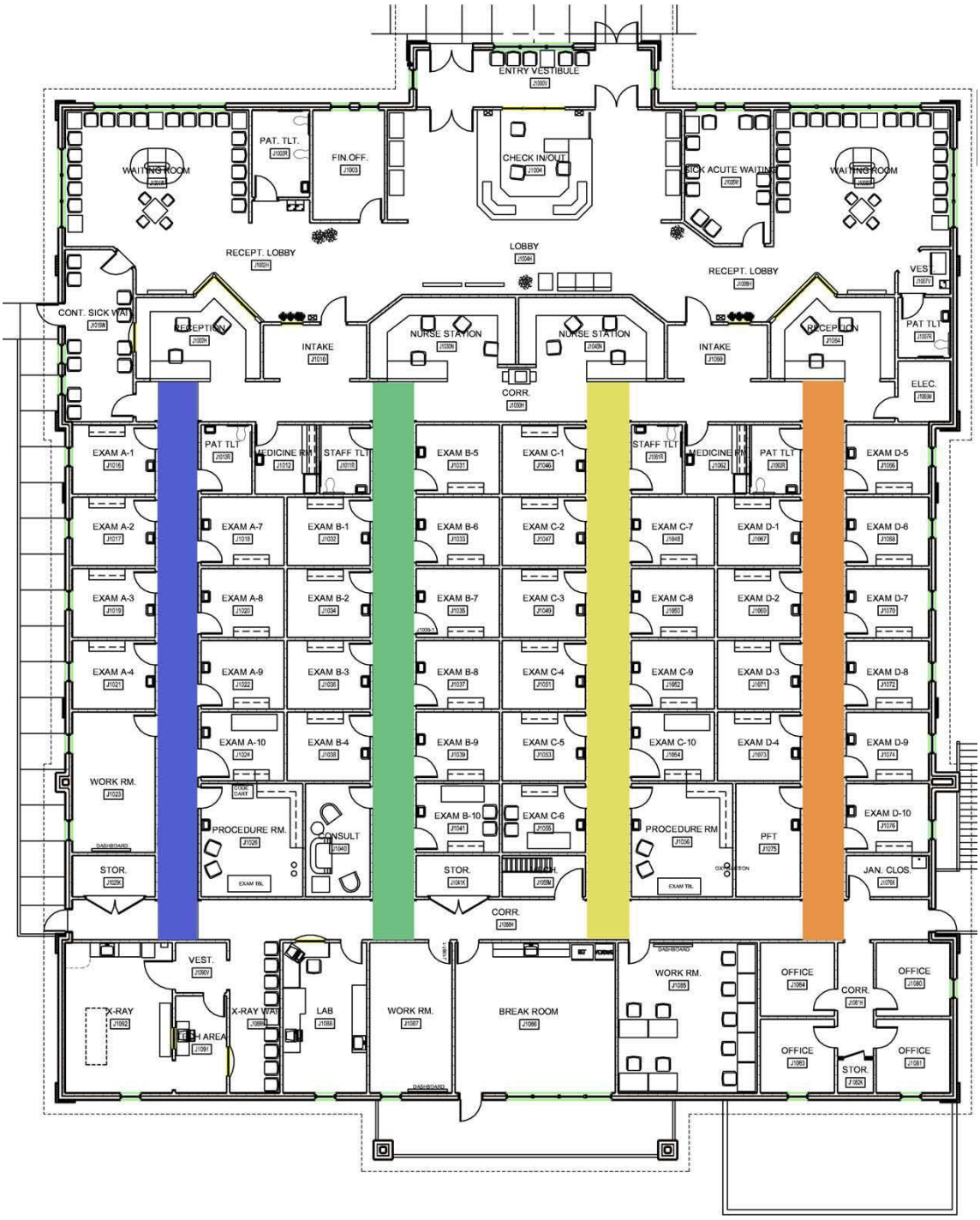
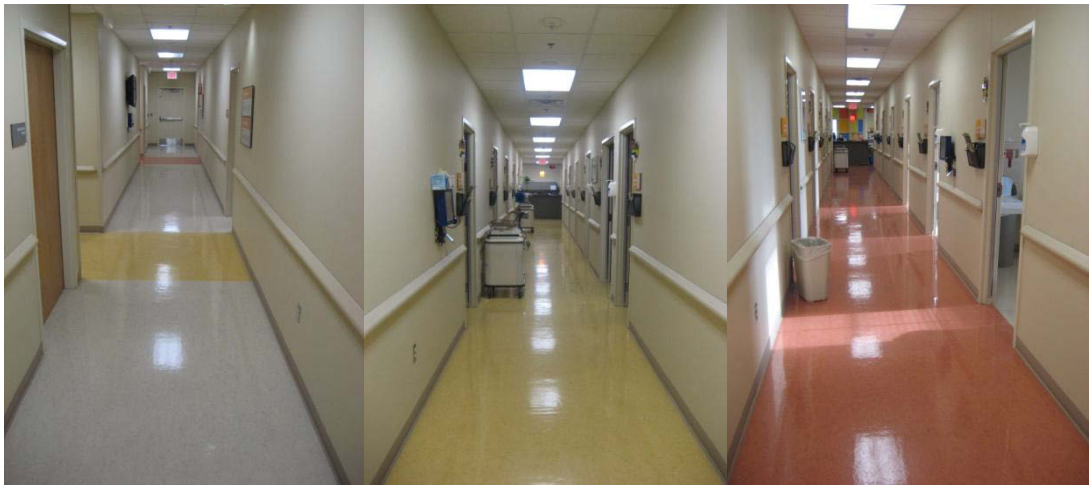
APPENDICES

Figure 1: Color-Coded Floor Plan (Color Coded Floor Plan_figure.pdf)
Figure 2: Images of Color-Coded Interior (Color Coded Images_figure.pdf)
Figure 3: Survey Instrument (Survey_figure.pdf)
Figure 4: Effect of Gender on Opinion of Color Use in Wayfinding (Gender_table.pdf)
Figure 5: Wayfinding Cue: Floor and Wall Colors (Floor Wall Colors_table.pdf)


ENTRY VESTIBULE
PAT. TLT.
FIN.OFF.
CHECK IN/OUT
WAITING ROOM
SICK ACUTE WAITING
WAITING ROOM
RECEPT. LOBBY
LOBBY
RECEPT. LOBBY
VEST.
CONT. SICK WAIT
RECEPTION
INTAKE
NURSE STATION
NURSE STATION
INTAKE
RECEPTION
PAT TLT.
ELEC.
CORR.
EXAM A-1
EXAM A-2
EXAM A-3
EXAM A-4
EXAM A-10
EXAM A-7
EXAM A-8
EXAM A-9
EXAM B-1
EXAM B-2
EXAM B-3
EXAM B-4
EXAM B-5
EXAM B-6
EXAM B-7
EXAM B-8
EXAM B-9
EXAM B-10
EXAM C-1
EXAM C-2
EXAM C-3
EXAM C-4
EXAM C-5
EXAM C-6
EXAM C-7
EXAM C-8
EXAM C-9
EXAM C-10
EXAM D-1
EXAM D-2
EXAM D-3
EXAM D-4
EXAM D-5
EXAM D-6
EXAM D-7
EXAM D-8
EXAM D-9
EXAM D-10
PAT TLT
MEDICINE RM
STAFF TLT
STAFF TLT
MEDICINE RM
PAT TLT
WORK RM.
PROCEDURE RM.
CONSULT
PROCEDURE RM
PFT
JAN. CLOS.
STOR.
STOR.
CORR.
VEST.
X-RAY
X-RAY WAT.
LAB
WORK RM.
BREAK ROOM
WORK RM.
OFFICE
OFFICE
CORR.
OFFICE
OFFICE
STOR.



Appendix C

Survey Instrument

Below is the survey instrument, formatted for the public.

Please take a few minutes to let us know what you thought about the colors used at the clinic. Your feedback will enable the clinic staff to improve the quality of the care we offer our patients. This questionnaire is anonymous; your identity will not be recorded. Thank you for your participation.

1. Did you notice the colors used throughout the clinic today?

○ Did not notice the colors ○ I noticed the colors ○ Not sure

2. Did you like the colors used in the clinic areas?

○ No ○ Yes ○ Not sure

3. What was the color used in the exam room or hallway that you visited today?

○ Orange ○ Green ○ Yellow ○ Blue ○ Not sure

4. Did you ask for directions during today's visit from anyone?

○ No ○ Yes

If you answered "no" to this question, skip to question 7.

5. If you answered yes to the last question, who gave you directions?

○ Front desk staff ○ Doctor or nurse ○ Another patient ○ Other

6. Did the person who gave you directions use a color name to tell you where to go?

○ No ○ Yes ○ Don't remember

7. Rate how much each of the following helped you find your way around the clinic today:

	Helped the most			Helped the least
Somebody gave me directions	○	○	○	○
Staff took me there	○	○	○	○
Signs	○	○	○	○
Floor and wall colors	○	○	○	○
Colored light fixtures	○	○	○	○
Other	○	○	○	○

8. Rate how hard or easy it was to find your way to the following:

	Didn't need to find this location	Easy to find my way	Hard to find my way
My nurse	○	○	○
X-ray area	○	○	○
Lab	○	○	○
Exam room	○	○	○
Restroom near your exam room	○	○	○
Exit	○	○	○

9. Did the colors in the clinic help you to get where you wanted to go?

○ No ○ Yes ○ Not sure

10. How much stress were you under during your visit today? Rate your level of stress on a scale of 1-7.

○ 1 No Stress ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 Lots of stress

11. How long ago was your last visit to this clinic?

○ Less than one month ago ○ 1-6 months ago ○ More than 6 months ago ○ Have not been to this clinic before today

12. How many times have you been to this clinic before today's visit?

○ Have not been here before today ○ 1-4 times before this visit ○ 5 or more times before

13. How well does this clinic meet what you expect for an Arkansas Children's Hospital clinic?

○ It is worse than I expected ○ It is what I expected ○ Better than I expected

14. Have you ever been to any other Arkansas Children's Hospital clinics?

○ No ○ Yes ○ Not sure

15. How do you think this clinic compares to other Arkansas Children's Hospital clinics you have been to?

○ Worse than others ○ About the same ○ Better than others

16. What is your age range?

○ 18-25 yrs. old ○ 26-40 yrs. old ○ 41-54 yrs. old ○ 55 and older

17. What is your gender?

○ Female ○ Male

18. Do you have any general vision problems?

○ No ○ Yes ○ Don't know

19. Do you have any color vision problems, like color-blindness?

○ No ○ Yes ○ Don't know

20. What is the name of the Arkansas County that you live in?

○ Don't live in Arkansas _____

Thank you for taking the time to fill out our survey. We rely on your feedback to help us improve our designs to serve you better. PLEASE RETURN COMPLETED SURVEY TO THE FRONT DESK. Be sure to pick up your gift there before you leave. Thanks.

			GENDER		
			Female	Male	Total
DID THE COLORS HELP YOU FIND YOUR WAY	No	Count	47	8	55
		%	27.3%	26.7%	27.2%
	Yes	Count	125	22	147
		%	72.7%	73.3%	72.8%
Total		Count	172	30	202
		%	100.0%	100.0%	100.0%

SYMMETRIC MEASURES

		Value	Approx. Sig.
Nominal by Nominal	Phi	.005	.940
	Cramer's V	.005	.940
N of Valid Cases		202	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helped the least	62	20.5	34.8	34.8
	Helped the most	116	38.4	65.2	100.0
	Total	178	58.9	100.0	
Missing	System	124	41.1		
Total		302	100.0		

Using iPad2 Technology to Increase Skill Development in Foundation Studios

Janis Brickey
Middle Tennessee State University

In foundation studios, cultural expectations for program standards are introduced. One of the most critical skill sets concerns CIDA Standard Six: Communication. The entry level studio is a critical venue where students begin to enhance natural skills to align with interior design standards. Features of iPad2 technology were used in the beginning studio sequence at Middle Tennessee State University to foster the development of the traditional skills of sketching, listening, observation, writing, and presentation.

Traditional studio experiences for development of interior design knowledge are challenged by the expectations and behaviors of students who developed their perceptions of education during the past twenty years. The use of current technology such as iPad2 should appeal to these learners. The CIDA standards require examples of student communication through sketching, visual creative thought evidence, and oral presentations. In order to foster the development of these critical communication skills and begin documentation for the next CIDA visit, an iPad2 and a mini projector were used in the studio framework. Table 1 compares traditional events and iPad2 enhanced learning experiences.

Studio A format includes basic design, fundamentals of elements and principles, and two and three dimensional studies. Studio B is designed to introduce basic hand drafting and technical skills. Both studios introduce students to oral presentation, critique, graphic layout, technical drawing, and design awareness.

Previously, students reported an increased confidence level in sketching after tracing images using sheets of plexiglass and dry erase markers to trace objects as proposed by Zell (2008). They felt the tracing helped them to concentrate on the object shape and an increased confidence when drawing on paper. Projections from the iPad2 were tested to help students trace then sketch objects.

Ching (2007) stated that architecture should be experienced by movement through spaces. After an introduction to the principles and elements of design, students were toured through public spaces with professor led discussions on features and design characteristics. Later in the semester, teams shared an iPad video of the same spaces and identified the principles and elements. Several students commented that the exercise helped them use the terms in conversation. During short field trips in the campus area, features such as shading and details were emphasized and quick photos of the same features aided student discussions. Videos and pictures from trips to New York, NeoCON, and the HD Expo illustrated spaces, events, and materials.

During the development of three dimensional drawing skills, applications were used to help students sketch isometric projections. One student stated that drawing with her finger reduced her anxiety and helped to experiment more since she could easily erase her mistakes.

Finally, since the iPad2 is used in many other studio experiences, the video function recorded presentations. Each student was given one-on-one feedback and recording length was a quick aid for discussion. Several commented that the tablet reduced their stress and they were more relaxed. The storage and retrieval simplicity will aid in CIDA documentation of presentation videos.

References (APA)

Ching, F. A. (2007). Architecture: Space, form, and order, 3rd ed. New York: Wiley.

Zell, M. (2008). Architectural drawing course: Tools and techniques for 2d and 3d representation. Hauppauge, NY: Barron's Educational Series.

Table 1. Non-inclusive List of Planned Studio Activities to Integrate iPad2 Technology

Studio Activity	Traditional Method	Technique Used
Free hand sketching of wooden blocks and objects	Professor demonstrates, points to key lines and proportions, and reviews student work.	Photos and images were used to help students visualize, sketch, and discuss object features.
Sketching of orthographic projections	Students sketch Styrofoam displays of platonic solids	Photos of displays and finger sketching with different colors using iPad2 technology
Awareness of design details and principles and elements of design.	Fieldtrips to public spaces and magazines	Fieldtrips with narrative. Video and student discussions to use terms.
Awareness of interior design products, applications, and shows.	Magazines, personal descriptions, online sources, and slides.	Quick references and videos to share with group or individual discussions.
Practice of oral presentation skills	Students nervous with videotaping and video review format	Videotaping, retrieval, and storage easier with iPad2

Student Service and Community Partnerships that Make a Difference

Michelle Cleverdon, Ashleigh Wilson, Lauren Payne, and Joan Dickinson

Radford University

ABSTRACT

Incorporating community service into the interior design curriculum has become increasingly important. As noted by CIDA, Standard 2 (c) states, “students must understand how design needs may vary for a range of socio-economic stakeholders,” and Standard 4 (j) states that “interior design programs provide exposure to the role and value of public and community service.” In response, a number of authors have illustrated how their programs have included service learning within their curriculum. Often service comes as a design opportunity such as a local-state park restaurant (Brickley, 2010), the renovation of an elementary school (Kendall & Moody, 2010), or a church (Belk, 2009). At our university, we have also exposed our students to “real-world” projects through the renovation of a dance studio, visitor’s center, and guitar-retail store. While these projects provide benefits to students such as interacting with clients, collaborating with design professionals, giving real-life projects, and enhancing social skills and citizenship (Zollinger, Guerin, Hadjiyanni, & Martin, 2009) there are some disadvantages. According to Belk (2009) and Zollinger et al. (2009), the client receives free design services. Indeed, allowing students to work on projects of this nature provides design services at no cost and takes business away from practitioners. More importantly, are these projects truly helping those who have experienced hardship? The purpose of this presentation is to present a project completed by our ASID student chapter in an area that historically has high levels of poverty (see Table 1). Beginning in fall 2010, our service for an elderly and disabled woman who had her home destroyed by her drug-addicted daughter began (see Tables 2 and 3 and Figures 1 and 2).

The implications from this project were significant. Many students in the organization had never worked with individuals who fall below the poverty line. The students witnessed drug paraphernalia, a home that was destroyed, and learned to use social skills when dealing with individuals who come from a different

socio-economic status and education level. The students also gained experience in home repairs and renovation which involved: prepping walls for painting, prepping floors, measuring, installation of flooring and window treatments, and window repair. The students were able to help someone who was destitute and who could not afford to pay for their work.

While this service project did not involve traditional design work, it exposed students to the extreme poverty found in a neighboring community and gave them an appreciation for the work of trade professions. Upon completion of the project, students completed a short questionnaire, and comments included, “I learned the value of home safety. It’s surprising that situations like this are right down the road.” As noted by Boyer (1996), “The academy must become a more vigorous partner in the search for answers to our most pressing social, civic, economic, and moral problems and must affirm its historic commitment to what I call the scholarship of engagement” (p. 13). In this service work, students embodied Boyer’s call by becoming engaged in a community-wide problem and utilizing their skills to provide solutions.

REFERENCES (APA)

Belk, J. (2009, October). Multifacted benefits of studio based service learning. *Proceedings from the Interior Design Educators Council South Regional Meeting,* 80-88, Raleigh, NC.

Boyer, E. L. (1996). The scholarship of engagement. *Journal of Public Service & Outreach,* 1(1), 11-20.

Brickley, J. (2010, November). State park hospitality service learning project case study. *Proceedings from the Interior Design Educators Council South Regional Meeting,* 45-52, Highpoint, NC.

Kendall, C., & Moody, D. (2010, November). Making a difference: Bringing students, professionals and parents together to strengthen space and community. *Proceedings from the Interior Design Educators Council South Regional Meeting,* 62-64, Highpoint, NC.

Zollinger, S. W., Guerin, D. A., Hadjiyanni, T., & Martin, C. S. (2009). Deconstructing service-learning: A framework for interior design. *The Journal of Interior Design, 34*(3), 31-45.

APPENDICES

Table 1: Poverty Levels in the State of Virginia (Table 1 Poverty Levels in the State of Virginia.pdf)
Table 2: Description of Work and Project (Table 2 Description of Work and Project.pdf)
Table 3: Goals, Objectives, and Project Outcomes (Table 3 Goals.pdf)

Figure 1: Bedroom (127.jpg)
Figure 2: Student at Work (10043.jpg)

Table 1 Poverty Levels in the State of Virginia

Location	% of Residents Living in Poverty
Montgomery County	21.8%
State of Virginia	10.5%

Location	% with Income below the Poverty Line
Montgomery County	23.2%
State of Virginia	9.6%

Location	% with Income below 50% of the Poverty Line
Montgomery County	12.6%
State of Virginia	4.3%

Note: 2009 Data from www.city-data.com

Table 2 Description of Work and Project

Date	Description of Work
9/2010	Brainstorming on service project possibilities occurred between the faculty advisor and president of ASID. Contact with PRAYS (Presbyterians at Your Service) to determine the availability of a project.
9/2010	ASID Kick-off meeting with Virginia State President. Project was presented to the student organization which approved committed service for the 2010-2011 academic year.
10/9/2010	Cleaning of the home began. This was a huge undertaking and involved over 57 trash bags that were taken to Goodwill or the dump.
11/13/2010	Continued cleaning of the home. Carpet was removed in the bedrooms and living room. Included the removal of tack strips.
11/19/2010	Continued cleaning of the home including the kitchen and bathrooms.
12/5/2010	Painting of bedrooms and living room. All walls were prepped for painting (spackled and cleaned). Flooring removal continued.
12/11/2010	Painting of bedrooms, living room, and kitchen continued. Existing kitchen floor was removed and sheet vinyl was installed. Carpet in kitchen was removed and floor was painted. Continued cleaning of kitchen. Carpet was installed in the living room.
2/14/2011	ASID Bake Sale held. Money was raised in order to purchase windows and window treatments for the home.
3/5/2011	Transition strips were installed between different flooring materials. Acquired furniture was moved and brought to home. Windows were measured for new windows and window treatments. Window treatments and rods were purchased.
3/2011	Window treatments were installed.

Table 3 Goals, Objectives, and Project Outcomes

Goals	Objectives and Project Outcomes
To increase ASID involvement in community-oriented service for the 2010-2011 year.	In the past, ASID had participated in service projects, but these projects were not seen as helping those who truly are in need. For the 2009-2010 year, ASID helped Sinkland Farms located in Christiansburg, VA with the display of their Halloween decorations through small vignettes designed throughout the farm. While this service project was beneficial to the students, the organization wanted to participate in an endeavor that would greatly impact the organization and community as a whole. This organization wanted to make a difference for someone who really needed the help.
To provide a community service project that would impart indispensable knowledge, experience, and relationships.	In keeping with ASID's national mission and vision, the project provided: knowledge and hands-on experience in home maintenance and installation. Many of our students had never been involved in flooring removal and installation or painting and prep work. This experience gave students an appreciation for the trades involved in the design profession. Communication skills and relationships between the home-owner and students were developed and students gained knowledge in working with individuals who are from a different socio-economic class. A long-standing relationship was developed with PRAYS, and ASID will collaborate with this group on a new project for next year.

Design Thinking is in the (full scale) Details

Catherine Dowling

Ryerson University

As a part of a larger body of research examining the role of education and cultural design literacy this paper reviews the value of kinesthetic creation in education. Students' thinking may be noticeably changed when required to build full-scale construction details while addressing global and cultural sustainability concerns as well as closed loop construction systems within a Design Technology assignment. This observation raises some significant questions for the Design Educator: How can using our hands increase or affect learning? Is comprehension improved when physically interacting with and experiencing objects and places? How and what can kinesthetic creation teach Design students?

This paper summarizes the results of six years of the evolving assignment, related educational pedagogies, ongoing cognitive research, and the potential for kinesthetic creation to be an integral part of interior design education.

'If human need is the place to start, then design thinking rapidly moves on to learning by making...instead of thinking what to build, building in order to think...[1]

The assignment consists of two-parts, examining issues of sustainability, enclosure, interface, and membrane through spatial, material and detail analysis. It invites design thinking and kinesthetic creation through hand building and demolition. Part one challenges individual students to prepare a schematic design for an imagined 'space between' two existing interior volumes. The method of fabrication, assembly, installation, disassembly and final disposal are integral to the design process. Cardboard scale models, 3D detail sketch drawings and hand drawn working drawings are required to describe the selected range of building materials, forming an understanding of production, manufacturing, installation, LEED material credits, maintenance, lifecycle and carbon footprint for the proposed interior. Part two is collaborative, requiring teams

[1] Brown, T., TED talks, July 2009, http://www.ted.com/talks/tim_brown_urges_designers_to_think_big.html

to select and modify an individual design solution completed by a team member during part one. Design and discovery continue through the teams' revision, fabrication process of full-scale prototypes, followed by site installation, and temporary exhibition within public spaces on campus. Final full-scale construction, installation, disassembly and disposal of all materials is also required. Exhibit models are retained for use by the incoming class to examine, prepare detail drawings, disassembly and disposal, providing a reverse kinesthetic creation and closed loop assignment cycle.

This assignment exposes students to the issues of sustainability and interior detailing through tactile learning. The action of hand building full scale enables an immediate connection, long term memory and understanding of material qualities and interior design space.

'The desire to learn is reshaped continuously as we fashion our own personal laboratory for making things.' [2]

References (APA):

Bell (1833) The Hand, Its Mechanism and Vital Endowments as Evincing Design: William Pickering, London, England

Brosterman (1997) Inventing Kindergarten: Harry N. Abrams, Inc., New York, USA

Sternberg (2009) Healing Spaces, The Science of Place and Well-Being: The Belknap Press of Harvard University Press, Cambridge, Massachusetts, USA

Waldorf Research Bulletin (1999) The Real Meaning of Hands on Education: Los Angeles, USA http://www.waldorflibrary.org/Journal_Articles/RB5101.pdf

Wilson (1998) The Hand: Vintage Books, Random House Inc., New York, USA

Appendices:

1 Assignment Part 1

2 Assignment Part 2

3 Demolition

4 Images

[2] Wilson, F., The Hand, Toronto, Random House of Canada, 1998, p.295

design technology II

faculty

assignment 4, part A - individual

between inside and out

assignment description

The design of an interior design element as simple as a threshold implies the consideration of a great number of issues, even when seen in isolation from the larger problem of the design of a complete building. A threshold contains the function of enclosure, keeping the inside in and the outside out. It can also be understood as the interface or membrane between two spaces, acting as a vehicle for communication between the two; connecting as well as separating.

From initial design concept, through material and detail research and analysis you are required to investigate possible relationships that can exist between inside and out.

Locate and document an existing retail store inside an interior mall. All existing and proposed materials, substrates, structure, connections and details are to be fully considered and explored to the best of your knowledge, references to text as needed.

Design and build a scale model for a specific retail, horizontal threshold, the volume of which must fit within approximately 1,000 cubic feet (ex.: 10'-0"h x 10'-0"d x 10'-0"w).

The threshold, a new space between the store and the mall must contain a custom cash counter/display case with shelving, a lockable cabinet door and drawer.

addresses course learning objectives

This project will address course learning objectives 1, 2, 3, 4, 5, 10, 11.

methodology

1. Concept development and process sketches, models and research
2. Drawings to develop and describe the design
3. 3D exploration, model building

deliverables

1. Design Statement and short paragraph (50-100 words) describing the intended spatial experience of the threshold, choice of materials, finishes and hardware as applicable. Provide images and citations of inspirations or precedents.

2. Site documentation and significant process sketches/models

3. Hand sketch/drafted (on grid paper) dimensioned and labeled drawings to include: (minimum requirements)

key plan and section showing context	
floor plan	1:20 (1/2" = 1'-0")
reflected ceiling plan	1:20 (1/2" = 1'-0")
two full elevations showing millwork	1:20 (1/2" = 1'-0")
one section of entire threshold through millwork	1:20 (1/2" = 1'-0")
two details of the millwork	half or full scale
one 3D, axonometric, isometric or perspective	nts (colour optional)

4. Final concept Cardboard Mock-up modell at (smallest) 1:20 (1/2"=1'-0") scale indicating material and fastenings with minimal use of acrylic, millboard, white tracing paper or basswood.

There will be group workshop roundtable discussions during weeks, nine and ten in the workshop to review and approve design sketches/models prior to commencement of final drawings and cardboard models.
Final submission is due to the third floor elevator lobby no later than 1:00 on Monday, November 15th. Hand –in will take place between 12:30 am and 1:00 in the third floor elevator lobby area. Teams for Part B must be arranged prior to the lab classes following on Tuesday/Wednesday, November 16th/17th.

evaluation

20% of course

COUNCIL FOR INTERIOR DESIGN ACCREDITATION	Standards + Expectations 2009:
Standard 2	**Global Context for Design** a) work demonstrates an understanding of the concepts, principles, and theories of sustainability pertaining to building methods, materials, systems, and occupants.
Standard 3	**Human Behaviour** c) select, interpret, and apply appropriate ergonomic and anthropometric data
Standard 4	**Design Process** a) identify and define relevant aspects of a design problem b) gather appropriate and necessary information and research findings to solve the problem c) evaluate, select and apply information and research findings to design d) synthesize information and generate multiple concepts and/or multiple design responses to programmatic requirements e) demonstrate creative thinking and originality through presentation of a variety of ideas, approaches and concepts f) opportunities to solve simple to complex design problems g) exposure to a range of design research and problem solving methods h) opportunities for innovation and creative thinking i) opportunities to develop critical listening skills
Standard 6	**Comunication** a) apply a variety of communication techniques and technologies appropriate to a range of purposes and audiences b) express ideas clearly in oral and written communication c) use sketches as a design and communication tool f) integrate oral and visual material to present ideas clearly
Standard 9	**Space and Form** b) three-dimensional design solutions c) analyze and discuss spatial definition and organization
Standard 11	**Finish Materials** a) awareness of a broad range of materials b) awareness of typical fabrication and installation methods, and maintenance requirements c) select and apply appropriate materials and products on the basis of their properties and performance criteria, including environmental attributes and life cycle cost
Standard 12	**Environmental Systems and Controls** a) understand the principles of natural and electrical lighting design b) competently select and apply luminaries and light sources c) understand the principles of acoustical design d) understand appropriate strategies for acoustical control g) understand the principles of indoor air quality h) understand how the selection and application of products and systems impact indoor air quality
Standard 13	**Interior Construction and Building Systems** a) understand that design solutions affect and are impacted by structural systems and methods b) understand that design solutions affect and are impacted by non-structural systems including ceilings, flooring, and interior walls g) read and interpret construction drawings and documents
Standard 14	**Regulations** a) awareness of sustainability guidelines b) awareness of industry-specific regulations g) select and apply appropriate provincial building codes h) select and apply appropriate standards

design technology II

faculty

assignment 4, part B - team

Between inside and out, threshold construction

assignment description

You are asked to group yourselves into teams of four to six in order to develop and build full scale details from one threshold (your choice) completed by a team member during part A of this project.

addresses these course learning objectives

This project will address course learning objectives 1, 2, 3, 4, 5, 10, 11.

methodology

1. Concept development, revisions to original design including process sketches, models, material and connection research.
2. Working Drawing Set and Specification booklet to describe the final design.
3. 3D exploration, model building.
4. Team presentation.

deliverables

1. Design Statement and short paragraph (50-100 words) for each of the following:
   a) intended spatial experience of the threshold
   b) intended materials – sustainability, life cycle costing, maintenance and performance criteria
   c) team strategy and execution for final disposal of full scale model(s)
2. Significant process sketches and construction images
3. Working Drawings to include:
   key plan and section not to scale
   floor plan 1:10 (1" = 1'-0") separate plan for elaborate floor patterns
   reflected ceiling plan 1:10 (1" = 1'-0") include lighting and switching
   four elevations 1:10 (1" = 1'-0") showing interior and exterior of threshold
   two overall sections 1:10 (1" = 1'-0") showing interior and exterior of threshold
   cabinet sections 1:25 (3" = 1'-0") showing drawer and door construction
   details as necessary half or full scale different from constructed model
   one 3D, axonometric, isometric or perspective, rendered
4. One full scale model indicating finish materials, substrates and fastenings (material substitutions are permitted upon review with Instructor)
5. Specifications and schedules for all materials, hardware, doors + windows.
6. Relevant OBC considerations/summary in proposed threshold design.
7. 10 minute presentation of design, working drawings and full scale model.

Pick up of final models and placement is required the following week no later than December 10th to receive a final grade.

15% of course

COUNCIL FOR INTERIOR DESIGN ACCREDITATION Standards and Expectations:

Standard 2 f), g)
Standard 3 a), e)
Standard 4 b), h), j), k), p), t)
Standard 5 g), h)
Standard 6 a), l), m), n), o), p)
Standard 7 a), b), d), e), f), h)

design technology II
in class assignment 1

'design thinking is in the (full scale) details'

'The ability to imagine – to dream – is now strongly linked to the unique human ability to create complexity both in our thoughts and in whatever we create with our own hands'
Frank Wilson, The Hand, How its use shapes the brain, language, and human culture, p.311.

assignment description + deliverables

In selected teams you will choose a full scale detail from the workshop basement and bring it up into the bench area for the following two classes. At the end of the first class you need to return it to its original location in the basement. By the end of the second class you will need to have disposed of all the materials from the detail.

Examining the full scale model construction you will sketch, assemble and disassemble the following into one hardcopy process booklet (no larger than 11" x 17") with CD disc:

1. details
hand drawn sketches of minimum 3 details, one of each of the following:
- plan detail, section detail, elevation or 3D detail

scales used to be full scale, half scale or 3" = 1'-0" (1:1, 1:2 or 1:4)

use drafting pencils or markers, scale, grid, trace or plain paper - minimum three line weights (of black marker or pencil lead with minimal erasures) to clarify detail information with minimum labels, and dimensions

2. layout of the workshop
hand drawn plan sketch of bench, machine room, material storage areas, and basement indicating millwork, tools, equipment and furniture

scale – as noted

3. photographic documentation of full scale model demolition showing tools required

4. photographic/written summary of full scale material disposal

Title page, table of contents, **copies** of detail and layout drawings, bibliography for citations of research and images.

due

Tuesday by 10:10, September 23/11.

evaluation

5% of course
submission (details, workshop layout, and demolition/disposal documentation) will be graded on the basis of 1) accuracy, 2) thoroughness, 3) clarity, 4) level of difficulty and 5) overall layout

course text reference

McGowan, Maryrose. (2004) Interior Graphic Standards: New York. J. Wiley & Sons.

Course Learning Objectives

1, 2, 6, 10, 11, 12

Council of Interior Design Accreditation Standards + Expectations 2009:

Standard 6

Communication
a) apply an appropriate range of communication techniques and technologies for a variety of purposes and audiences
b) express ideas clearly

Standard 11

Furniture, Fixtures, Equipment and Finish Materials
a) have an awareness of a broad range of materials and products
b) have an awareness of typical fabrication and installation methods, and maintenance requirements

Standard 12	**Environmental Systems and Controls** c) understand the principles of acoustical design d) understand appropriate strategies for acoustical control
Standard 13	**Interior Construction and Building Systems** a) demonstrate understanding that design solutions affect and are impacted by structural systems and methods b) demonstrate understanding that design solutions affect and are impacted by non-structural systems including ceilings, flooring, and interior walls g) read and interpret construction drawings and documents

“Figure 1 – Part 2 installation”

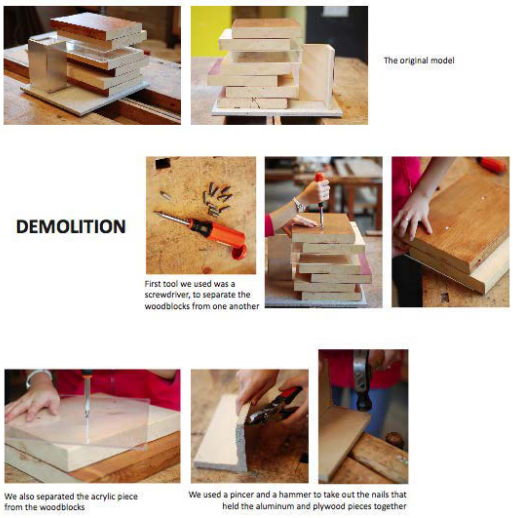
“Figure 2 – Part 2 fabrication”

‘‘Figure 3 – Demolition”

‘‘Figure 4 – Demolition”

"Figure 5 – Part 1,small scale, cardboard, model"

"Figure 6 – Part 2, full-scale prototype"



"Figure 7 – Demolition process documentation"

"Figure 8 – Demolition and material re-use and disposal process documentation"

‘Environment as Third Teacher: Examining the Reggio Emilia Approach for Application in 21st Century Classroom Design

M. Jean Edwards

University of Louisiana – Lafayette

ABSTRACT

Problem

Despite significant research into the effects of the school environment on student learning (Higgins, et al., 2005; Schneider, 2002), it appears that the relationship between the learning environment and effective teaching and learning is not so easily established. The Reggio Emilia approach to early childhood education proposes the concept of ‘environment as third educator’. This project explores the potential of this pedagogical concept to provide some promising directions for the design of effective learning environments, not just for young children, but for older children and adults as well. The purpose of this presentation is to examine a process and project for applying Reggio Emilia concepts to the interior design of 21st century art classrooms.

Strategy

The author and an art educator collaborated on a pilot study to document and assess the existing conditions in three art classrooms in our local public schools. The study involved one elementary school, one middle school, and one high school. Following documentation of these sites and interviews with the teachers and several students, the investigators shared the results with interior design students who were assigned to develop design strategies for the three art classrooms. The ultimate aim of the project is to provide guidelines for the effective improvement of these spaces in particular and for art classrooms generally.

In the literature review undertaken as part of the study, the author encountered a journal article titled “Children and Place: Reggio Emilia’s Environment as Third Teacher” (Strong-Wilson & Ellis, 2007). Further investigation of the Reggio Emilia approach (Ceppi & Zini, 1998) confirmed the role of the environment and its importance to educational pedagogy and practice in the context of pre-school

education. Given Reggio Emilia's stress on the qualities of the interior that can facilitate the learning process, the author and interior design students pursued the applicability of the Reggio Emilia approach to the design of learning environments beyond the context of pre-school education.

The students engaged the following process to develop the project (Figure 1):

- Research significant learning and art education theories (such as Constructivism, Cognitive Development, Multiple Intelligences, Lowenfeld's theory of art development, Gestalt theory, and Visual Culture theory)
- Concept mapping the theories (Figure 2)
- Research Reggio Emilia approach to discover / uncover potential correspondences between Reggio and the learning theories (Figure 3)
- Discuss with art education students the theories and the needs of the art classroom
- Study of existing classrooms that have incorporated Reggio Emilia principles (Figures 4 and 5)
- Development of a spatial and material palette that focuses on the sensory qualities advocated by Reggio Emilia
- Application of design concepts generated through this process to the design of the three art classrooms

Outcomes

The process is documented through concept maps and sketches. Project deliverables include specific design suggestions for alterations to the existing classrooms and illustrations of these proposals. Faculty has proposed design charrettes with art educators attending state Art Education Association meetings with the goal of helping teachers re-conceptualize their classroom environments. Another proposal is an exhibition of the student work for the local school board.

REFERENCES (APA format)

Ceppi, G. and Zini, M. (1998). *Children, spaces, relations: Metaproject for an environment for young children*. Reggio Emilia, Italy: Reggio Children

Higgins, S., Hall, E., Woolner, P., McCaughey, C. (2005). The impact of learning environments: A literature review. University of Newcastle: Design Council, The Centre for Learning and Teaching. Retrieved on June 9, 2011 from

http://scholar.google.com/scholar?hl=en&q=Design+Issues+Council+Literature+Review+Learning+Environments&btnG=Search&as_sdt=0%2C19&as_ylo=&as_vis=1

Schneider, M. (2002). Do school facilities affect academic outcomes? *National Clearinghouse for Educational Facilities*. Retrieved on June 9, 2011 from http://eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED470979&ERICExtSearch_SearchType_0=no&accno=ED470979

Strong-Wilson, T. and Ellis, J. (2007). Children and place: Reggio Emilia's environment as third teacher. *Theory into Practice,* 46(1), 40-47. Retrieved on July 5, 2011 from http://biere.louisiana.edu:2092/ehost/detail?sid=1dad2aa8-50c4-4c7c-9922-3fd9bb0331fe%40sessionm

APPENDIX

Figure 1: *The Learning Environment* Project outline (Learn_Environ_Project.doc)
Figure 2: *Multiple Intelligences* concept maps (MI_concept_maps.png)
Figure 3: (left) Visual Culture theory map; (right) Map of Visual Culture theory combined with Reggio Emilia (Vis_Culture_maps.png)
Figures 4. Transition space into "Reggio Emilia" classrooms (Entry.png)
Figure 5. Light and shadow screen on tree branch rod (Light_screen.png)

Figure 1: **PROJECT OUTLINE: *The Learning Environment***

Phase 1 Learning Theory Assignment

Step 1: Each team researches the theories and theorists below (as assigned) to identify possible implications for the design of interior space. Find journal articles, books and web sites with accurate information concerning the theories

Team A. ELEMENTARY SCHOOL Team
Jean Piaget – Cognitive development
Victor Lowenfeld – Artistic development
Jerome Bruner – Constructivism
Team B. MIDDLE SCHOOL Team
Howard Gardner – Multiple Intelligences
John Dewey – Learning by doing
Carl Rogers – Experiential learning
Team C. HIGH SCHOOL Team
Gestalt theory
Visual Culture theory

Step 2: Individual students explore assigned theory through concept mapping to graphically describe key concepts of the theory. (See Figure 2)

Step 3: Student teams meet with art education students sharing findings about the various theories and learning about specific perceptions and concerns art educators may have about their learning environments.

Phase 2 Examining Reggio Emilia

Step 1. Read "*Children and Place: Reggio Emilia's Environment as Third Teacher".* After reading the essay search for other pertinent information on Reggio Emilia.

Step 2. Integrate a primary concept of the learning theory that you studied with Reggio Emilia concepts in a map that explores correspondences between them. (See Figure3)

Step 3. Use the Reggio Emilia *"Beautiful Stuff"* project and photographs of existing Reggio Emilia-influenced classroom as a provocation for exploring the spatial and sensory implications of interior materials that may be employed in the final project (See Figures 4 and 5)

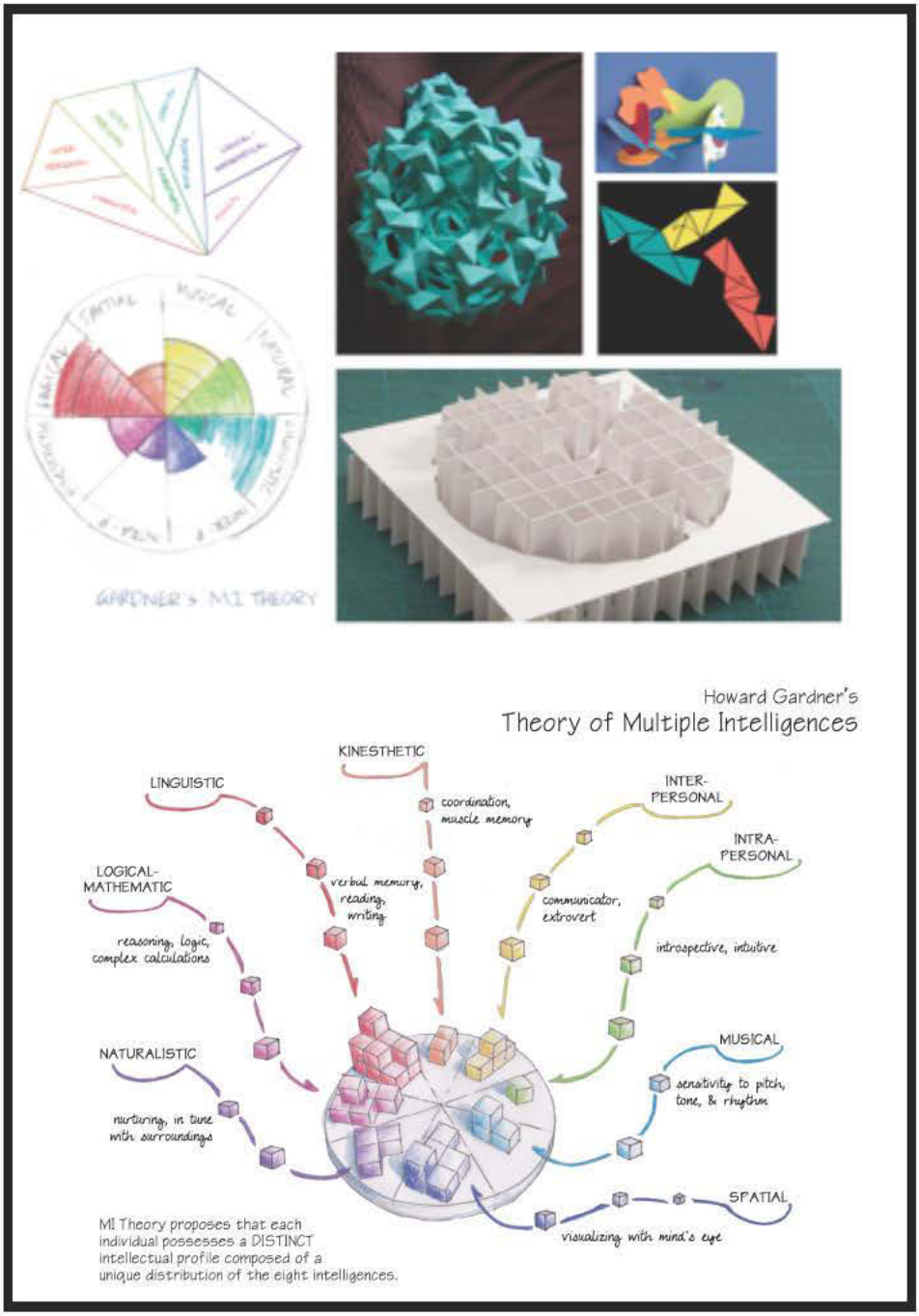


Figure 2. *Multiple Intelligences* concept maps

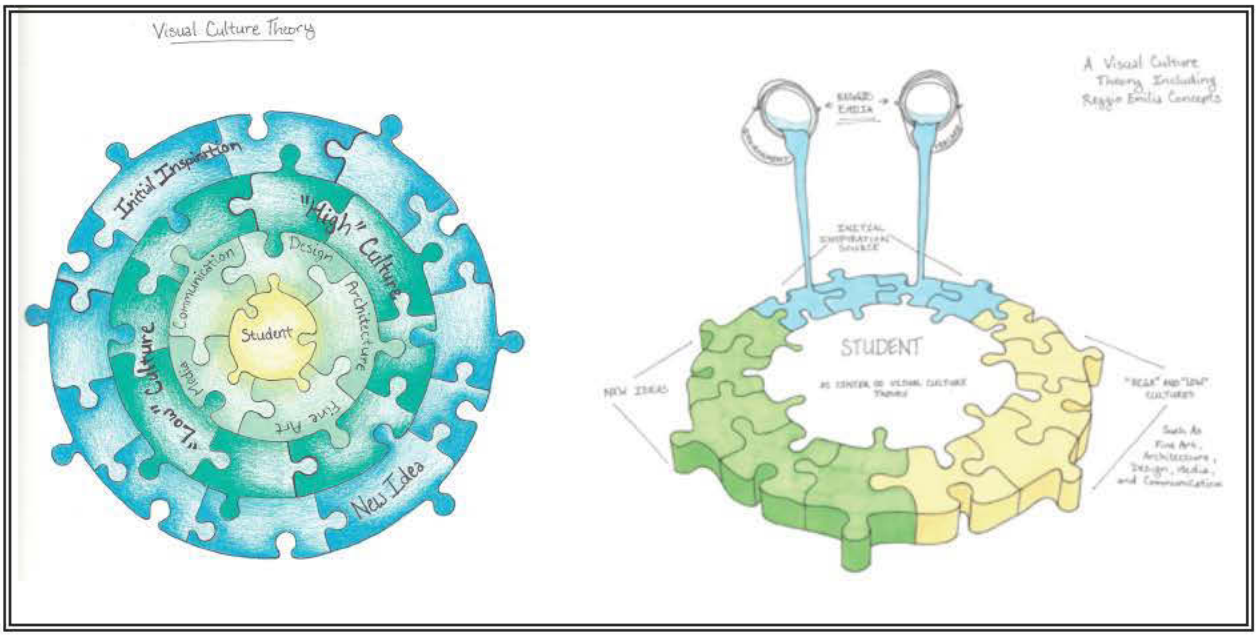


Figure 3. (left) Visual Culture theory map; (right) Map of Visual Culture theory combined with Reggio Emilia

Figures 4. Transition space into “Reggio Emilia” classrooms

Figure 5. Shadow screen on tree branch rod

INQUIRY IN DESIGN: A CASE STUDY OF AN EVIDENCE-BASED STUDIO

Nisha A. Fernando, Ph.D.

University of Wisconsin-Stevens Point

This paper presents the two-fold results of a pedagogical research study conducted in an upper-level interior architecture studio. As recent literature on design pedagogy has continued to emphasize, studio learning must need to shift from the age-old models based on creating end-products to embrace more in-depth, evidence-based design processes (Fernando, 2006; Salama & Wilkinson, 2007). In this latter approach, studio learning is not limited to 'what' and 'how' questions, but is expanded to 'why' and 'for whom' questions in design. It also includes building a solid design knowledge base on evidence gleaned from interdisciplinary perspectives (Dohr & Portillo, 2011). This research study introduced a design studio that primarily focused on an evidence-based design process, where students were directed to approach and analyze a design problem at hand through an environment-behavior research perspective. The study then analyzed the effectiveness of the studio structure and its learning outcomes through student work and feedback.

Diverting from a traditional studio learning environment where the instructor brings in (or points to) a range of prescribed design information to be used by students as 'learning' in studio, this study directed the students to conduct an empirical research to gather first-hand evidence on place-making of a shopping mall interior. They were also introduced to the concepts of evidence-based design, environment-behavior research on public spaces, and data analysis. The particular project was a redesign of a large, derelict, non-user-friendly shopping mall. Students gathered research data by analyzing the spaces through both an aesthetic-functional perspective and a socio-behavioral perspective by doing a design inventory and conducting extensive behavior mapping, activity mapping, and user interviews. Behavior and activity mapping were built on interdisciplinary concepts borrowed from

environmental psychology and sociology (Whyte, 1980; Goffman, 1959). The empirical data were then analyzed and translated into viable design concepts. Students also provided their thoughts and reflections through an e-Portfolio, describing their insights and learning experiences of this particular design process. The reflections provided useful feedback to the instructor indicating the level of success of an evidence-based design studio approach.

This paper first showcases the particular way the evidence-based studio was structured and illustrates a systematic analysis of how effectively the evidence-based design process worked, as gathered from the student viewpoints. It also presents the results of the student learning outcomes as well as the evidence of successful student learning in an inquiry-based studio learning environment. The findings add to the existing body of literature on the significance of the design pedagogical approaches based on research evidence as well as on how design education can be strengthened through interdisciplinary research information.

References (APA Style)

(1) Dohr, J. H. & Portillo, M. (2011). Design Thinking for Interiors: Inquiry, Experience, Impact. New York: Wiley.

(2) Fernando, N. (2006). Design as exploration: An integrative model. *Open House International*. U.K. (Special Issue: 'Design Teaching Practices').

(3) Goffman, Erving. (1959).The Presentation of Self in Everyday Life. New York: Doubleday Anchor.

(4) Salama, A & Wilkinson, N. (Eds.), (2007). Design Studio Pedagogy: Horizons for the Future. U.K.: Urban International Press.

(5) Whyte, W. H. (1980/2001). Social Life of Small Urban Spaces. New York: Project for Public Spaces.

APPENDIX: SUPPLEMENTAL COURSE MATERIAL (HANDOUT)

PEOPLE-CENTERED DESIGN: INTERIOR SPACES OF A SHOPPING MALL

PHASE #1: DESIGN INVENTORY COMPARISON

In the Phase #1 of the project, you will visit the _____ shopping mall and another shopping mall of your choice, record the design of each interior in detail, and create a Design Inventory for each. The purpose of this exercise is to systematically document various design features of the two places in relation to the presence/absence of people and how those features contribute to the liveliness and activities of these two public spaces. The main objective of this exercise is for you to gain an in-depth understanding of how spaces affect people and how people may provide clues on how to use spaces.

PROCEDURE

Each student group will make a Design Inventory each for the two malls. The Design Inventory will contain photographs of the physical features that you observe (see for submission details below). You may observe as many features as you think are important, but you must have at least 7-8 different features selected for each inventory to discuss in detail.

You will need to look at the following categories of physical features of the malls that need to be investigated:

1. Various spaces within the mall - whether these spaces are public, semi-public, and semi-private. Are there any private spaces?
2. Entrances and exits: are they clear, visible, accessible, inviting, attractive, etc?
3. Activity centers – where do most activities take place?
4. Attractive physical elements and their locations
5. Unattractive physical elements and their locations
6. Physical condition of the interior (on a scale of *Very Good, Good, Bad,* and *Very Bad*) and brief reasons for the ranking
7. Physical condition of the exterior (on a scale of *Very Good, Good, Bad,* and *Very Bad*) and brief reasons for the ranking

8. Seating: availability, locations, how many can be accommodated, functional/not functional, used/not used, etc.
9. Colors/Ornaments/Decorations/Finishes of both the interior and the exterior
10. Lighting; natural, artificial, combinations, effective/not effective, used appropriately/not appropriately, etc.

In addition to the above list, it is highly recommended to include other possible physical features in the Design Inventory if you find them relevant and/or important to the interior spaces.

The inventory can begin by carrying out a preliminary "walk through" of the shopping mall. While on the move, you can take down notes of what you observe with the above points in mind. Following this, you can return to specific selected spaces within the mall and take down more detailed notes, draw sketches, and take photographs. Please remember to include all three media of information gathering for all the spaces investigated. The instructor will be guiding you through your work in the e-Portfolio, helping you to prepare the inventory. Therefore, please consider the studio time as well as the D2L site where questions and problems can be discussed in detail. You may use video clips as well to supplement the information.

The submission of each Design Inventory will be in a digital portfolio-format. It should include a cover page with the course number, the name of the project, phase, and the students' names. The portfolio should contain the following:

1. List of physical features observed and inventoried in the mall
2. For each physical feature, its location, notes describing the feature, why you chose to document that feature, and a brief description of the feature.
3. Annotated photographs and sketches (2 & 3 can be combined together)
4. A summary of the findings (limit this to one page of text at the end of portfolio)

You are advised to be creative in the presentation of the information, even though this is essentially a research report. Please include as much information as possible, through illustrations, photographic images, and text. Since the information gathered and presented in this phase will be used again in the final phase of the project, a detailed inventory is essentially required.

This phase will carry 150 points. Grading will focus on the details of information gathered, the quality and level of information, e-Portfolio presentation, and overall professionalism.

PHASE #2: BEHAVIORAL DATA AND USER PREFERENCES

This phase of the project enables you to understand how people actually perceive and use the spaces you already focused on in the Design Inventory. Rather than assuming or judging about how people might or should behave both in the shopping mall and on the Main Street, you will be gleaning information by observing real activities and inquiring the users about their points of view of both places. This information is vital for an environmental design project like ours, since we can focus on guiding what people prefer and want to do to reach our design concepts, rather than imagining them on our own.

PROCEDURE

You will form two groups in class. One group will be carrying out observations and the other will be conducting a survey by talking to people. Both groups will engage in these activities separately, but the information collected by each group will be presented to the other at the end of Phase Two. Within a group, each student will have some amount of individual work to do.

Group One: Observations Through Behavior Maps

Behavior maps are usually two kinds: Place-centered maps and Person-centered maps. In this project, we will be using only Place-centered maps.

In a basic definition, a Place-centered map is recording activities of a given space at a particular time. It is like a ‘snapshot’ of the space that shows the activities. For example, imagine that you are in the shopping mall lobby. You will stand there for some time (since there are not many activities to record in an instance), observe what particular activities are present, and record them in a systematic way. This systematic way is called a “behavior map.”

For a behavior map, you will need a map or a floor plan you want to observe. Make multiple copies out of the map/plan. Also, make a list of codes for activities that you may observe (for example, a code for

sitting, for walking, for shopping, etc.) Repeat the observations at least three times for each space. Then, after collecting all the observations you will combine them into a single map/plan.

Group Two: Survey With Questionnaire

Conducting surveys is another method of collecting information about people. In this, you will be asking questions about how the users (primarily customers and shop-owners) perceive the shopping mall and Main Street and what preferences they have. For this purpose, you will be developing questions and asking the various respondents to fill them.

Then, you will aggregate the answers to find the most common answer to each question. For this, you will prepare bar charts and pie charts, and other necessary information presentation methods.

For both groups, the instructor will provide guidelines. Since both observations and survey involve a lot of time on site (visiting the shopping mall and Main Street frequently), you will need to organize your time accordingly. Time will be given from the class time since it is considered as “studio” time.

SUBMISSION REQUIREMENTS

The submission of Phase Two will also be a portfolio, very similar to the Phase One submission. It should include a cover page with the course number, the name of the project, phase, and the student’s name. The contents of the portfolio will be determined as you get the data collection process going, depending on the amount of information you may be able to gather.

You are advised to be creative in their presentation of the information, even though this is essentially a research report. Please include as much information as possible, through illustrations, photographic images, and text. Since the information gathered and presented in this phase will be used again in the final phase of the project, a detailed inventory is essentially required. This phase will carry 40 points (see the Class Schedule). Grading will focus on the details of information gathered, presentation, and overall professionalism.

Designing for Deconstruction: A Framework for Teaching the Sustainable Constructed Interior

Tamie Glass

The University of Texas at Austin

ABSTRACT

Purpose

As Charles Thomsen, FAIA FCMAA discusses in his article “100-Year Building, 10-Year Interiors,” it is recognized that interior spaces will either wear out more quickly than the building shell, or more often than not be renovated because they no longer fit the users’ functional needs (n.d.). Additionally, interior design trends and personal taste levels have a considerable impact on both commercial and residential interiors, often leading to finishes, assemblies, and entire building systems being discarded long before their life span has expired. As a result, interior designers contribute significantly to the use of resources within the built environment.

Stewart Brand’s diagram of Shearing Layers of Change (Fig. 1, top right) illustrates that a building is always in a state of “tearing itself apart,” because building components are modified at different rates (1995). Accepting the temporality of interiors along with their role within the greater built context is critical. Following this logic, the next step is it to better understand the nature of interior constructions, their lifespan, and ultimately how they can be easily adapted or recycled if we are to lessen their environmental impact. A paradigm shift will be required to develop future systems of construction, but the intent of the presented teaching unit is to introduce students to strategies that address deconstruction within the context of industry today.

Methodology

The purpose of this presentation will be to illustrate how Designing for Deconstruction (DfD), the concept of creating buildings with disassembly in mind, was introduced into the construction curriculum alongside teaching students about material properties and typical assembly methods. This simultaneous introduction had students immediately considering the impact of their designs and finish specifications at

the onset of their interior design education. The instructional unit, embedded into the second-year Construction II: Interior Materials and Assemblies course, comprised of four 1-1/2 hour lectures and two 3-hour lab sessions. Topics focused on three major points of view related to DfD: Strategies, Perception, and Time. Students went on weekly tours, heard from speakers who applied the theory directly to practice, and were given assignments and readings that asked them to think critically about construction techniques and materials (Fig. 2 and 3).

Summary

Students participated in a survey at the end of the semester that assessed their knowledge of and receptiveness to DfD (Fig. 4). Results revealed that all the students acknowledged that their definition of "sustainable" had changed throughout the semester, with some developing a completely new understanding of the term. The most encouraging outcome of the survey was that students felt inspired by an integrated sustainable design process, leading them to believe interior designers can make an impact using DfD in the field. DfD is an area that has been virtually unexamined in relation to the interior but shows great promise for future research and as a framework for teaching sustainability, as illustrated through this course.

Acknowledgements

I would like to thank graduate research assistants Elise Wasser and Kendra Locklear for their thoughtful contributions to the development of this course unit.

REFERENCES (APA)

Brand, Stewart. (1995). How buildings learn: What happens after they are built. New York: Penguin.

Durmisevic, E. and Ken Yeang. (2009). Designing for disassembly (DfD). Architectural Design, 79, no. 6, 134-137.

Leigh, Nancey Green and Lynn M. Patterson. (2007). Deconstruction to redevelop: A sustainable alternative to mechanical demolition. Journal of the American Planning Association, 72, no. 2, 217-225.

Saleh, T. and A. Chini. (2009). Building green via design for deconstruction and adaptive reuse. In Elma Durmisevic (Ed.), Lifecycle design of buildings, systems and materials. Twente, Netherlands: International Council for Building Research Studies.

Thomsen, Charles. (n.d.). 100-Year Buildings, 10-Year Interiors. Retrieved from http://www.charlesthomsen.com/essays/100_year_building.pdf.

APPENDIX

Figure 1: Sample Lecture Slides (Figure_01.pdf)
Figure 2: Student Work – Assembly Project by Alice Kim and Aurora Villalpando (Figure_02.pdf)
Figure 3: Student Work – DfD Case Study by Bronwyn Hunt (Figure_03.pdf)
Figure 4: Selected Student Survey Responses (Figure_04.pdf)

Sustainable Materials: Pre-Consumer / Post-Industrial

Recently harvested cork oak tree

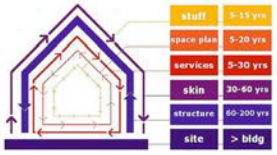
Harvesting of the bark

Off to the cork factory

Wine stoppers have been punched from the bark

Cork waiting to be sliced to create the surface veneer of cork flooring

Building Components: LCA and Embodied Energy



Stewart Brand's Six S's / "Layers of Change" Diagram (Brand, 1994)

Shearing Layers of Change

- ***Site*** (geographical setting, urban location, legally defined lot) can easily outlast the life of the building.
- ***Structure*** (foundation and load-bearing elements) can last 30-300 years although many buildings don't live that long for other reasons.
- ***Skin*** (the building envelope, consisting of frame, exterior finishes, glazing, etc.) can change for repair or appearances every 25 years or so.
- ***Services*** (the utility and HVAC systems and moving parts like elevators) may reach the point of major replacement every 7-15 years and can cause demolition of an entire building if their embedded-ness prevents alteration.
- ***Space Plan*** (division of space, cabinetry, interior finishes) can range widely from a commercial setting being overhauled every three years to a much longer life in a residential setting.
- ***Stuff*** (furniture, free-standing lamps, appliances, etc.) these things change daily to monthly.

(Brand, 1994)

Perceptions: Sustainability Rating Systems

-The focus of the green building industry will continue to switch from new buildings to greening existing buildings. "The fastest growing LEED rating system in 2010 was the LEED for Existing Buildings program, and I expect this trend to continue in 2011,"

-Jerry Yudelson, President of Yudelson Associates, a green building consulting company

Materials and Resources	Possible Points: 14
Storage and Collection of Recyclables	
Tenant Space--Long-Term Commitment	1
Building Reuse	1 to 2
Construction Waste Management	1 to 2
Materials Reuse	1 to 2
Materials Reuse--Furniture and Furnishings	1
Recycled Content	1 to 2
Regional Materials	1 to 2
Rapidly Renewable Materials	1
Certified Wood	1

Innovation and Design Process	Possible Points: 6
Innovation in Design: Specific Title	1
Innovation in Design: Specific Title	1
Innovation in Design: Specific Title	1
Innovation in Design: Specific Title	1
Innovation in Design: Specific Title	1
LEED Accredited Professional	1

Sustainable Materials: Reclaimed and Salvaged

What Waitt? By Tim Fishlock

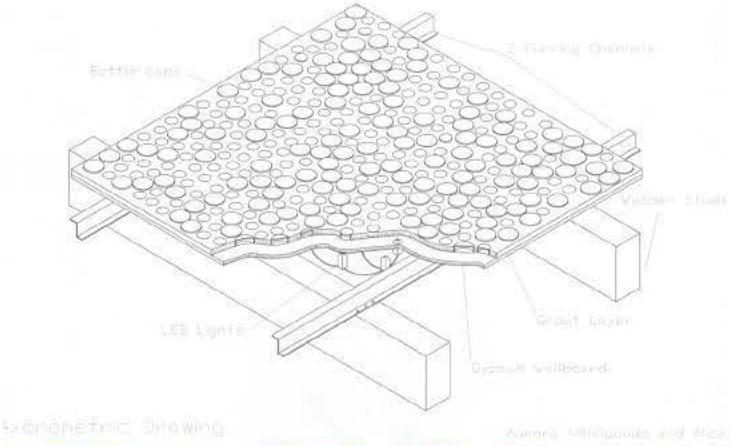
Weathering, Aging, and Wearing

Ghost town in Namibia in South Africa - abandoned in 1950's

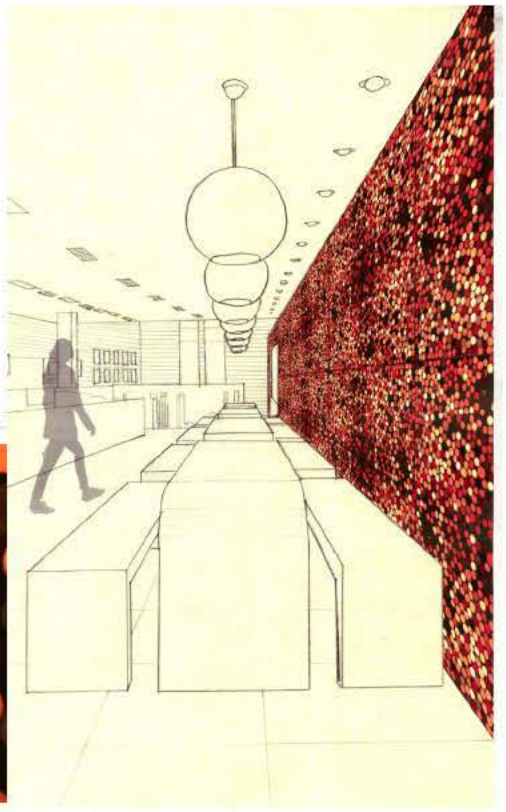
Perceptions of Designing for Deconstruction

Generally buildings are difficult to adapt or deconstruct and recover the materials for reuse and recycling in a cost-effective manner. Some reasons include:

1. **Trends away from renewable and fiber-based materials** to inorganic and organic minerals (petroleum) and the increased use of composites and engineered products which are difficult to recycle because of their chemical complexity.
2. **Costs of labor to deconstruct and process commingled recovered materials** and the ability to use human, mechanical, thermal, optical and even sonic means of separation.
3. **Use of connection techniques** such as pneumatically driven nails, staples, and adhesives that are extremely difficult to "undo."
4. **Reliance on coatings encapsulation of elements** with innumerable layers of finish materials in lieu of integral envelope/ finish/ structural systems.
5. The highly speculative nature of much buildings whereby there is **not a long-term ownership,** and therefore adaptation, renovation and demolition costs are not borne by the original owner.
6. The perception that incorporation of components and systems designed-to-be-disassembled, other than those explicitly meant to have short lives (exhibition spaces, entertainment venues, etc.) **will reduce value and imply other aesthetic, or life/ safety compromises.**



Isometric Drawing



Reclaimed Materials: Sticotti Residence

Summary

Project Type:
Residence

Project Team:
Alejandro Sticotti

Client:
Alejandro Sticotti and Mercedes Hernaez

Key Dates:
2007

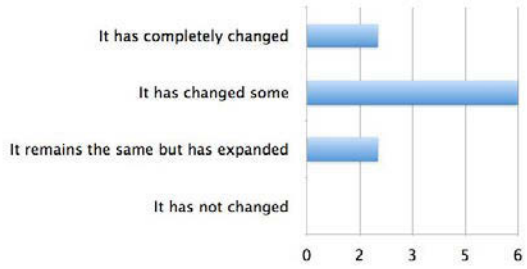
Location:
Buenos Aires, Argentina

Scope:
New construction

Description:
Architect and furniture designer, Alejandro Sticotti, and his wife, Mercedes Hernaez, wished to design their residence to be reflective of Argentina. Through construction techniques, utilization of local and reclaimed materials, they created a home which nestles so generously into its garden landscape.

Student Name: Bronwyn Hunt

3. Over the course of the semester, has your definition of "Sustainable" changed?



2. In your own words, what is Designing for Deconstruction?

Being conscientious of the life of a building and the impact that it will have on the environment and its inhabitants while in the design phase. Designing with deconstruction in mind, by including a plan for deconstruction that lessens the impact on environmental factors and is more energy efficient. Can include using reclaimed/ recycled materials, easy assembly/disassembly, more flexible and accessible floor plans, using materials that are environmentally friendly etc...
DFD is designing ahead of time how your design will be able to be disassembled when it comes time to make it easier for the demolition and to potentially save materials and use them in other projects.
The concept of considering the life after a building and the lives of the components that make up the building; not just designing for the existence of the structure.
Designing for Deconstruction is the idea of designing a building while keeping in mind that it will one day be used for something else and torn down or remodeled. Because of this, the building is designed specifically so parts can be easily disassembled and reused in another building without being destroyed.
Building in such a way that one can deconstruct the building in a more environmentally friendly way. One can then either reuse or recycle the materials.

4

4. How does Designing for Deconstruction fit with your definition of "Sustainability?"

DfD is sustainable in that it promotes a more sustainable world and it's resources. It's not about designing buildings that will stand the test of time and last forever, but rather designing so that people and the environment can withstand the test of time.
We are using materials in DFD that can potentially be used in later projects because we are designing how they will be taken apart and how it could be used for later. It fits in with sustainability because those reused materials mean less materials used later on and less waste to fill up the landfills aka sustainability.
To me designing for deconstruction is a way to pursue sustainable design.
It fits because reusing materials can help reduce costs, limits energy and emissions that would be produced by creating new materials, and reduces waste that is sent to a landfill.
They are pretty much hand-in-hand. DfD can be used to disassemble a space or building, which means no demolition or waste of materials. The materials can be used, and no demolition means more safety for the neighboring buildings or spaces.

7

How does Designing for Deconstruction fit with your definition of "Sustainability?"

Designing for Deconstruction makes it possible to reuse materials in a more optimal way. It also allows for flexible configurations which may change as the functions of the user changes. This decreases the need for complete renovation or demolition in the future.
I consider it to be a continuation of sustainability. It's taking the concepts further by taking our ego's out of the equation somewhat. Our designs are not meant to last forever!
I would say it is one component of something being sustainable
I feel that it is a sustainable process in that you think about everything that you put into a project because it is later going to be reused and not just demolished.
You could design for deconstruction and sustainably by using materials that are recyclable and could be used again or recycled to be used again for another building and that do not go to the landfill.

8

9. What did you learn about Sustainability in this class that you did not know before?

The alarming amount of waste humans produce, more sustainable construction methods; new materials.
I think my answer to this question is in an earlier answer. It's hard to say what I didn't know before the class, because I think most of what I learned was more of building on information that I knew before, going more into details and learning more facts than an average person would know. For example, when we went to Everwood and Home and Earth (?) -- that a material is considered sustainable if it takes about 5 years or less to mature. Facts like those that are really helpful in deciding what products to use were new information.
The variety of ways to achieve sustainability in design. How much small decisions can have a huge impact.
I mainly learned about different ways to create a sustainable space. I've only heard of sustainable flooring and materials, but never things like sustainable insulation and such.
I learned that Sustainability is less cut and dry than I once thought.

20

Do you think it is possible for an Interior Designer to play a leading role in implementing Designing for Deconstruction on a project where the team consists of an architect, engineer, interior designer, and contractor?

I think we can have a lot of influence on a design team. Since DFD is preparing easier work and demolition projects later, I maybe wrong, but I think it would be somewhat appealing to others. I think in someways it might be easier for us to do because we are designing and making the construction documents, so why couldn't we at least influence the team/project to move toward DFD? We have control over certain aspects of the project, so I say use that power to the best of your abilities.
It only takes one person to pose the concept of D for D to a client, chances are they will endorse the concept.
The interior of a building is often what is changed the most often, so even if the architect/engineer/contractor aren't as interested in DFD, the interior can use its principles. Even if the shell of the building is very permanent, the interior can be designed in a way that is easily changed and can be disassembled easily.
Many architects or engineers may think that interior designers may not have a big part of DfD, but interior designers can lead them in a way so that the space planning of a building can be as flexible as possible, and even main elements in an interior can be disassembled as well, not just the building.

18

A Strategy for Increasing Learning "Flow" in the Classroom

Darla Green and Diana Allison

Johnson County Community College

ABSTRACT

Learning is one of the most personal and emotional activities in which we engage. Adults choose to learn about subjects they are interested in and come to class motivated (Wlodkowski, 2008). What happens to motivation during the semester will depend on the student's understanding of self and the instructor's understanding of student's learning style and strengths.

Students arrive in class with specific processes they perform to create new knowledge (Merriam, Caffarella & Baumgartner, 2007). These processes are defined as learning styles. Students also possess individual talents, which are distinguishable strengths (Rath, 2007). If instructor and student understand these learning styles (how) and strengths (why); the performance of both will increase. If each has no idea how and why a student learns, the classroom experience can be frustrating and meaningless for both.

A strategy using a cognitive learning style inventory in conjunction with a strengths-based evaluation has proven useful in explaining the how and why of learning in our classes. The cognitive assessment, Figure 1: Gregoric Style Delineator™(Gregorc, 2003), provided the instructor and student information about how the student perceives and organizes information. Knowing the "how" of learning can change the approach the instructor takes to convey information to the student. For example, instead of organizing the course information in a linear step-by-step method, the instructor may choose to offer the information in large chunks the student must chisel away.

Understanding the learning style is only the first step to increasing learning "flow". Flow is a theory of experience where "people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, or for the sheer sake of doing it" (Csikszentmihalyi, 1990). The second step to increasing learning flow is discovering why a student learns. To uncover the "why" of learning, our program utilized a strengths-based evaluation tool, Figure 2: Clifton StrengthsFinder 2.0™ (Rath, 2007), which offered instructor and student insight into the student's

most effective behaviors and talents. “People that understand their most effective behaviors and talents are best able to develop strategies to meet and exceed the demands of their daily lives, their careers, and their families” (Rath, 2007).

This strategy of discerning how and why a student learns was applied in four classes over two semesters in 2011. Analyzing the initial information acquired from the Gregoic Style Delineator™ (Gregorc, 2003) and the Clifton StrengthsFinder 2.0™ (Rath, 2007) together has allowed instructors and students in our interior design program to communicate, manage time and work in team situations more effectively. The classroom climate has shown notable improvement as instructor and students understand each other’s perspective. The performance of faculty and students has become a valuable collaboration in which understanding of how and why we learn has fostered learning flow.

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APPENDIX

Figure 1: Gregoric Style Delineator™ (LearningCharacteristicsChart 1 & 2.pdf)
Figure 2: Clifton StrengthsFinder 2.0™ (StrengthsThemeDescription.pdf)

ABSTRACT RANDOM (AR)

Dominant AR learners are able to:

- sense the essence and natures of people, places and things
- read body language, assess emotional states and empathize
- view and relate parts and their relations with the whole
- accept criticism if it is kindly expressed
- create imaginative products through art, music, poetry, prose, film, group work and personal counseling
- see beauty in the darkest of events and in "diamonds in the rough"

Dominant AR learners want teachers to:

- provide schooling activities that promote and honor the subjective, affective and abstract
- be guide-like friends who permit students to talk, work together and learn from one another
- vary ways and means of learning rather than using one or two approaches
- give approval statements in the forms of smiles, "warm" comments, touching on the arm and happy face stickers
- permit mobility in the classroom
- provide colorful, stimulus-rich environments
- express love, respect and caring
- be accessible before and after classes
- offer curricula and techniques that honor them without such activities being viewed as frills

Dominant AR learners dislike:

- dogmatic and strictly logical people and materials
- non-caring, non-spiritual and non-emotional people
- conservative, restrictive and antiseptic environments
- receiving continual criticism, unkind remarks and sarcasm
- having to "stuff" or justify their feelings
- being viewed as "flakey" or "spacey" and incapable of contributing anything substantial

Dominant AR learners fear:

- being unworthy of love, care and material support
- being isolated and socially-rejected
- being unable to measure-up to academic standards
- being dominated by manipulators and perfectionists
- being called crazy and weird because of their vivid imaginations and paranormal abilities

Dominant AR learners prefer the following media:

- brief lectures, television, movies, group discussions and activities, role playing, guided fantasy and reflection time

CONCRETE RANDOM (CR)

Dominant CR learners are able to:

- use insight to skip details and find the "big picture"
- use intuition to uncover lies and deception for protecting themselves and others
- stand independently of others' thoughts, work and deeds to risk being different
- create new ideas, approaches and products
- conform to established rules and procedures if they are personally acceptable
- function well in unstructured, open-ended activities
- thrive in conditions that offer choice, chance, challenge and change

Dominant CR learners want teachers to:

- provide concrete examples and abstract ideas to help launch unconventional thoughts and products
- be open minded and serve both as knowledgeable instructors and guides for their independent work
- establish basic requirements and permit freedom to work and experiment beyond them
- promote and reward their natural curiosity, inventiveness, competitiveness and need to explore
- provide stimulus-rich environments that include interesting people and multiple resources available on-call
- appreciate and respect them and provide accolades
- be ethical, just, genuine, flexible and tolerant
- offer activities that fit their ways of dealing with the ever changing world that they experience

Dominant CR learners dislike:

- prescribed, step-by-step cookbook procedures
- communal teamwork
- details, routine procedures, politically-correct activities and plans that lack excitement
- being reprimanded by people they consider to be incompetent, hypocritical or stuck-in-their-ways
- having their intuitive flashes and insights demeaned

Dominant CR learners fear:

- being mediocre, average and unnoticed
- being unable to "shine"
- being "second" or losing in competition
- being trapped in fixed routines that restrict freedom
- being involved in meaningless activities and relationships
- being governed by restrictive and controlling individuals and groups

Dominant CR learners prefer the following media:

- mini- lectures/discussions, problem solving activities, simulations, strategy and computer games, experiments and independent study

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GREGORC MIND STYLES™
LEARNER CHARACTERISTICS EXTENDA-CHART

Anthony F. Gregorc, Ph.D.

CONCRETE SEQUENTIAL (CS)

Dominant CS learners are able to:

- demonstrate extraordinary development of one or more of the five physical senses
- use photographic memory to remember details
- separate facts, data and activities into categories of right/wrong, black/white
- apply literal meaning to verbal statements
- approach tasks without knowing the "big picture"
- delay gratification until a project is finished
- plan time and activities well
- be patient, prudent and practical

Dominant CS learners want teachers to:

- provide concrete examples and objects, not theories and abstractions. Actual, not contrived or simulated experiences, are preferred
- present information in successively connected parts
- structure the classroom via definite seating, clear-cut objectives and specific test days
- maintain teacher/learner (super/subordinate) roles
- give directions in a step-by-step, detailed order
- offer objective rewards via grades, "good-job" stickers
- give immediate corrections when errors are made
- provide environments with minimal distractions
- be honest, consistent, fair and pleasable
- offer respect, support and protection
- provide curricula that offers down-to-earth and usable information

Dominant CS learners dislike:

- sharing and loaning possessions
- dirty and disorderly physical conditions
- discussing strongly academic, philosophical and emotional self-revealing topics
- broken promises, forgetfulness and surprises
- too many options to choose from
- being "taken for granted" because they follow orders, anticipate problems and do what is expected
- working with or having to cooperate with people who do not take assignments and responsibilities seriously

Dominant CS learners fear:

- expressing themselves inappropriately
- doing things incorrectly
- dealing with major changes, chaos and unknowns
- losing security, status and possessions
- missing the meaning behind inferences, innuendos and emotional expressions
- not being fully prepared for tests or activities

Dominant CS learners prefer the following media:

- worksheets, manuals, kits, computer-assisted instruction, hands-on materials, checklists, charts and field trips

ABSTRACT SEQUENTIAL (AS)

Dominant AS learners are able to:

- see the forest and the trees
- transcend details to see patterns and the "big picture"
- analyze, compare, contrast, evaluate and judge with ease
- remember historical precedents for daily use and future prediction
- research and document information in systematic ways
- identify major thoughts, trends, themes and plots
- use traditional time-proven methods and procedures to hypothesize and problem-solve
- use polysyllabic words with ease

Dominant AS learners want teachers to:

- provide abstractions via ideas, models, theories and concepts
- offer vicarious experiences not direct, hands-on activities
- use techniques which are sequential, substantive, logical, rational and structured
- be subject matter-oriented, masters of the course content and strong classroom disciplinarians
- furnish rewards in the form of excellent grades for achieving high academic standards
- encourage solitary work and personal effort
- provide environments with minimal distractions
- give appreciation and adulation
- be authoritative, objective and intellectually adept
- supply curricula and materials that demand high expectations and quality performance

Dominant AS learners dislike:

- step-by-step, touchy-feely and brainstorming activities
- considering ideas and claims that do not meet AS validity criteria
- sentimental thinking, metaphors, spiritual references and emotional outbursts
- having to tell how they feel rather than what they think about something
- translating and watering down their ideas and language so that others can understand them
- being criticized

Dominant AS learners fear:

- committing to ideas and relationships
- intense emotional involvements
- being unable to substantiate their findings by means acceptable to their peers
- losing the freedom to contemplate ideas and explore questions as deeply as necessary
- being without an audience to listen to their reasoned opinions.
- being viewed as "nerds,""geeks" and "know-it-alls" to the point of exclusion from groups

Dominant AS learners prefer the following media:

- books, lectures, tapes, computers, outlines, syllabi, debates and guided individual study

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Strengths

Brief Theme Descriptions

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Achiever

People who are especially talented in the Achiever theme have a great deal of stamina and work hard. They take great satisfaction from being busy and productive.

Activator

People who are especially talented in the Activator theme can make things happen by turning thoughts into action. They are often impatient.

Adaptability

People who are especially talented in the Adaptability theme prefer to "go with the flow." They tend to be "now" people who take things as they come and discover the future one day at a time.

Analytical

People who are especially talented in the Analytical theme search for reasons and causes. They have the ability to think about all the factors that might affect a situation.

Arranger

People who are especially talented in the Arranger theme can organize, but they also have a flexibility that complements this ability. They like to figure out how all of the pieces and resources can be arranged for maximum productivity.

Belief

People who are especially talented in the Belief theme have certain core values that are unchanging. Out of these values emerges a defined purpose for their life.

Command

People who are especially talented in the Command theme have presence. They can take control of a situation and make decisions.

Communication

People who are especially talented in the Communication theme generally find it easy to put their thoughts into words. They are good conversationalists and presenters.

Competition

People who are especially talented in the Competition theme measure their progress against the performance of others. They strive to win first place and revel in contests.

Connectedness

People who are especially talented in the Connectedness theme have faith in the links between all things. They believe there are few coincidences and that almost every event has a reason.

Consistency

People who are especially talented in the Consistency theme are keenly aware of the need to treat people the same. They try to treat everyone in the world with consistency by setting up clear rules and adhering to them.

Context

People who are especially talented in the Context theme enjoy thinking about the past. They understand the present by researching its history.

Deliberative

People who are especially talented in the Deliberative theme are best described by the serious care they take in making decisions or choices. They anticipate the obstacles.

Developer

People who are especially talented in the Developer theme recognize and cultivate the potential in others. They spot the signs of each small improvement and derive satisfaction from these improvements.

Discipline

People who are especially talented in the Discipline theme enjoy routine and structure. Their world is best described by the order they create.

Empathy

People who are especially talented in the Empathy theme can sense the feelings of other people by imagining themselves in others' lives or others' situations.

Focus

People who are especially talented in the Focus theme can take a direction, follow through, and make the corrections necessary to stay on track. They prioritize, then act.

Futuristic

People who are especially talented in the Futuristic theme are inspired by the future and what could be. They inspire others with their visions of the future.

Harmony

People who are especially talented in the Harmony theme look for consensus. They don't enjoy conflict; rather, they seek areas of agreement.

Ideation

People who are especially talented in the Ideation theme are fascinated by ideas. They are able to find connections between seemingly disparate phenomena.

Includer

People who are especially talented in the Includer theme are accepting of others. They show awareness of those who feel left out, and make an effort to include them.

Individualization

People who are especially talented in the Individualization theme are intrigued with the unique qualities of each person. They have a gift for figuring out how people who are different can work together productively.

Input

People who are especially talented in the Input theme have a craving to know more. Often they like to collect and archive all kinds of information.

Intellection

People who are especially talented in the Intellection theme are characterized by their intellectual activity. They are introspective and appreciate intellectual discussions.

Learner

People who are especially talented in the Learner theme have a great desire to learn and want to continuously improve. In particular, the process of learning, rather than the outcome, excites them.

Maximizer

People who are especially talented in the Maximizer theme focus on strengths as a way to stimulate personal and group excellence. They seek to transform something strong into something superb.

Positivity

People who are especially talented in the Positivity theme have an enthusiasm that is contagious. They are upbeat and can get others excited about what they are going to do.

Relator

People who are especially talented in the Relator theme enjoy close relationships with others. They find deep satisfaction in working hard with friends to achieve a goal.

Responsibility

People who are especially talented in the Responsibility theme take psychological ownership of what they say they will do. They are committed to stable values such as honesty and loyalty.

Restorative

People who are especially talented in the Restorative theme are adept at dealing with problems. They are good at figuring out what is wrong and resolving it.

Self-Assurance

People who are especially talented in the Self-Assurance theme feel confident in their ability to manage their own lives. They possess an inner compass that gives them confidence that their decisions are right.

Significance

People who are especially talented in the Significance theme want to be very important in the eyes of others. They are independent and want to be recognized.

Strategic

People who are especially talented in the Strategic theme create alternative ways to proceed. Faced with any given scenario, they can quickly spot the relevant patterns and issues.

Woo

People who are especially talented in the Woo theme love the challenge of meeting new people and winning them over. They derive satisfaction from breaking the ice and making a connection with another person.

ON DETAILING FOR INTERIOR DESIGN STUDENTS

Peter Greenberg

Wentworth Institute of Technology, Boston MA

ABSTRACT

For Interior Design students in studio classes, the *design detail* constitutes a critical link between the limitations of plan-based thinking and the advantages of designs informed with material reality. While there are many pedagogic goals of a studio project, including resolving functional relationships, sequences, or spatial experiences, the focus of this paper is to explore the role that detailing can play in establishing a student's understanding of material issues in studio work. While an emphasis on detailing necessarily involves some understanding of technical issues (Melet 7, Ford, 7), it is the expressive content that makes it most significant for the student's development. When the student learns to demystify how materials go together, a door is opened to the creative possibilities of their designs.

The problem being addressed by the paper is that the student who proposes final designs without consideration of issues of material and assembly at a small scale is skipping a critical step. Some students design their studio projects by creating digital models where material decisions are based on planes of textures and patterns from CAD libraries instead of being based on an understanding of how materials are assembled in reality. The paper cites studio work of our students as evidence that the *design detail* can be the key pedagogic method to address this problem (Fig.1).

There are several pedagogic presumptions embedded in this method. Emphasizing detailing in studio presumes that the student is interested in making *buildable* space. This presumption assumes that good design results from an understanding of what something is made of and how it is put together (Gregotti 497). A further presumption is that the convention of the detail is versatile enough for different levels of articulation – from understated to very expressive. Additionally, the academic exercise allows for contradictory interpretations of what exactly the detail is for. Among these interpretations are: a means for

expressing abstraction or figuration (Ford, 30-41), a celebration of intersections and edges (Frampton 299), a way to ensure a minimal design vocabulary, a method for maintaining design consistency (Ford, 7), or a condensation of the design idea itself (Melet 7).

Our conclusion is that the detail can serve to instigate and unify the character of a scheme, a role traditionally held by the ordering device of the *parti* (Frascari 23, Frampton 307). In the examples that are presented, Junior students are asked to design a small-scale element in a residential space directly after initial planning decisions have been set (Fig. 2). In this assignment, students are encouraged to make specific material decisions that might establish a character for the entire space. Student outcomes demonstrate that these small-scale designs serve as generators for other details and for a conception of the whole derived from decisions made about the part (Figs. 3 - 5).

The *design detail* engages the student of Interior Design in the specificity of designs based on an understanding of materials and how they are assembled. Absent an understanding of issues of material assembly, best explored in the convention of the detail, the student's understanding of the material reality of their designs is literally superficial, incomplete and unsatisfactorily decorative.

REFERENCE LIST (MLA Style)

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APPENDIX

Figure 1: Student Details (OnDetailing-Figure1.pdf)

Figure 2: Problem Statement for Junior Studio: the Staircase Detail (OnDetailing-Figure2.pdf)

Figure 3: The Stair Detail (OnDetailing-Figure3.pdf)

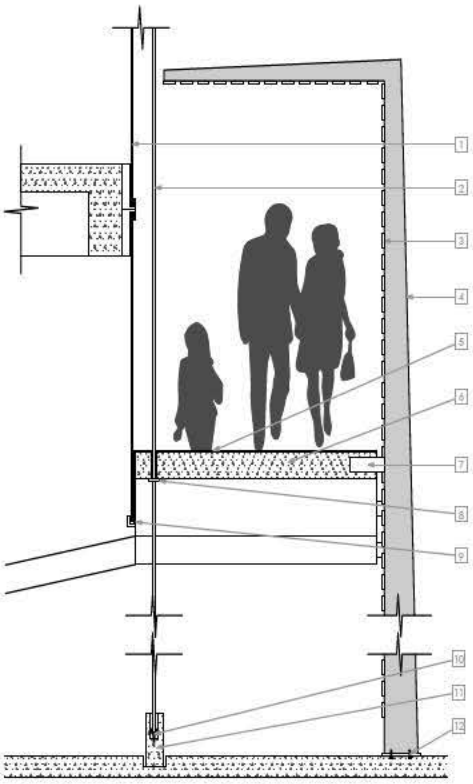
Figure 4: The Stair Detail (OnDetailing-Figure4.pdf)

Figure 5: The Detail (OnDetailing-Figure5.pdf)

ON DETAILING FOR INTERIORS STUDENTS: *APPENDIX*

Figure 1: Student Details

The perspective drawn after the *detail* is designed: Student understands material reality



1 - 1/2" frosted tempered glass
2 - 1" diameter steel cables
3 - 1" x 4" wood panels
4 - 1'-2" x 2" tapered steel structure
5 - 1/2" polyurethane top coat
6 - poured concrete
7 - embedded steel support welded to steel structure
8 - stainless steel stopper
9 - stainless steel end cap and glass support holder
10 - steel cable pin embedded in concrete
11 - concrete block weight
12 - steel pins tying down steel structure

The perspective drawn without the *detail* to inform it: conceptual, gestural, schematic with respect to material reality

Figure 2: Problem Statement for Junior Studio: the Staircase Detail

DETAIL STUDY: *The Staircase Detail*

In the first phases of design, you addressed issues of planning and program and site; you have begun to address the *character* of the space through spatial and sequential relationships as well as early material choices. Now you will turn your focus to the design of a detailed component in your project. The detailed design of an individual component can help determine the material *quality* of a project. How it is detailed will help determine the very essence of *what it is to be in your space* – how expressive are the material contrasts, how exposed are the structural components, how articulate are the parts, how integrated or separated from other design components, among other important considerations. In many ways, this detail concept can be just as important to the experience of the space as a *partis*.

In your space, one of the most important individual design components is your vertical circulation, your staircase. You will be asked to set aside the conception of the whole for a short time so that you may look very carefully at something specific. What is the overall geometry? What are the material assemblies? How does it support itself? What are the exact relationships between riser and tread? How does the handrail work? How does the handrail on the stair make a transition to any possible balcony? How does it meet the floor? To walk up the stairway, is it an experience integrated with the rest of the design of the loft or is it a unique experience?

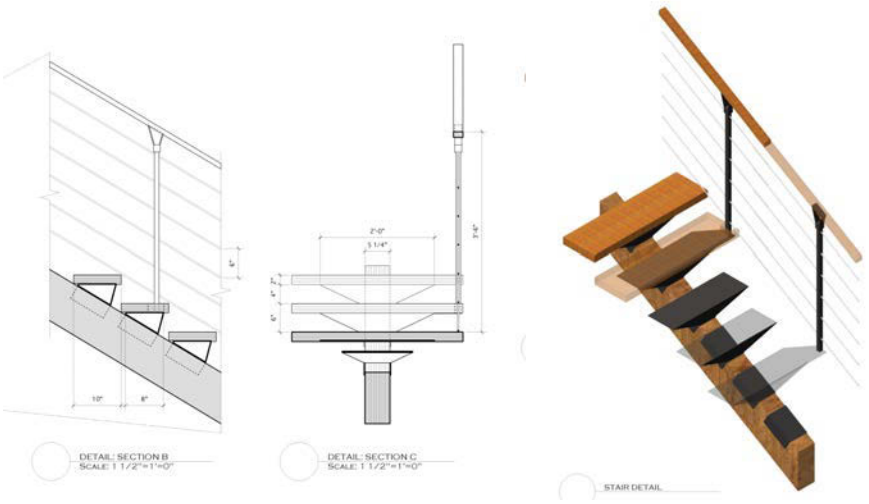
As you consider material decisions, make sure you consider the appropriate budgetary, social and environmental consequences of your choices. Remember the community where this unit is located and what kind of family would elect to live here. Use what we have learned in the research phases of this project – precedent, sustainability and site studies.

You will present your design for a stair next Friday October 29 in a formal Review. You will prepare Presentation Boards that represent the stairway in the context of the rest of your design. Take the graphics of the presentation seriously as a design exercise – be professional, concise, clear, creative, neat. As with all presentations, digital copies (editable pdfs) are due within 24 hours of the presentation.

Minimum Requirements:
Overall Plan of Stairs at ¾" =1'-0"
Overall Section(s) ¾"=1'-0"
Section Details at 1 ½"=1'-0"
Floor plan at ¼" = 1'-0" showing the location of the stair in the unit
An axonometric or perspective that represents the whole assembly, including handrails

Details must show:
Tread and Riser relationship and assembly
Handrail assembly at upper landing
Handrail assembly at typical stair condition
Reasonable structural solution

Figure 3: The Stair Detail



The exercise of the design detail, issued directly after initial planning suggests to the student a specific character for their design.

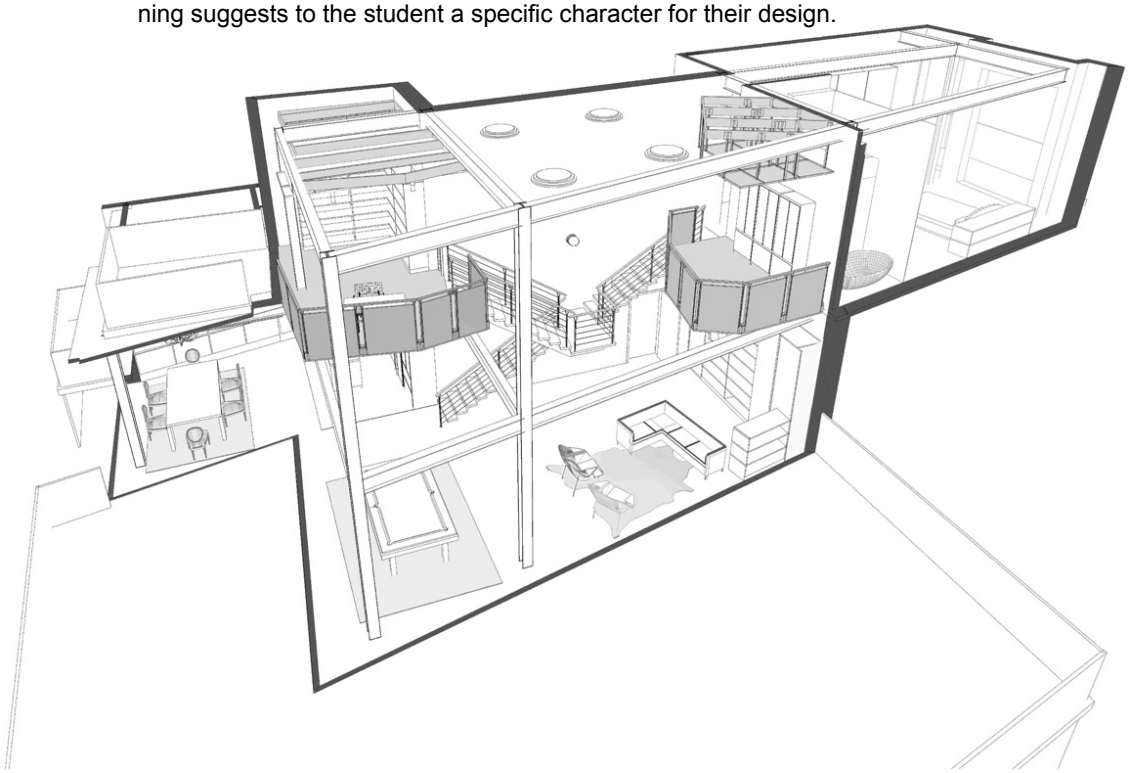
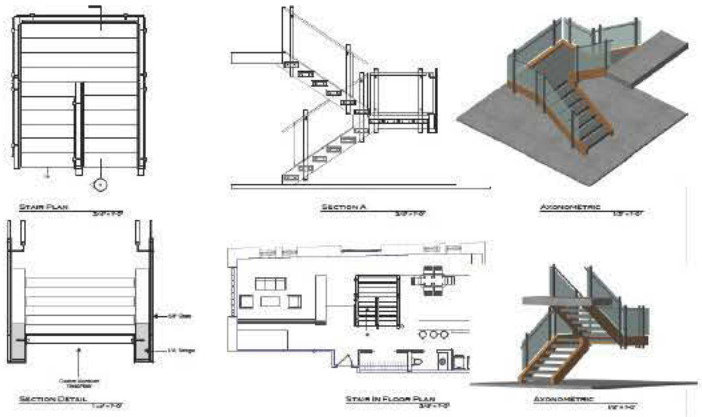
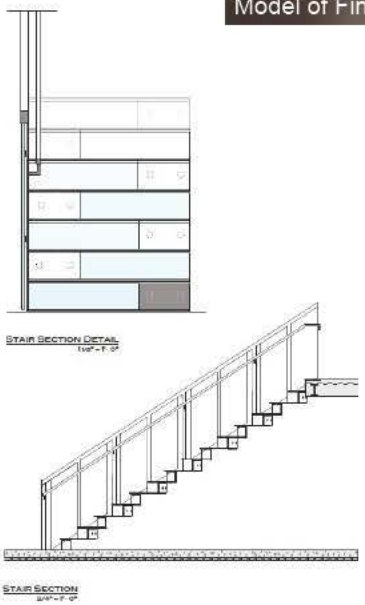


Figure 4: The Stair Detail



The exercise of detailing the stair helped to define the material character of the final design.



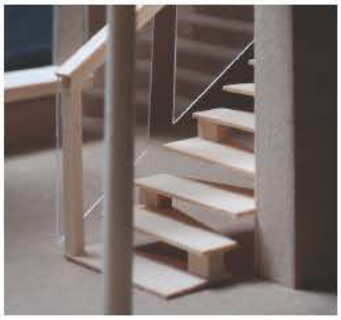
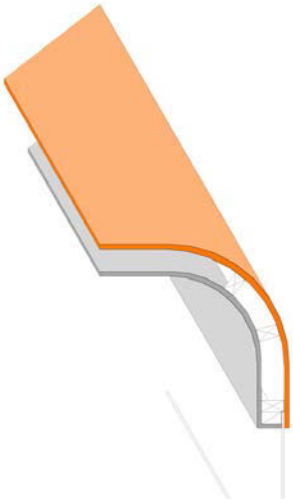
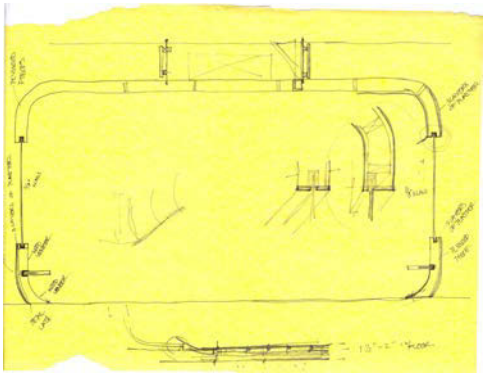
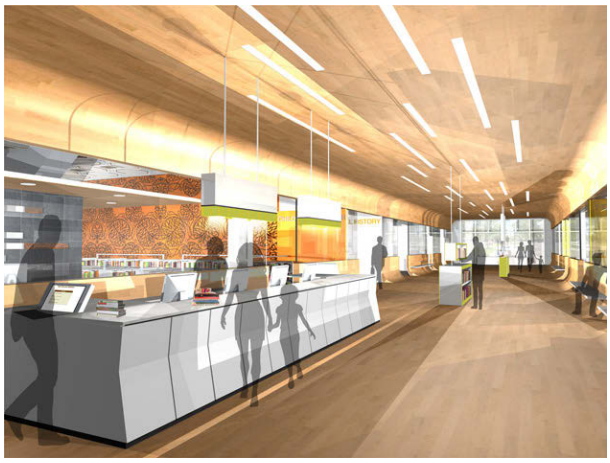


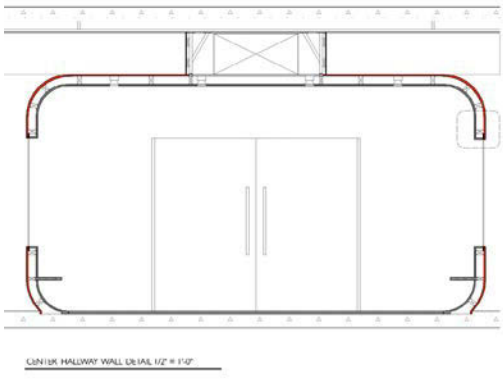
Figure 5: The Detail



The *detail* allows a discussion between faculty and student about issues of material assembly and spatial character.







Mock Firms: Integrating Practice into Process Inside and Outside the Studio

Travis L. Hicks + Stoel Burrowes

University of North Carolina at Greensboro

ABSTRACT

Integrated design, or including multiple design disciplines in the design process simultaneously, is a practice model that many design students will experience in professional practice. The role of design is integral to practice; however, the roles of other disciplines, such as landscape architecture, architecture, and engineering should be understood in the context of interior design.

Pedagogical Problem:

How can design education equip students to excel in interior design while introducing broader concepts of practice through an integrated design process?

Theory:

The approach presented in this teaching forum is informed by the work of Tom Kelley, who promotes innovation and creativity in business with innovative team-building strategies (Kelley). Additionally, the theoretical framework is underpinned by the research of Jerry Yudelson, who notes that “there appears to be a trend among a few firms to bring the key building designers all under one roof: architects and interior designers, structural and mechanical engineers, and landscape architects” (Yudelson, 66). There are clear relationships between different professional disciplines operating at different scales.

Method:

Encouraging students to explore these interrelationships, two faculty members led third and fourth year interior design students through a semester-long collaborative design process that demanded that students collaborate inside the design studio, outside the studio, and off-campus. Each of these levels of collaboration gave students the opportunity to hone an integrated design process.

Inside the studio, third year design students were organized around four teams to generate designs for a skyscraper in Stockholm, Sweden, based on precedent analysis, cultural analysis, and workplace analysis. Outside the studio, fourth year students collaborated with third year students through their Professional Practices course.

Fourth year students were divided evenly around each of the four design teams. Each of the resulting larger teams assumed the structure and personality of a professional design firm, complete with firm name, logo, marketing materials and videos, and organizational charts. These mock firms met regularly, struggled with the same issues that “real world” design firms tackle, and arrived at design decisions collectively.
Given that disciplines such as architecture and engineering are not represented on campus, our interior design students traveled off-campus to a school of architecture to engage in a design charrette with students and faculty. The semester culminated in a trip to Chicago where students presented their final work to a panel of design professionals.

Outcomes:

Teams were able to resolve a complex program, site, and interior design; however, teams were stressed

by personality and scheduling conflicts. The vertical integration gave a balanced perspective of design and practice to students; however, the size of teams proved challenging for team principals to manage. Architecture students provided insight into site design, building architecture, and structural design, while the interior design students offered skills in teamwork and collaboration rarely seen in the school of architecture. Ultimately, each team was successful in presenting a clear concept, schematic design, and business plan. Two teams were successful in earning awards for both practice and process.

REFERENCES (MLA)

Kelley, Tom, with Jonathan Littman, The Art of Innovation. Doubleday (2001).

Kelley, Tom, with Jonathan Littman, The Ten Faces of Innovation. Doubleday (2005).

Yudelson, Jerry. Green Building Through Integrated Design. The McGraw-Hill Companies, Inc. (2009).

APPENDIX

Figure 1: Syllabus Handout (Hicks-Burrowes-Syllabus.pdf)

Figure 2: Assignment Handout (Hicks-Burrowes-Assignment2.pdf)

Figure 3: Assignment Handout (Hicks-Burrowes-Assignment3.pdf)

Figure 4: Assignment Handout (Hicks-Burrowes-Assignment4.pdf)

Figure 5: Assignment Handout (Hicks-Burrowes-Assignment5.pdf)

Travis Hicks, Assistant Professor UNCG
IAR 302 - **interior architecture ii** - Spring2011

ASSIGNMENT 2.0 - RESEARCH + ANALYSIS

The ability to gather information and research a particular problem is critical to any designer's ability to design. This semester you have been asked to think about a number of questions for the first time. How does one design a skyscraper? How does one place a building in an existing urban context? How does the way we work affect the spaces we design for that work? How does one design for a completely different culture and geographical location? In order to begin answering these and other critical questions, students shall embark on research and analysis within the following categories (precedents to be selected by students, approved by instructor):

- **skyscraper design - rules of thumb**
- **skyscraper precedents, 1/student**
- **workplace design- trends**
- **workplace design - precedents, 1/student**
- **stockholm, sweden - contextual analysis**
- **sweden - environmental analysis**

VISUAL COMMUNICATION TECHNIQUES:
Through a synthetic analytical process, students will continue to hone skills in diagramming, combining text and image, building analytical models, and digitally printing. Each student shall communicate her/his analyses through the following digitallly-printed documents (8.5x11) and built models for the final review scheduled for January 31.

- **source material for each precedent, i.e. plans, sections, photographs.**
- **precedent diagrams, i.e. form to site, hierarchy, structure to enclosure, light to form, function to circulation**
- **scale models, one for each of your precedent diagrams**
- **urban diagrams, photographs, maps, etc., to convey analysis of Stockholm, Sweden.**
- **environmental diagrams, i.e. solar diagrams, wind diagrams, water diagrams.**
- **workplace design diagrams, photographs, and plans.**

All work shall be pinned up and ready for review at the beginning of class on Jan. 31 in Room 401.

from S,M,L,XL by OMA, Rem Koolhaas, and Bruce Mau

Travis Hicks, Assistant Professor UNCG
IAR 451 - **professional practice in interior architecture** - Spring2011

ASSIGNMENT 3.0 - GROUP MARKETING PACKAGE

Handed Out: Thursday, February 3, 2011
Due: Thursday, April 7, 2011 - 2:00pm

Just as personal marketing materials give you the ability to sell yourself to potential employers, firm-oriented marketing materials give a firm the ability to seek more work and appeal to new clients or markets. As this course shifts focus from the individual to the business of professional practice, students will be expected to generate a consistent marketing package for their mock firms. Students should refer to competition guidelines for information regarding minimum competition requirements; however, the requirements of this assignment exceed the minimum competition requirements. Lectures will shed light onto the marketing materials that might be new to students, and students should explore other sources of inspiration, such as the Society for Marketing Professional Services.*

requirements:
Working in groups defined by the mock firms' organization, students shall generate the following documents:

- **firm "branding" document, including logo and 2D graphic templates**
- **business cards for mock firm partners**
- **brochure describing firm philosophy, experience, leadership, etc.**
- **organizational chart plus single-page biographies for each team leader and supporting groups**
- **firm summary document, per competition guidelines**
- **business plan for mock firm**
- **Youtube video per competition guidelines**
- **Meeting minutes from firm's weekly meetings, to follow graphic templates + branding standards**

Students are expected to establish and maintain a graphic design vocabulary consistent with work generated by IAR302 students. In return, IAR302 students are expected to work with IAR451 students in a collaborative manner.

Assessment will be based on quality, effort, consistency, image, and message.

* See: http://www.smps.org/AM/Template.cfm?Section=Marketing_Communications_Awards&Template=/CM/ContentDisplay.cfm&ContentID=4282

Travis Hicks, Assistant Professor UNCG
IAR 302 - **interior architecture ii** - Spring2011

ASSIGNMENT 4.0 - SPACE PLANNING

Handed Out: Friday, March 4, 2011
Due: Monday, March 28, 2011

While assignment 3.0 required that you considered the design of the building from the outside-in, assignment 4.0 balances this approach by requiring that you generate designs that will impact the scheme from the inside-out. While assignment 4.0 is an individual project, each team member shall continue to develop the scheme generated by the group work from assignment 3.0. Students shall adhere to the general building and site design from the previous assignment; however, discoveries made through the planning of interior spaces should hone and refine the building and site designs. Additionally, assignment 4.0 should be considered a test fit for workplace interiors within the building envelope developed in assignment 3.0.

To complete assignment 4.0, each student shall develop space plans for three different spaces in their buildings. Spaces can consist of one, two, or three levels in the buildings. One space should include a level that touches the ground. One space shall include a level that meets the sky. And one space shall be located at or near a mid-level in the building. At least one of these spaces shall be a workplace. In completing space plans for these three spaces, students shall consider the following aspects of their work:

- **program/function of space**
- **formal/spatial strategy**
- **lighting, natural + artificial**
- **response to core, structure, enclosure**
- **views from interior spaces to outside world**
- **circulation through spaces, including egress**

Requirements
The following shall be pinned up and ready to be presented at 1:00PM, Monday, March 28, STAC 401:

- **workplace research**
- **floor plans, w/ color and tone**
- **material specs, incl. light fixtures**
- **rendered perspectives, 2 of each space (6 total)**
- **process sketches and models**
- **diagrams of primary + secondary concepts**

Durham County Courthouse © O'Brien/Atkins Associates

Travis Hicks, Assistant Professor UNCG
IAR 302 - **interior architecture ii** - Spring2011

ASSIGNMENT 5.0 - DETAILED DESIGN

Handed Out: Monday, March 28, 2011
Due: Tuesday, April 26, 2011

Assignment 5.0 marks the culmination of your efforts over the course of the semester. In order to complete the requirements of the "2011 Mock Firms Competition," students shall work within the structure of their mock firm teams. Students are expected to complete the requirements of the competition such that the products of assignment 5.0 are suitable for final presentation in Chicago on May 6, 2011.

To complete assignment 5.0, students are expected to work in teams to generate the following materials:

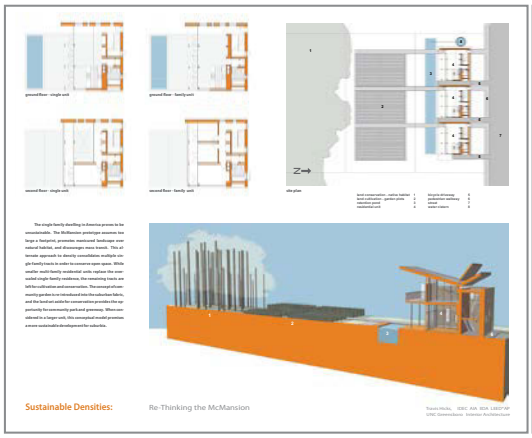
- **up to (3) presentation boards**
- **scale model of building + context**
- **research books/binders**
- **CAD dwgs. incl. site, floor plans, perspectives, + section**
- **coordination of marketing materials + table presentation**
- **process books/binders**

Teams are encouraged to consider additional materials or content to make their presentations stand out.

Grading Criteria

The following attributes of your work will be considered for grading purposes (taken from Mock Firms guidelines):

- **Architecture - overall aesthetic, context, combination of materials used, design as a whole**
- **Engineering - its buildability, strength + logic of building systems, degree of complexity**
- **Construction - how well the model is put together, level of detail**
- **Sustainability - demonstrates a good knowledge and understanding of sustainable design**
- **Marketing - logo, video, cards, signs, brochures, presentation [joint effort with IAR451 students]**
- **Organization - jobs assigned, structure, total participants [joint effort with IAR451 students]**



University of North Carolina at Greensboro IAR 302 – Interior Architecture II, Spring 2011 MWF 13:00-15:55 STAC306
Travis Hicks, Assistant Professor, 110 Gatewood tlhicks@uncg.edu o-256.0306 office hrs: **Thurs. 9:00-11:00am** or by appt.

photo by Lars Tunbjork from ***On the Job: Design and the American Office***

introduction

For the Spring 2011 semester, third year IARc students will compete in a student design competition entitled **"2011 Mock Firms International Skyscraper Challenge."** Sponsored by Chicago Architecture Today, this year's mock firm competition is centered around "Architecture That Works," which complements our focus on commercial design for this semester. Students are to refer to the competition website, **http://www.chicagoarchitecturetoday.com/contests3.htm** for more information about the project parameters. In summary, the design competition calls for students to operate in teams that are formed to replicate aspects of "real" design firms. Design students will be asked not only to think about aspects of the design problem, such as sustainability, urbanism, globalization, or workplace strategies, but also to consider questions of professional practice, team values, goals, etc. The design problem is that of a skyscraper to be located in Stockholm, Sweden, and the particular focus or IAR302 will be that of workplace design within a global context. While the studio - and competition - will require students to consider site design and building design, our emphasis at UNCG will be on detailed interior architecture.

third and fourth year learning community

This section of IAR 302 will support a synergetic learning community of IAR302 and IAR451 - Professional Practice. To this end, there will be two teams, or firms, for this section of IAR302. Each of the teams will consist of approximately 7-10 students from IAR302 plus 8-10 students from IAR451. While IAR302 students will focus energy on research, analysis, and design development of the skyscraper, students in IAR451 will spend energy developing the marketing materials and documents required by the competition. To fulfill competition requirements, each team shall identify five "principals" of the firm. Three of these principals shall come from IAR302 students; two shall come from IAR451 students. These principals will have the opportunity to make a final presentation of the team's work in Chicago.

format

IAR302 is a studio-based course that centers around collaboration in the conceptual and definitive aspects of the design process. Students will look to a broad range of built precedents and visual precedents to hone their skills of analysis, interpretation, and generation of ideas. Built precedents will be drawn from students' research into workplace design and skyscraper design, and visual precedents will be drawn from online sources as well as from books, magazines, photography, graphic design, and other visual media. The studio format will center around group discussions and pin-ups; however, personal desk crits will be available periodically in order to provide more personal feedback and discussion. **The cumulative efforts of the studio will result in a final presentation, including an optional presentation in Chicago on May 6.**

This studio will often leverage the power of collaboration and team work. Students will at times work in teams and will hone their skills through group charrettes to jump start their work or to advance the group's effort at critical junctures throughout the semester. **Assignments that require collaboration are noted under "Assignments" below. Although collaboration will be part of the studio culture, all assignments are to be completed in accordance with UNCG's Academic Integrity Policy.**

A Triad of Sociocultural Sustainability of Interior Design: Context, Content, and Meaning

Jain Kwon, PhD

ABSTRACT

As part of its endeavor for the public's health, safety, and welfare, the interior design profession has increasingly promoted educators' and practitioners' commitment to sustainable design. Sustainability has been discussed and studied in relation to the context of economic, social, and environmental or ecological resources (Figure 1) (Rodriguez, Roman, Sturhahn, & Terry, 2002, p. 8; Jones, 2008). Despite the fact the social system is one of the main entities, its sociocultural aspects have often been neglected in the discussion of sustainable design. Mainly focusing on the environmental impacts and footprints of building process and products, sustainable design guidelines have not sufficiently included sociocultural aspects. Since such aspects best reflect the ethics, responsibilities, and endeavors of interior design professionals, it is crucial for interior design educators to beware of the lacking aspects in the current approaches to sustainable design, reconsider the value of sociocultural sustainability, and provide students with comprehensive guidelines.

Proposal. This paper proposes 'a triad of sociocultural sustainability: design context, content, and meaning' (Figure 2) and introduces how the triad can be applied in interior design courses to supply the existing sustainable design guidelines. In this triad, *context* refers to the sociocultural circumstances and conditions that affect design process, outcomes, and occupants; *content* can be defined as a compound of occupants' characteristics, activities, lifestyle, and backgrounds (Kwon, 2011). *Meaning* of interior environments is based on the occupants' perception, interpretation, and social interaction within cultural boundaries or circumstances (Kwon, 2010). This framework and its concepts have been taught in undergraduate and graduate interior design studios where students conduct sustainable design using local buildings. As students are required to conduct evidence-based design in consideration of sustainability, the triad of sociocultural sustainability--context, content, and meaning--is first introduced in the pre-design research phase to help students better understand the comprehensive nature and value of sustainability. This introduction is followed by a class discussion about the relationship between the triad

and the research criteria required in the studio project. In the design process, *context* is first approached through research. Students are guided to understand the site, identify their target occupant groups, and conduct research on sociocultural factors such as demographics, social conditions, and cultural characteristics. Based on their research findings, students analyze and determine the *contents* that are the sociocultural identities of the occupants and types of their activities anticipated in the designed setting. *Meaning* is approached as a synthesis of context and content. Students interpret their findings of research and occupant analysis and propose design solutions that represent the occupants' identities within the sociocultural context. Figure 3 is an examplary outcome of a student's project.

Discussion. Students seem to better understand the course contents when a clear framework is introduced in the early phase of the coursework. Especially, when it comes to less tangible factors like sociocultural aspects, students experience difficulties in understanding how to apply those factors in their design process. The proposed triad of sociocultural sustainability can be adopted in interior design courses at various levels.

REFERENCES (APA)

Jones, L. (2008). Global sustainability: The macro perspective. In L. Jones (ed.) (2008). *Environmentally responsible design: Green and sustainable design for interior designers.* Hoboken, NJ: John Wiley & Sons. pp. 3-39.

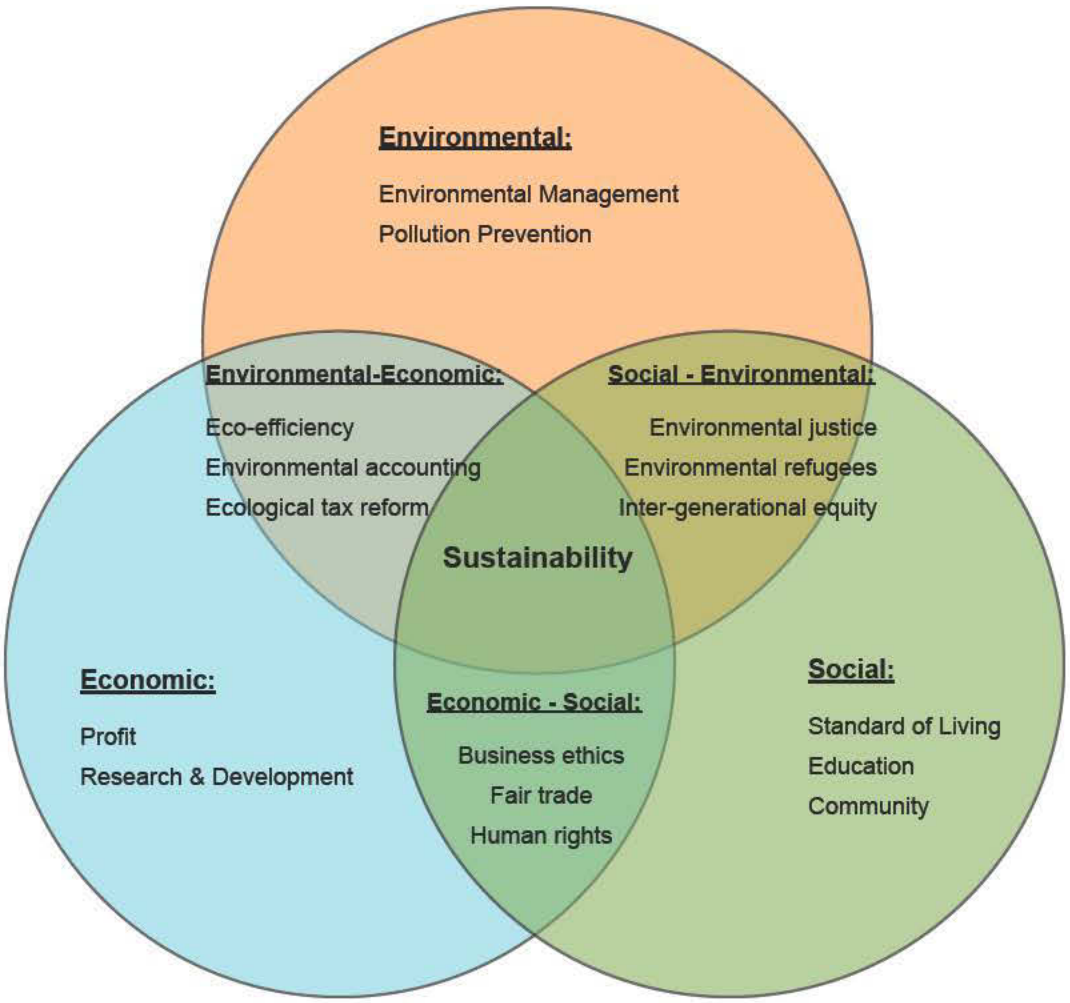
Kwon, J. (2011). Glocalization. In *A language for space design*. Seoul, Korea: Samiheon. pp. 209-222.

Kwon, J. (2010). Cultural meaning of healthcare environments: A symbolic interaction approach. Doctoral dissertation. St. Paul, MN: University of Minnesota.

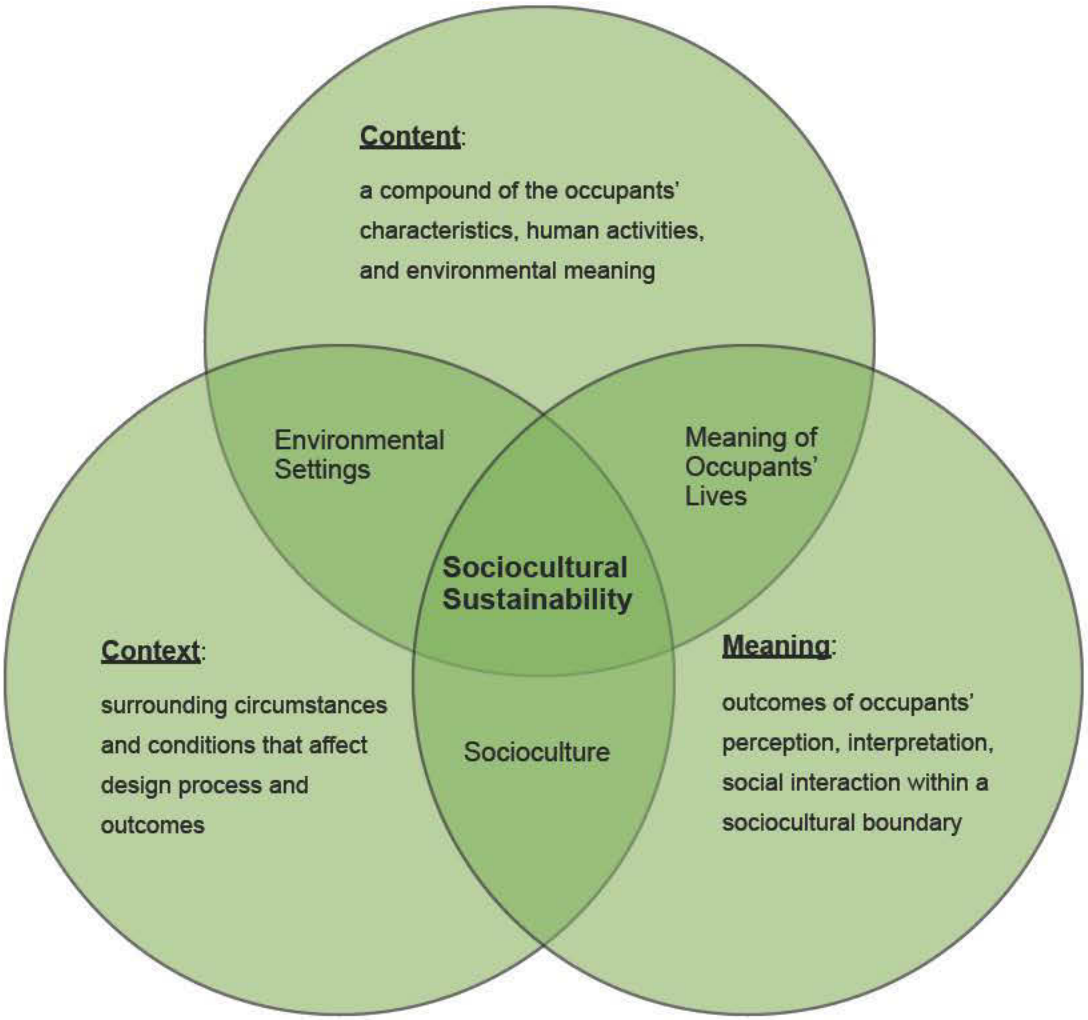
Rodriguez, S. I., Roman, M. S., Sturhahn, S. C., & Terry, E. H. (2002). *Sustainability Assessment and Reporting for the University of Michigan's Ann Arbor Campus.* Ann Arbor, MI: Center for Sustainable Systems, University of Michigan.

APPENDIX

Figure 1: Three Spheres of Sustainability (Speres_Diagram.pdf)
Figure 2: A triad of sociocultural sustainability (Triad_Diagram. pdf)
Figure 3: Student project example (Erin E. Dora, SCAD) (Student Project.pdf)


Environmental:
Environmental Management
Pollution Prevention
Environmental-Economic:
Eco-efficiency
Environmental accounting
Ecological tax reform
Social - Environmental:
Environmental justice
Environmental refugees
Inter-generational equity
Sustainability
Economic:
Profit
Research & Development
Economic - Social:
Business ethics
Fair trade
Human rights
Social:
Standard of Living
Education
Community

CONCEPT: THE ARTIST
SEMIOTIC DESIGN APPROACH: SIGN = SIGNIFIER + SIGNIFIED
(SPACE WITH CONTENT = VISUAL PRESENTATION OF DESIGN + CLIENT'S LIFESTYLE)
INSPIRATION
SOCIAL AND NATURAL INTEGRATION OF CONTEXTUAL SETTING
EXISTING EXPOSED BRICK
STAINLESS STEEL
RECLAIMED ANTIQUE OAK
UNFINISHED WOOD
LITRACON
LITRACON
ALGUE
INTEGRATION THROUGH MATERIALS:
KITCHEN PERSPECTIVE
LIVING AREA PERSPECTIVE
STUDIO PERSPECTIVE
FRAMEWORK PERSPECTIVE
SUN LACING
ALGUE
BATHROOMS
LIVING AREA
STUDIO


Content:
a compound of the occupants' characteristics, human activities, and environmental meaning
Environmental Settings
Meaning of Occupants' Lives
Sociocultural Sustainability
Context:
surrounding circumstances and conditions that affect design process and outcomes
Socioculture
Meaning:
outcomes of occupants' perception, interpretation, social interaction within a sociocultural boundary

Connecting the Dots of Theory and Practice in Assessment

Thelma Lazo-Flores, PhD

Ball State University

ABSTRACT

In the interior design discipline, we generate multiple projects manifesting diverse learning outcomes that are measured through summative and formative assessments. Summative assessment is indicated in exams, diagnostic tests and progress design reviews; while formative assessment is presented in coursework, feedback and critiques, assignments and visual-based outcomes that are reviewed with rubrics and criteria oftentimes called sub-assessments. The visual works are equated as evidence-based research showcasing visual and textual information, programming document, business plans, design process journal, traditional or digital drawings, material schedules, etc. (See Figure 1).

This study is a five-year longitudinal inquiry since fall 2007 on several formats of assessments explored in multiple lecture and studio-based courses. The objectives of the study are woven into four threads of inquiry which cover the provision of requirements in a given coursework and its underlying implications and issues; the establishment of rubrics that evaluate the breadth of skills and the depth of understanding developed by students, the identification of various formats of assessment that support the progressive improvement in content-process learning, and the contextual evaluations of validity, reliability, practicality (Cox 2006, 87) and accountability of assessment procedures.

The analysis and synthesis of this study relied heavily on four strategic approaches: the review of published literature and articles on assessments that foreground standards and challenges therein; the evaluative comparison of documented assessment sheets developed by the author from 2007 to 2011 for several design courses (Figures 2 and 4); the contextual clustering of results into practices with academic value; and the examination of patterns and relationships in given frameworks that pinpoint the validity, reliability, practicality of assessment methods and the accountability of faculty.

Some initial findings derived from this research are: One, each course in the design discipline should explore the balanced use of summative and formative assessment procedures as such practice results

into a better content-process learning. Two, multiple assessment structures like the use of norm-referenced and criterion-referenced should be applied to provide new dimensions in assessing the quality of learning. The former compares students' depth of learning and skills leading to a standard, while the latter sets standards prior to examination (Cox 1996, 86). Both results are deemed essential in evaluating course sequences and patterns in the progressive acquisition of knowledge. Three, the use of rubrics for self-assessment and peer-review assessment compliments the intentions posed by feedback and critique. The procedure also makes

students conscientiously reflect on their mistakes and even develop them to become field learners as opposed to just surface learners (National Research Council,

2000). in the project assessment sheets gathered for this study, most numerical results from student self-evaluations and peer-reviews closely reflect the faculty's marks. These collected sheets also articulate that students' familiarity with the use of rubrics or criteria present the parallel reliability of results.

The findings of the study are considered highly significant in curriculum planning, compliance with accreditation standards, and strongly support the quality assurance and audit reviews of programs for external financial funding, national rankings and future university partnerships.

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Cox, B. (2006). Practical pointers for university teachers. London, Great Britain: Kogan Page.

Fink, L. D. (2003). Creating significant learning experiences. New York: John Wiley and Sons, Inc.

National Research Council (2000). How people learn: Brain, mind, experience and school. Washington, D.C.: National Academy Press

Ouellett, M. L. (2005). Teaching inclusively: Resources for course, department and institutional change in higher education. Oklahoma, USA: New Forums Press, Inc.

APPENDIX

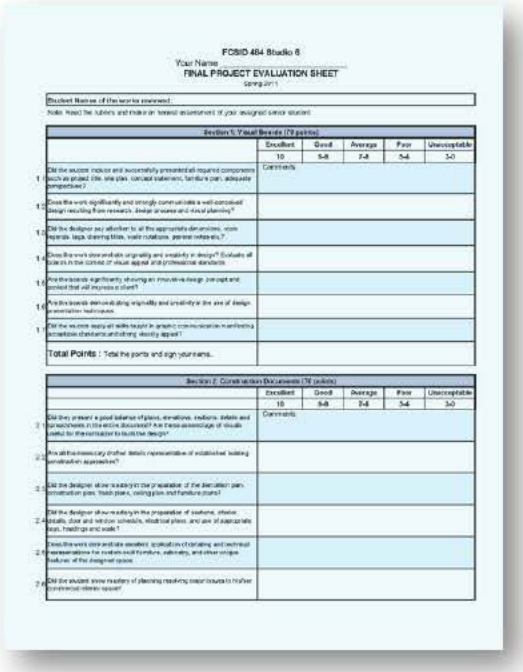
Figure 1: Images of students from various design courses engaged in a review process or peer-evaluation of completed projects. From an analysis of documented reviews since spring 2008, students who are engaged earlier in the evaluative process of their peers' projects significantly result into making them more conscious of design details and specific requirements. (image_students.jpg)

Figure 2: Final Project Evaluation Sheet in Studio 6 (484.2011_table.pdf)
This evaluation sheet is used both by instructors and students to assess the senior level final projects. Junior students are sometimes tasked to use the sheet to review the seniors' capstone project where the former could potentially learn many pertinent details on the design documentation process. The results are also shared with seniors who are as equally motivated to learn details and recommendations that will further enhance their works.

Figure 3: Design Project Rubric Sheet Example. The evaluation sheet is both used by faculty and students for lecture-based and project-based outcomes such as Professional Practices in Interior Design, and Studio courses. (400.2010_table.pdf)

Figure 4: (a) Faculty Evaluation Sheet for Color and Light in Interior Design. The filled-up evaluation sheet shows the spectrum of strengths and weaknesses in a project. The extensive review of group projects by the instructor result into more positive experiences than negative (314.2007_table.pdf)
(b): A diagram showing relatively parallel results in peer-reviews conducted by students and the faculty evaluation of works. This typical result of commonalities in observations will likely be generated when students are introduced to the assessment process early. The diagram reflects junior studio design projects completed in spring 2010. (Comparative diagram)

Figure 5: Project Evaluation Sheet Example for Design Fundamentals Class. Student groups transition from novice to expert evaluators as they review the works of their peers. (110.2011_table.pdf)



FCSID 464 Studio 6

Your Name

FINAL PROJECT EVALUATION SHEET

Spring 2011

Student Name of the work reviewed:

Note: Read the rubrics and make an honest assessment of your assigned senior student

Section 1: Visual Boards (70 points)					
	Excellent	Good	Average	Poor	Unacceptable
	10	9-8	7-6	5-4	3-0
1.1 Did the student mature and successfully presented all required components such as project title, site plan, concept statement, furniture plan, adequate perspectives?	Comments:				
1.2 Does the work significantly and strongly communicate a well-conceived design resulting from research, design process and visual planning?					
1.3 Did the designer pay attention to all the appropriate dimensions, room legends, tags, planning titles, scale notations, personal initials etc.?					
1.4 Does the work demonstrate originality and creativity in design? Evaluate all colors in the context of visual appeal and professional standards.					
1.5 Are the boards significantly showing an innovative design concept and context that will impress a client?					
1.6 Are the boards demonstrating originality and creativity in the use of design presentation techniques.					
1.7 Did the student apply all skills taught in graphic communication manifesting acceptable standards and strong visually appeal?					
Total Points : Total the points and sign your name.					

Section 2: Construction Documents (70 points)					
	Excellent	Good	Average	Poor	Unacceptable
	10	9-8	7-6	5-4	3-0
2.1 Did they present a good balance of plans, elevations, sections, details and key elements in the entire document? Are these drawings of visuals useful for the contractor to build the design?	Comments:				
2.2 Are all the necessary drafted details representative of established building construction approaches?					
2.3 Did the designer show mastery in the preparation of the demolition plan, construction plan, finish plans, ceiling plan and furniture plans?					
2.4 Did the designer show mastery in the preparation of sections, interior details, door and window schedule, electrical plans, and use of appropriate keys, headings and scale?					
2.5 Does the work demonstrate excellent application of drafting and technical representations for custom-built furniture, cabinetry, and other unique features of the designed space.					
2.6 Did the student show mastery of planning resolving major issues to his/her commercial interior space?					
2.7 Does the work demonstrate excellent execution of all necessary drawings and documentations that are by standards the output of a senior student.					
Total Points: Total the points and sign your name.					

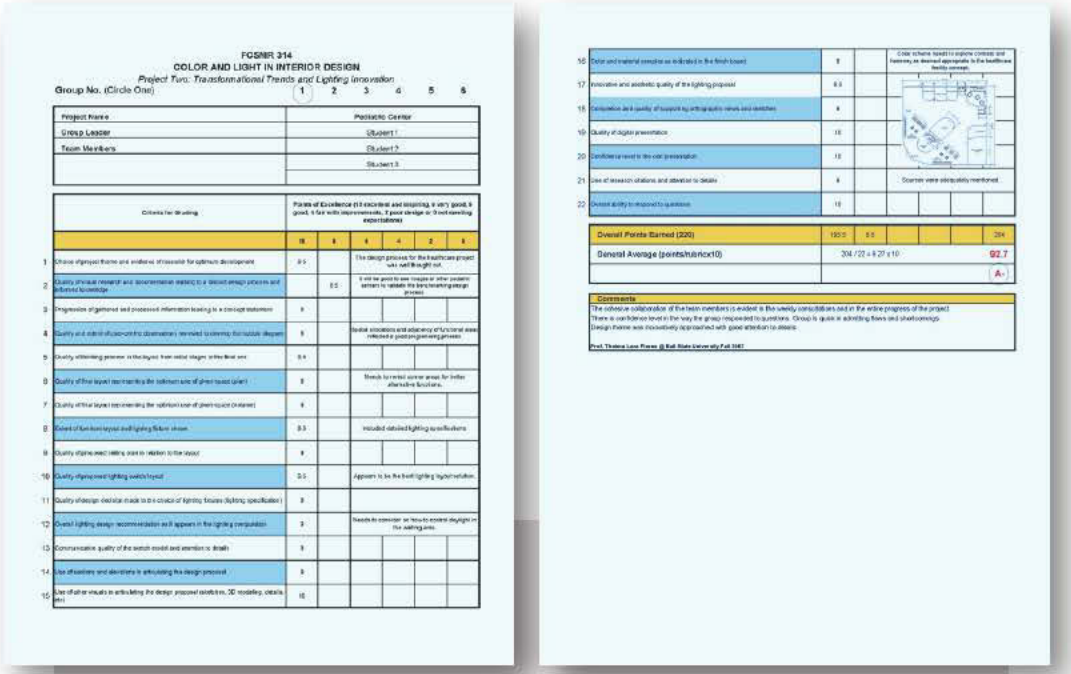
Section 3: Specification Manuals (60 points)					
	Excellent	Good	Average	Poor	Unacceptable
	10	9-8	7-6	5-4	3-0
3.1 Are the manuals reflecting a rational selection of finishes, specialized products, lighting, researched equipment, etc.	Comments:				
3.2 Are the manuals complete with the appropriate spreadsheets, tables, specification sheets and other necessary details.					
3.3 Are the manuals reflective of the well thought out selection of samples, specialized products, lighting, researched equipment, etc..					
3.4 Did the designer use an impressive layout with the good attention to details?					
Total Points	40				
Overall Points	180				

Student Group Name: _____ **Reviewer Name**_____

Instruction: Check the one that is most appropriate for the group's project outcome. Total your points below.

Design / Research Project Rubric

	UNSATISFACTORY (1)	BASIC (2)	PROFICIENT (3)	DISTINGUISHED (4)
Coverage of Topic / Design Outline (History and Overview of Company)	Inadequate coverage of the range of designated outcomes of the design outline	Addresses most but not all of the designated outcomes of the design outline	Realizes consistently all of the designated outcomes of the design outline	Achieves all of the designated outcomes of the design outline with coherent and confident grasp of all aspects and their relationships
Research supporting design process / design information analysis and synthesis (Understanding of clusters matching the furniture selection)	Poorly prepared and organized Insufficient grasp of the subject and its contexts	Uneven preparation and organization but sufficient to meet the demands of the design project Adequate but incomplete knowledge and understanding of the subject and its contexts	Fully prepared and organized Comprehensive knowledge and understanding of the subject and its contexts	Fully prepared and organized for all potential outcomes of the design project Assured and fluent in handling knowledge and understanding of the subject and its contexts
Development of creative concept and context (use of images, layout, quality of presentation board, individual conclusions and recommendations)	Ideas poorly formulated, expressed and communicated Inadequate use of research development from creative process to final outcome Inadequate evidence of reflection upon practice	Partial success in formulating, expressing and communicating ideas Shows some relevant research and its application from creative process to final outcome Evidence of reflection upon the processes involved in practice	Ideas well formulated, expressed and communicated Shows relevant and effective use of research from creative process to final outcome Clear evidence of developed reflection upon the processes involved in practice	Assured and confident formulation, expression and communication of ideas Breadth and depth of creative project and effective judgment from creative process to final outcome Clear evidence of developed reflection upon, and understanding of, the processes involved in practice.
Creative project outcome / research outcome (Company choice: are you learning something new from this board? Is the board offering rational and factual information?)	Little imaginative engagement with the work Insufficient commitment and self-discipline is evident in the work. Poor attention to details No evident exploration of technology	Shows some imaginative engagement with the work Sufficient but erratic commitment and self-discipline is shown in the work Partial success in attending to details Use of appropriate technology	Consistent imaginative engagement with the work Consistent commitment and self-discipline is evident in the work Consistent attention to details Good use of available technology	Full imaginative engagement with all aspects of the work Full personal commitment and self-discipline is evident in the work Excellent attention to details Innovative use of technology
Presentation (oral)	Written analysis of the material with poor presentation	Analysis of the material combined with some understanding of effective presentation	Clear analysis and understanding of the material combined with effective presentation	Clear analysis and understanding of the material combined with effective and innovative presentation
Language Conventions	Inconsistent grammar, spelling and paragraphing throughout paper	Periodic errors in grammar, spelling and paragraphing	Clear, with minimal errors in grammar, spelling and paragraphing	Very concise, clear, with consistently proper grammar, spelling and paragraphing
Documentation	Very inconsistent or incorrect use of citations in both text and *Works Cited* section	Sometimes inconsistent or incorrect use of citations in both text and *Works Cited* section	Consistent and correct format in both text and *Works Cited* section	Proper detailed format always used consistently and correctly in both text and *Works Cited* section.
	7 points	14 points	21 points	28 points



FCSNR 314
COLOR AND LIGHT IN INTERIOR DESIGN
Project Two: Transformational Trends and Lighting Innovation

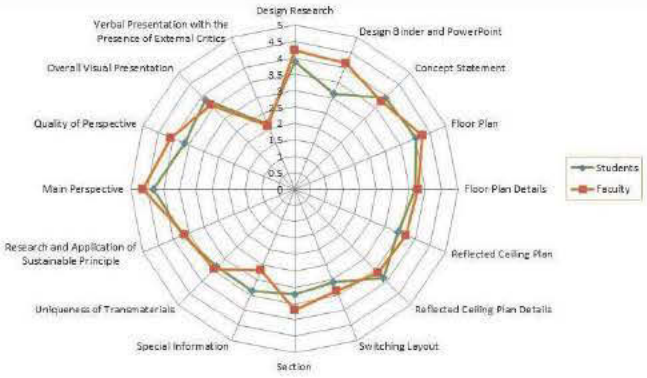
Group No. (Circle One) (1) 2 3 4 5 6

Project Name	Pediatric Center
Group Leader	Student 1
Team Members	Student 2
	Student 3

	Criteria for Grading	Points of Excellence (5 excellent and inspiring, 4 very good, 3 good, 2 fair with improvements, 1 poor design or 0 not meeting expectations)					
		10	8	6	4	2	0
1	Choice of project theme and evidence of rationale for optimum development	9.5		The design process for the healthcare project was well thought out.			
2	Quality of visual research and documentation relating to a client-design process and advanced knowledge		8.5	It will be good to see images of other pediatric centers to validate the brainstorming design process			
3	Progression of gathered and processed information leading to a concept statement	9					
4	Quality and extent of user-centric observations translated to planning for holistic designs	9		Spatial adjacencies and adjacency of functional areas reflected in good program and bubble diagrams			
5	Quality of blending process in the layout from initial stages to the final one	8.5					
6	Quality of the layout representing the optimum use of given space (plan)	9		Needs to control corner areas for better alternative functions.			
7	Quality of final layout representing the optimum use of given space (interior)	9					
8	Extent of furniture layout and lighting fixture shown	8.5		Included detailed lighting specifications			
9	Quality of planned ceiling plan in relation to the layout	9					
10	Quality of proposed lighting switch layout	8.5		Appears to be the best lighting layout solution			
11	Quality of design decision made in the choice of lighting fixtures (lighting specification)	9					
12	Overall lighting design recommendation as it appears in the lighting composition	9		Needs to consider on how to control daylight in the waiting area.			
13	Communicative quality of the sketch model and attention to details	9					
14	Use of sketches and elevations in articulating the design proposal	9					
15	Use of other visuals in articulating the design proposal (sketches, 3D modeling, details etc)	10					
16	Color and material samples as indicated in the finish board	9		Color scheme based to explore contrast and harmony, as deemed appropriate to the healthcare facility concept.			
17	Innovative and aesthetic quality of the lighting proposal	8.5					
18	Composition and quality of supporting photographic views and sketches	9					
19	Quality of digital presentation	10					
20	Confidence level in the oral presentation	10					
21	Use of research citations and attention to details	9		Sources were adequately mentioned.			
22	Overall ability to respond to questions	10					
	Overall Points Earned (220)	193.5	8.5				204
	General Average (points/rubric x10)	204 / 22 = 9.27 x 10					92.7
							A-

Comments
The cohesive collaboration of the team members is evident in the weekly consultations and in the entire progress of the project.
There is confidence level in the way the group responded to questions. Group is quick in admitting flaws and shortcomings.
Design theme was inventively approached with good attention to details.

Prof. Thelma Lee Freese @ Ball State University Fall 2012



FCSID 110 **Project 4 Intersections of Craft, Design and Engineering**

Your Name: _____

Student You are Reviewing: _____

Respond to the questions constructively and rate the student from a scale of 1-5, with 5 as EXCELLENT & 1 as UNSATISFACTORY. This paper is for the instructor's view only.

		5	4	3	2	1	0
		Excellent	**Very Good**	**Good**	**Average**	**Unsatisfactory**	**Null**
1	Quality of exploration in design studies: Are there distinct 10 studies or just mere repetitions of ideas?						
2	Feasibility of design using the keywords for inspiration. Did the student explore the keywords creatively?						
3	Visual recognition and innovative use of elements (lines, forms, shapes, volumes, color, etc). Were there at least 5 components multiplied by 8?						
4	Visual recognition and innovative use of principles (unity, emphasis, balance, focal point, etc).						
5	Final design execution, craftsmanship and strong presence of design principles.						
6	Success of visual composition in the portfolio sheet						
7	Presentation						
	Total Points (35 points)						

Digital Portfolio: Reaching World Wide through World Wide Web

Seunghae Lee

Oregon State University

The development of technology in visualization and display technology has transformed daily lives in many ways. In the interior design field, it has changed how designers work and communicate (Bender, 2008). The electronic display of design ideas often replaces paper formats (Linton, 2003). When the communication should take place between people who are geographically far apart such as international partners, the digital formatting of design can support the communication.

This presentation discusses benefits and challenges of a digital portfolio published on line through World Wide Web (WWW) to reach people world-wide. Each senior student in the Interior Design program developed both hard-copy and digital format portfolios along with a resume, a cover letter, a thank-you card, and a teaser. The digital portfolio was recorded in a DVD and also published on www.issuu.com . The primary purpose of the portfolio online publishing is to receive critique from professionals who work various geographic locations. There were 8 professionals invited, and the instructor assigned each student to a group named after each professional's last name. Students published their portfolios in the group's virtual library on issuu.com website through an account that was created by the instructor. Professionals reviewed portfolios online and gave feedback by sending it through emails. The instructor relayed feedback to each student.

The instructor solicited students' responses about benefits and challenges they found from their experiences with online publishing of digital portfolio. Based on the student feedback and the instructor's evaluation, benefits and challenges of the online publishing of digital portfolio were identified. Most students commented that the online publishing worked well for them as they received valuable feedback

from professionals. One student said that it is the second best thing to the face-to-face presentation. Students valued professionals' comments because they wanted to learn how people outside school evaluate their portfolios. Professionals who reviewed student portfolios mentioned that they participated in this review because they could have done the review on their own time. Students also commented that they could use the tool for their job applications and interviews. Some students used the tool immediately for their job applications and interviews.

While the online portfolio publishing offered many benefits for students there were some challenges in the process. As other technologies do, this online publishing had glitches and did not function in the way it was supposed to work. The original plan was to have a professional write feedback under each portfolio, but the function did not work. Another challenge was that some students have difficult time to figure out how to publish on the website although the instructor made guidelines to inform students. The instructor consumed long hours to set up the account, test the functions, manage the account, and moderate between students and professionals. However, the online publishing of digital portfolio supported communications between students and professionals and also provided students a tool to reach potential employers and clients world-wide.

References

APA Style, 6th ed.

Bender, D. (2008). *Design Portfolios*. Fairchild Books, Inc.

Linton, H. (2003). *Portfolio Design, 3rd ed.* W. W. Norton & Company.

Appendix List

Appendix 1. Student handout

Appendix 2. Online library with digital portfolios

Appendix 3. Published digital portfolio 1

Appendix 4. Published digital portfolio 2

Appendix 1. Student handout

XXXXX
Career Preparation Assignment Guideline
Spring, 2011

Career Preparation Assignment

Students prepare a resume, a cover letter, a follow-up letter, branding, teaser, and portfolio in both digital and hardcopy. The draft will be collected, and feedback will be given for the improvement.

Draft Submission: Feb. 10, 2011

Resume	Hardcopy
Cover Letter	Hardcopy
Portfolio	Hardcopy

Final Submission: Apr. 14, 2011

Resume	Hardcopy
Cover letter	Hardcopy
Follow-Up Letter	Hardcopy
Portfolio	Hardcopy and Digital (CD)
Teaser	Hardcopy

***Online Publishing of Digital Portfolio**

Before you upload your portfolio, get your portfolio ready by reducing the file size for web using Illustrator -I gave you the instruction in class earlier. Save for web in Illustrator and use the default option except having the file format as pdf.

1. Go to http://www.issuu.com

2. Log in with
   Login name: xxxxxxxxxxxxx
   Password: xxxxxxxx

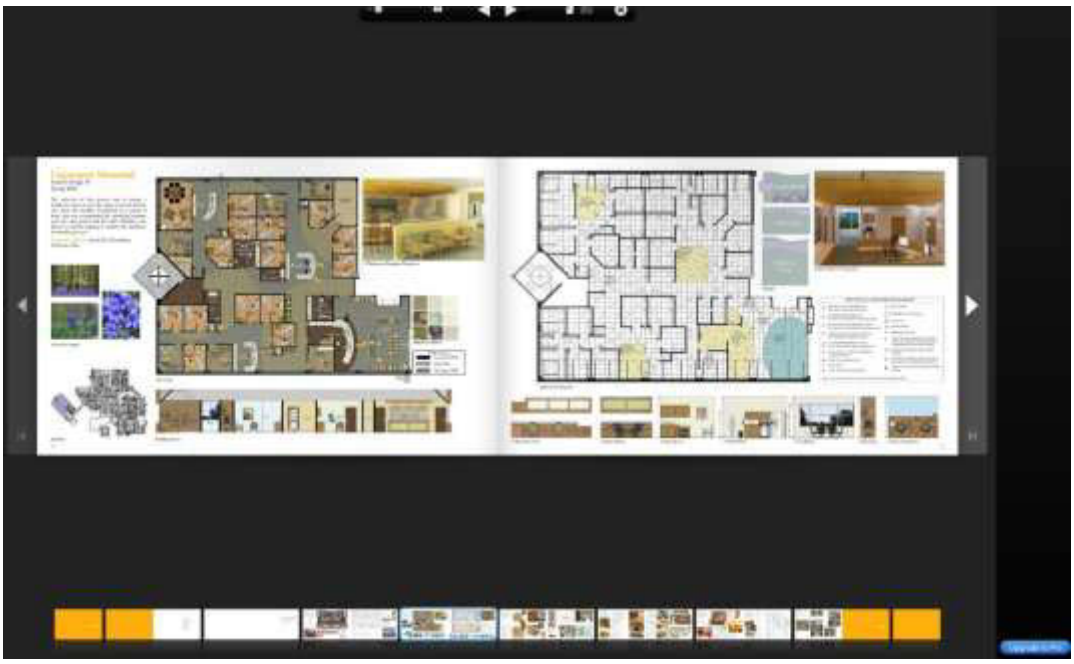
3. Find your group from mygroups. I let you know which group you belong in class today.
   Example: xxxxxxxxxxxxxxx

4. Upload your portfolio file named after your name.
   Example: xxxxxx.pdf

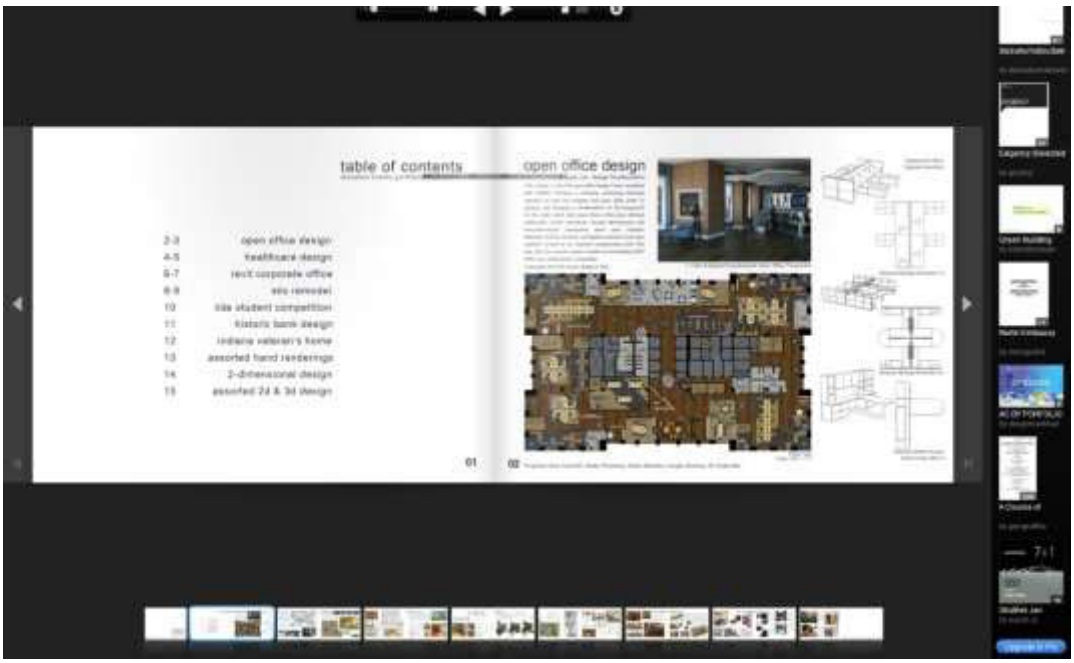
Appendix 2. Online library with digital portfolios*

*The identifiable institution name was blackened.

Appendix 3. Published digital portfolio 1



Appendix 4. Published digital portfolio 2



Universal design instruction: Employing action research strategies to measure and improve student learning outcomes

Jane Nichols, PhD and Erin Adams, MS

Western Carolina University

Universal Design (UD) instruction is a required component of interior design education, and is generally integrated across a curriculum. Evidence that positively correlates effective teaching techniques with affirmative learning outcomes would benefit interior design educators and administrators. In a five-year study conducted at *Western Carolina University,* educators employed action research strategies to continuously measure the effectiveness of instructional methods, and to systematically intervene and modify curriculum to improve learning outcomes. By critically reflecting on their teaching practices, instructors are able to identify obstacles to teaching and learning, recognize operational deficiencies, and confront “troublesome knowledge” that transforms their approach to instructional techniques and informs their scholarship of teaching and learning (SOTL) (Meyer & Land, 2003; Quinnell, et al, 2010).

Over the course of five years, researchers built upon traditional instruction techniques (using textbooks, films, lectures and assignments), expanding the UD lesson to include integration of a Universal Design Kit, and greater degrees of experiential learning (Kolb, 1984). The additional experiential learning methods enabled students to navigate the campus with wheelchairs and walkers, and simultaneously imposed vision and dexterity impairments. Interior design educators know that for deep learning and changed attitudes to occur, they must use teaching strategies that engage, stimulate and motivate (Welch & Jones, 2001). Other design instructors have employed similar experiential learning exercises that teach accessibility through an empathetic experience (Dadds, 2008), however, there has been little reported about its methodological success. This study employed action research, which occurs holistically, by collecting data, analyzing and interpreting the findings, and then implementing active strategies to improve learning outcomes. By continuous collection, reflection and examination of data, action researchers can draw conclusions, and plan and initiate lesson changes.

Year one of the study served as the control group, as students were pre-tested and post-tested on factual learning retention using traditional instruction techniques. With this baseline measure, faculty strategically intervened with added layers of experiential learning, conducting yearly tests to measure learning outcomes. Data from years one through four were analyzed as a peer group aggregate from one year to the next, investigating statistical differences between pre-test and post-test results; and data was also analyzed between peer groups, examining learning improvements between years to draw correlations between experiential learning methods and improved student retention. In year two and beyond, open-ended questions were added to establish student perceptions and attitude changes toward persons with disabilities. After year four, researchers interpreted their latest results, and found limited statistical evidence of improved learning retention outcomes. However, in analyzing the qualitative data, there was evidence of empathetic learning. Based on the analysis, a new intervention was implemented in year five (2010), bringing in persons with disabilities as guest speakers, adding another level of UD instruction. The researchers abandoned the pre-test/post-test instrument and conducted small focus groups to determine the student perception and attitude changes before and after instruction, discovering additional corroborative evidence of empathetic learning. The action research study continues as new evidence-based teaching methods are integrated.

REFERENCES (APA)

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Meyer, J. and Land, R. (2003). *Threshold Concepts and Troublesome Knowledge (1): linkages to ways of thinking and practicing within the disciplines', Improving Student Learning-Ten Years On*. Oxford: OCSLD.

Quinnell, R., Russell, C., Thompson, R., Marshall, N. and Cowley, J. (2010). Evidence-based narratives to reconcile teaching practices in academic disciplines with the scholarship of teaching and learning. *Journal of the Scholarship of Teaching and Learning, 10(3)*, pp. 20-30.

Welch, P. and Jones, S. (2001). Advances in universal design education in the United States. In Preiser & Ostroff (Eds.) *Universal Design Handbook*, pp. 51.3-51.24. Columbus, OH: McGraw-Hill.

APPENDIX

Figure 1: Universal Design Kit (pdf)
Figure 2: Experiential Learning Devices (pdf)
Figure 3: Survey Instrument (pdf)
Figure 4: Learning Improvements Data (1) (pdf)
Figure 5: Learning Improvements Data (2) (pdf)

Figure 1

PRODUCTS FOR HOME SAFETY AND INDEPENDENCE

UD KIT CONTENTS

Products selected for this kit reflect good design with reasonable trade-offs of function, price, and aesthetics. The use of these products can enhance safety, communication, security, convenience and independence; responding to issues of mobility, balance, grasp, strength, hearing, vision, or cognition. Your kit may contain the specific product pictured below or it may contain a similar one that serves the same purpose.

Many products are easily available at local hardware, pharmacy, discount, or home supply stores. Some can be ordered from catalogs, others may be special ordered. Most will cost less than $30.

Figure 2

Experiential Learning Component

The implementation of the experiential learning exercise enabled students to navigate the campus with wheelchairs and walkers, and imposed vision and dexterity impairments. This experiential learning component allowed students to gain first-hand knowledge regarding issues of mobility, balance, grasp, strength, vision, or cognition.

Mobility aids were borrowed from the University's Physical Therapy department, while most remaining items are commonly available at local pharmacies or grocery stores.

Figure 3

SURVEY INSTRUMENT

1. What type of latching door handle is preferred? _____
2. How wide should a doorway be to accommodate a wheelchair? _____
3. What is the maximum height suggested for a threshold? _____
4. What is the slope for a wheelchair ramp (or rise to run ratio)? _____
5. What is the height of a handrail? _____
6. What is the diameter of a turning radius for a wheelchair? _____
7. Name two items that add security to the entrance of a house. _____, _____
8. What is the proper height of a light switch from a seated position? _____
9. What type of faucet and handle are preferred at the sink in a bathroom? _____
10. What is the best type of flooring for a wheelchair user? _____
11. What is the preferred height of a wall outlet? _____
12. What is the maximum reach to the upper cabinets from a seated position in the kitchen? _____
13. For someone with visual impairment, how can you distinguish surface change between the counter top and the floor? _____ _____
14. What is the minimum hall width to access a residential bedroom? _____

How much clear floor space do you need between the pull side of a door and a perpendicular wall, to maneuver the door properly? _____

Figure 4

LEARNING IMPROVEMENTS

Table 1

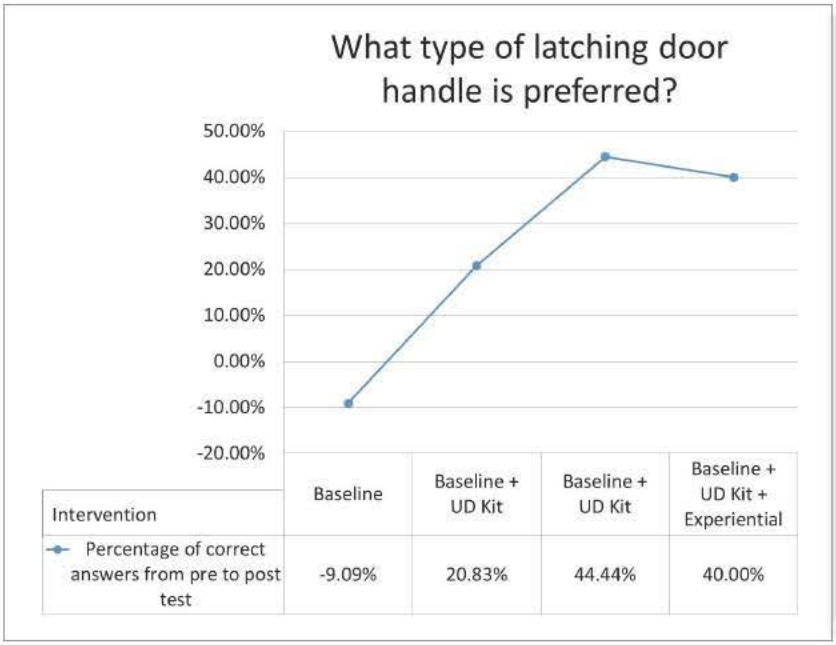


Table 2

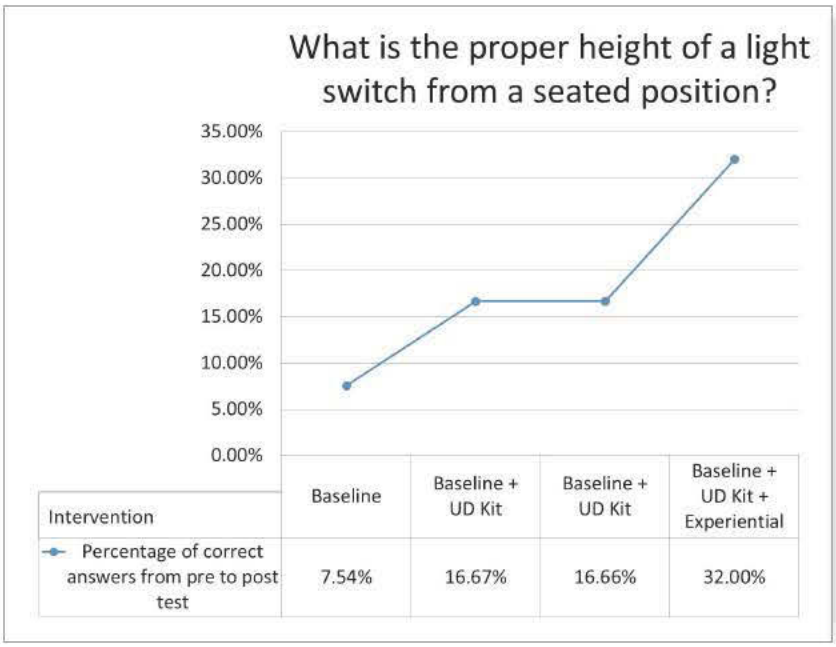


Figure 5

LEARNING IMPROVEMENTS

Table 3

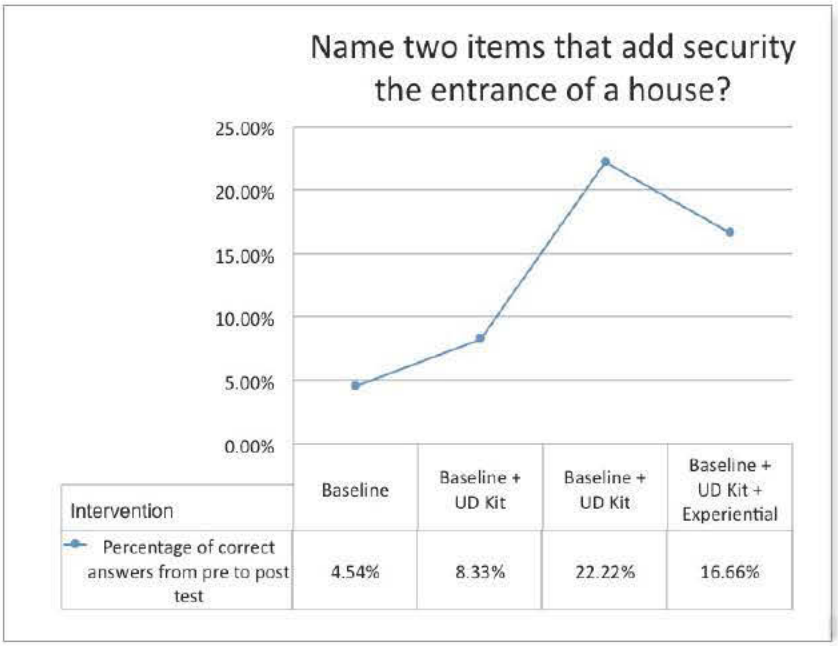
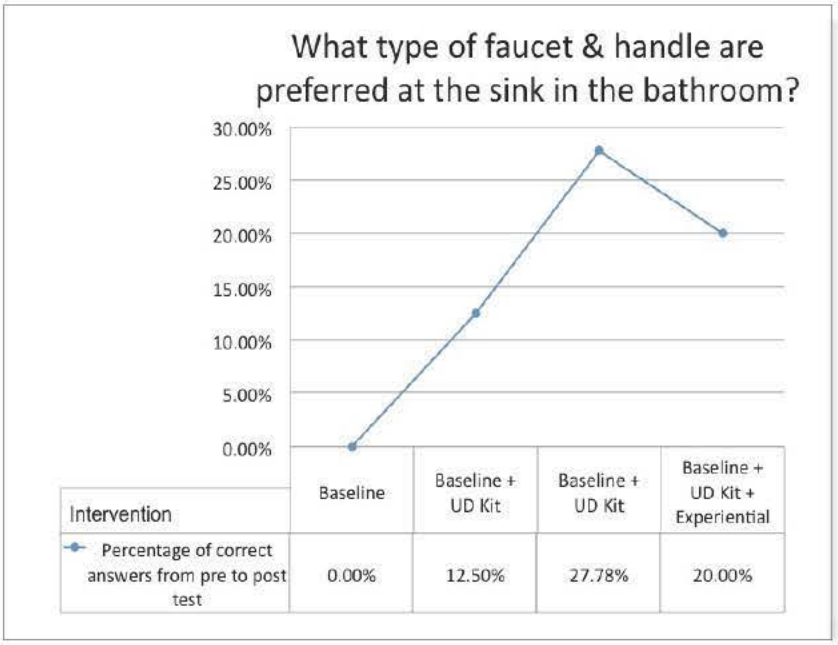


Table 4



Beyond the final studio presentation: Multimedia project storytelling as portfolio enhancement

Jill Pable, Ph.D.
Florida State University

The problem and its context

Communication experts explain that the way people receive or deliver information is different than only a few years ago. Online, print and face-to-face contact remain valuable, yet storytelling is what connects them together and facilitates successful information receipt. Current communications strategies suggest that capturing interest quickly is best, providing quick content coupled with in-depth analysis for those who want further details (Brown, 2011). This trend may also be relevant to interior design students' portfolios, as they too must deliver a credible, convincing skill-story in order to secure employment. Therefore, providing a compelling and dynamic message/story that moves beyond mere still images and text may be a positive strategy to capture attention, then inform with details. Portfolio enhancement in tune with these trends may be especially important now, as job-seeking is currently quite competitive (ASID, 2011).

Strategy

This presentation will discuss digital studio presentations that served as the student's final design project for their MS and MFA graduate degrees and highlight the significant programming and original research these students undertook to derive their solutions. Project types included airports, hotels, healthcare, and mixed-use developments (see appendix A for links). Created using several types of presentation software including Sliderocket (2011), these presentations are available online through the students' digital portfolios. The presentations feature student narration of a carefully crafted script timed to support the storytelling of a project's design process, and make the case for the project's rationale while summarizing the original thesis research or programming literature review that led to the design response. The solutions are explained in detail using animated parti diagrams and design development renderings coupled with project-supportive music and in-motion graphics such as directional arrows and other organizers that bring elements such as lighting, spatiality or sightlines to life. Essentially, the objective is to establish and maintain a vibrant visual experience that moves beyond static images and text in order to

sell the students' critical reasoning, design skills and marketing abilities in their own voice. Appendix B provides a list of these multimedia features.

Research and Analysis

At the time of this writing, two presentations that describe a mixed-use project and a healthcare project are being shared with eight interior design practitioners versed in these project types. The purpose is to explore practitioners' perceptions of these presentations as a tool for student employability. Preliminary results suggest that

1. Overall, practitioners perceive these online multimedia presentations as an enhancement over portfolio still image and text alone.
2. Multimedia presentations inform practitioners of a student's speaking skills, ability to present a convincing argument, develop a concept, and apply research to their design decisions more convincingly than still image and text.
3. Multimedia presentations may operate best be an orientation tool for a hiring designer, providing them an efficient way to assess a candidate's comprehensive skill set before commencing face-to-face interviews. However, the multimedia presentations are not a substitute for this face-to-face contact as a necessary assessment for hiring.

Appendix C provides more detail of these results.

References
(APA 6th ed.)

American Society of Interior Designers (2011). *Environmental Scanning Report 2011.* Retrieved from http://www.asid.org/NR/rdonlyres/7DA49017-612C-4D50-B44E-852A4D1A1C7F/0/EnvironmentaScanningReport_2011_web.pdf

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Appendices

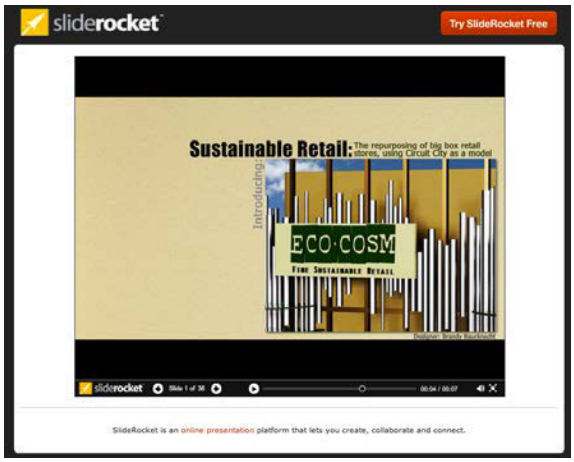
Appendix A. Examples of *Sliderocket* presentations (AppA.pdf)

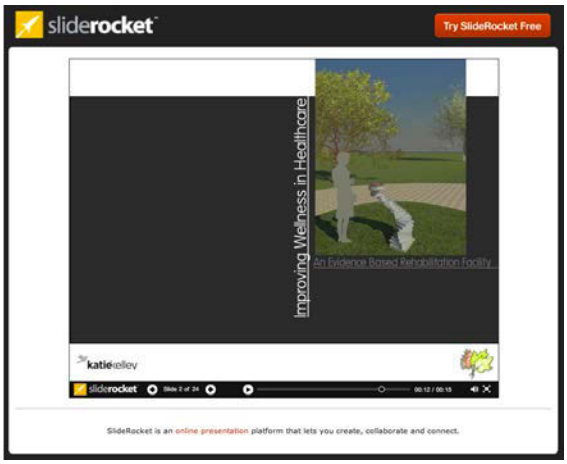
Appendix B. Levels of sophistication and technical proficiency in multimedia presentations (AppB.pdf)

Appendix C. Preliminary results of practitioner interviews (AppC.pdf)

These examples show use of screen builds, organizers such as arrows and borders, and embedded animation. Audio narration and music are present. The script's goal is to present a compelling case for the problem and demonstrate evidence for design decisions within the project's description.

http://portal.sliderocket.com/AHERM/EcoCosm-Sustainable-Retail-Presentation
http://portal.sliderocket.com/AIEHL/My-Presentation-1
Viewers are asked to enter their email and name so that the designer knows they have accessed the presentation, as a means to track potential employer interest.





Studio project presentations

Presentations

including voice narration, ambient music, movement in screen elements and other advanced techniques are now possible that move far beyond PowerPoint. Further, presentations are now easy to distribute globally via the Internet. When integrated within an online portfolio, dynamic project presentations can offer prospective employers a more complete picture of a student's capabilities.

Sliderocket is an online presentation program that can make this happen. Its packages start at $25/month, depending on desired features.

View example student final studio presentations:
http://portal.sliderocket.com/AHERM/EcoCosm-Sustainable-Retail-Presentation
http://portal.sliderocket.com/AIEHL/My-Presentation-1

Learn more about Sliderocket:
http://www.sliderocket.com

Like any tool, there are various levels of sophistication with which *Sliderocket* can be used. This relates to both the content of the presented information and also the demonstrated technological proficiency expressed in the multimedia:

Increasing sophistication and credibility

level	script content & approach	media
1	problem -> solution	static images
		static screens
		clip art
		audio narration only
2	problem -> integrated evidence -> solution	screen builds
		organizers: arrows,borders, etc.
		animations: walkthroughs or movies
		audio narration with background music
		assemblies using screen builds
3	Storytelling -> problem -> integrated evidence -> solution	animated assemblies (flash)
		morphs
		pans
		greenscreen movies of student in front of content
		integrated edited video
		custom music: openers, closers, background music

Practitioners' perceptions of multimedia project presentations

This study asked eight design practitioners their perceptions of the multimedia online project presentations. Four responded to a mixed-use project presentation and four responded to a healthcare presentation. Specifically, these practitioners were asked to imagine that this client presentation is a component of a job candidate's design portfolio along with still images of other projects. That is, they were asked to assess the worth of this multimedia presentation as an *added component* to the typical still-image/text portfolios they often see when making hiring decisions.

At the time of this writing, results are preliminary. However, these ideas may be emerging:

1. Overall, practitioners perceived these online multimedia presentations as an enhancement over portfolio still image and text alone. One designer explained that the multimedia presentation lessened the fact-finding burden on the designer prior to hiring, as the presentation provided further insights about the student's verbal skill and ability to present an argument. The presentation also communicated something about the student's passion for design and the project not found in still image/text portfolios. The well-rounded nature of the script was identified as a strength by one practitioner.

2. Multimedia presentations inform practitioners of a student's speaking skills, ability to present a convincing argument, develop a concept, and apply research to their design decisions more convincingly than still image and text.

3. Multimedia presentations may operate best be an orientation tool for a hiring designer, providing them an efficient way to assess a candidate's comprehensive skill set before commencing face-to-face interviews. However, the multimedia presentations are not a substitute for this face-to-face contact as a necessary assessment for hiring.

4. It may be more helpful if the presentations are geared to the *hiring designer* as the recipient rather than a fictitious client. This may give the student the means to explain the benefits of their multimedia abilities as a skill that can help the firm they are applying to, in addition to showcasing their design and research skills.

5. Practitioners may prefer that more time is spent explaining the project, rather than presenting background literature review information that justifies the problem of the project. In particular, further detail was requested on furnishings, fixtures and equipment selections than was presented.

6. Care should be taken in presenting the project's imagery at suitable scales for designer inspection. Similarly, it may be helpful to explain to designers that the presentation can be paused using the button at the bottom if more time is needed with an image.

Capturing A Rewarding Global Experience Through Skype Technology

Sandra Reicis
Villa Maria College

Entry-level interior designers have a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts. (CIDA 2009) The goal of this paper is to present a junior level studio project (Fig. 1), designed to provide a global perspective with the added benefit of an experiential learning opportunity through the use of various technologies but primarily through Skype. Students were exposed to the challenges of working in an international environment, presenting to European clients and experiencing multi-disciplinary collaboration first hand. Project complexity was increased by the need to respond to several user groups. Finally, language limitations and virtual meetings required added emphasis on effective visual communication skills.

The framework for the project had a strong correlation to Greenberg's (1978) constructs of experiential learning. First, experiences were well planned including client interviews and critique using Skype. Next, serious study included research to determine historical as well as cultural context. Opportunities for reflection were provided in written format and the studio environment encouraged learner interchange through a project Wiki and group collaborative work. According to Greenberg, "too long has education concentrated on the vicarious, the simulated, instead of reality of experiential problem-solving "(p.23). Students were stimulated and inspired by the necessity to present to both a European client as well as project architect resulting in effectively increasing student learning outcomes and providing a complex and richly rewarding design opportunity (Fig. 2).

At the conclusion of the project, students had gained an understanding of the differences in European construction practices, and were able to discuss spatial relationships in the metric system. The necessity of using the metric system would not have been felt without the benefit of a true European experience. Further, students were held to a diversity of standards beyond the traditional academic studio experience, which included the Latvian architect's emphasis on pragmatics and the client's emphasis on program and aesthetics. Students were regularly called upon to effectively justify their design choices from multiple perspectives. The final critique included local designers and architects who were joined by the Latvian client and architect via Skype to review the students' projects.

Student exit surveys at the conclusion of the course support the benefits of experiential learning in bridging the gap between theory and application. The project increased student knowledge about European culture and design expectations, emphasized critical listening skills as well as effective communication skills. Students reflected on the benefits of expanding their base of historical knowledge beyond the boundaries of the United States. The experience of providing design solutions that could accommodate multiple perspectives and requirements proved challenging and rewarding and students felt they gained greater insight into the practice of interior design in the contemporary world.

Works Cited (MLA)

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Greenberg, E., “The Community As A Learning Resource” , Journal of Experiential Education. I. (1978): 22-25

Guerin, D. & Mason, B. X. “An Experiential Framework for International Interior Design Education”, Journal of Interior Design Education and Research, 18(1978): 51-58

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Appendix

1. Fig. 1 – project statement
   Studio 5 Project Statement – IDEC submission

2. Fig. 2 – Grading form
   Grading Form with CIDA Standards – IDEC submission

VILLA MARIA COLLEGE
IND 311 –Interior Design Studio 5

DEPARTMENT:	Art	**CREDIT HOURS:**	5
SEMESTER:	Spring 2010	**SECTION:**	A

INSTRUCTOR:	Sandra S. Reicis, M. Arch

DZINTARI – SIGULDĀ
Veselības un Atpūtas Centrs

(*Dzintari at Sigulda*
Health and Recreation Center)

PROJECT STATEMENT

Located in Sigulda, Latvia, a city northeast of the capital city of Riga, the Health and Recreation Center is a novel and new approach to healing and wellness. Dzintari at Sigulda is the creation of local osteopath Dr. Anda Polna and combines rehabilitation with relaxation and recreation without segregation or discrimination.

Sigulda is located on the banks of the river Gauja and has been named the Switzerland of Vidzeme. It is one of the best known and most visited places in Latvia outside of the capital Riga. An ancient city, rich with history, in 2007 they celebrated their 800 year anniversary.

Our studio will focus on using evidence-based design to create an interior that complements the culture, design and programmatic requirements of the Center. Students must respond to the needs of the short term and long term guests, their varying abilities as well as the staff, trainers and medical personnel.

Objectives:

- Develop a knowledge of the Latvian culture that becomes reflected in your design
- Research the climate and geographical condition
- Consider the environmental impact of all aspects of your design and demonstrate an understanding of the concepts, principles and theories of sustainability
- Understand the implications of conducting the practice of design within a world market
- Develop design solutions from conceptual design through design development
- Incorporate the principles of Universal Design
- Focus on lighting requirements based on program, climate and geographic coordinates
- Specify appropriate fixtures, furniture and finishes – consider the geographic location
- Present design solutions in a formal review

Requirements:

- Project Report Documentation including
    - research analysis with appropriate bibliographies and resources
    - relevant annotations and case studies
    - programming report
    - the design process including concept development, sketches, diagrams and notes

  - evidence of the exploration of multiple design solutions
  - Programming Matrices with defined performance criteria
  - Record of Interim Critique
  - Sustainable strategies
  - Specifications
- Drawings, including as required
  - floor plans with furniture placement
  - elevations, plans and perspectives of prototypical guest rooms, common areas, key recreational/therapy spaces, dining area, offices, lobby area and other facilities as defined by the individual program
  - Specific attention to lighting conditions and documentation of lighting plans
  - furniture, fixtures and finishes – available and appropriate for our geographical area
  - Sustainable strategies
- Design justification statement
- Legends and board annotations as required for clarity of presentation

DZINTARI AT SIGULDA – IND 311 – STUDIO 5

Name:

Evaluation	Scale				
	Below	Acceptable			Above
1. Wiki Collaboration	1	2	3	4	5

Standard 5a. Standard 5c.

Research Work: 25%

2. Lighting Annotation	1	2	3	4	5
3. Group Research	1	2	3	4	5
4. Singing Revolution Reflection Paper	1	2	3	4	5
5. Reading Assignment – IIDA Article	1	2	3	4	5
6. Reading Assignment - Ergonomics	1	2	3	4	5
7. Guest Lecture Reflection Paper	1	2	3	4	5

Standard 2b. Standard 2c. Standard 2d. Standard 2e. Standard 2f. Standard 3a. Standard 3b. Standard 3c. Standard 3d. Standard 4a, Standard 4b. Standard 4c. Standard 4g. Standard 4i. Standard 5a. Standard 5c. Standard 5d. Standard 6a. Standard 6b. Standard 6f.

Final Presentation:

Visual and Verbal Communication 25%:

8. Program Statement	1	2	3	4	5
9. Process/Inspiration Documentation on Boards	1	2	3	4	5
10. Floor Plans	1	2	3	4	5
11. Site Plan	1	2	3	4	5
12. Reflected Ceiling Plans	1	2	3	4	5
13. Sections	1	2	3	4	5
14. Elevations	1	2	3	4	5
15. Perspectives	1	2	3	4	5
16. Detail drawings	1	2	3	4	5
17. Millwork Drawings	1	2	3	4	5
18. Overall Rendering Quality	1	2	3	4	5

19. Assessment of Drawing Choices to Communicate Design Intent	1	2	3	4	5
20. Materials Board or Integration	1	2	3	4	5
21. Verbal Communication	1	2	3	4	5
22. Guest Assessment	1	2	3	4	5

Standard 4c. Standard 5d. Standard 6b. Standard 6d. Standard 6f. Standard 10d.

Design Integrity and Concept Development 15%:

23. Articulation of Concept in Design	1	2	3	4	5
24. Creativity and Innovation	1	2	3	4	5
25. Interim Critiques (2) – Degree of Development and Presentation	1	2	3	4	5

Standard 4a.Standard 4c.Standard 4d. Standard 4e. Standard 4h. Standard 6b. Standard 6c. Standard 6f. Standard 8e. Standard 9a,b Standard 9c. Standard 10a.Standard 10c. Standard 13a. Standard 13b. Standard 13c. Standard 13 f. Standard 13g.

Program Compliance and Function 20%:

26. Conformance to Program Requirements	1	2	3	4	5
27. Conformance to Cultural Relevance	1	2	3	4	5
28. Code Compliance/Universal Design	1	2	3	4	5
29. Space Planning/Circulation	1	2	3	4	5
30. Environmental Strategies	1	2	3	4	5
31. Lighting Strategies	1	2	3	4	5
32. Fixtures, Finishes, Furniture	1	2	3	4	5

Standard 3d. Standard 4c. Standard 11a. Standard 11c. Standard 11d. Standard 12a. Standard 12b.Standard 12c. Standard 12d. Standard 12e. Standard 12f. Standard 12g. Standard 12h. Standard 14a. Standard 14b. Standard 14 d. Standard 14g. Standard 14h. Standard 14i.

Additional Requirements:15%

33. Project Documentation/Program Binder	1	2	3	4	5

Standard 4d. Standard 7d. Standard 7e.

As well as support documentation for previously mentioned standards.

Comments: Final Grade:

Appendix

Professional Standards 2009 Addressed in Current Project:

Standard 2b. understanding globalization and the implications of conducting the practice of design within a world market
Standard 2c. how design may vary for different socio-economic populations
Standard 2d. exposure to contemporary issues affecting interior design
Standard 2e. exposure to a variety of business, organizational and familial structures
Standard 2f. opportunity for developing knowledge of other cultures
Standard 3a. students understand that social and cultural norms may vary from their own and are relevant to making appropriate design decisions
Standard 3b. demonstrates understanding and the ability to appropriately apply theories of human behavior
Standard 3c. demonstrates the ability to select, interpret, and apply appropriate ergonomic and anthropometric data
Standard 3d. demonstrates understanding and the ability to appropriately apply universal design concepts
Standard 4a) ability to identify and define relevant aspects of a design problem (goals, objectives, performance criteria).
Standard 4b. ability to gather appropriate and necessary information and research findings to solve the problem (evidence based design)
Standard 4c. evaluate, select and apply information and research findings to design
Standard 4d. synthesize information and generate multiple concepts and/or multiple design responses to programmatic requirements
Standard 4e. demonstrate creative thinking and originality through presentation of a variety of ideas, approaches and concepts
Standard 4g. exposure to a range of design research and problem solving methods
Standard 4h. opportunity for innovation and creative thinking
Standard 4i. opportunity to develop critical listening skills
Standard 5a. awareness of team work structures and dynamics
Standard 5c. collaboration, consensus building leadership and team work
Standard 5d. interaction with multiple disciplines representing a variety of points of view and perspectives
Standard 6a. apply a variety of communication techniques and technologies appropriate to a range of purposes and audiences.
Standard 6b. express ideas clearly in oral and written communication
Standard 6c. use sketches as a design and communication tool
Standard 6d. produce competent presentation drawings across a range of appropriate media
Standard 6f. integrate oral and visual material to present ideas clearly
Standard 7d. the elements of project management, project communication and project delivery methods
Standard 7e. professional ethics
Standard 8e. Students are able to use historical precedent to inform design solutions
Standard 9a,b apply the elements, principles and theories of design to two-dimensional design solutions and three-dimensional design solutions
Standard 9c. able to analyze and discuss spatial definition and organization
Standard 10a. understanding of color principles, theories and systems.
Standard 10c. select and apply color with regard to its multiple purposes
Standard 10d. apply color effectively in all aspects of visual communication
Standard 11a. awareness of broad range of materials and products
Standard 11c. select and apply appropriate materials and products on the basis of their properties and performance criteria, including environmental attributes and life cycle cost
Standard 11d. able to layout and specify furniture, fixtures, and equipment
Standard 12a. understand the principles of natural and electrical lighting design
Standard 12b. select and apply luminaires and light sources
Standard 12c. understand principles of acoustical design
Standard 12d. understand appropriate strategies for acoustical control
Standard 12e. understand principles of thermal design
Standard 12f. understand how thermal systems impact interior design solutions
Standard 12g. understand principles of indoor air quality
Standard 12h. how the selection and application of products and systems impact indoor air quality
Standard 13a. understand impact of structural systems
Standard 13b. understand impact of non-structural systems including ceilings, flooring and interior walls
Standard 13c. understand impact of distribution systems including power, mechanical, HVAC, data/voice telecommunications, and plumbing
Standard 13 e. understand interface of furniture with distribution and construction systems
Standard 13 f. Understand impact of vertical circulation systems

Standard 13g. able to read and interpret construction drawings and documents
Standard 14a. awareness of sustainability guidelines
Standard 14b. awareness of industry-specific regulations
Standard 14e. understanding of regulations pertaining to detection: active devices that alert occupants including smoke/heat detectors and alarm systems
Standard 14 f. understanding of regulations pertaining to suppression: devices used to extinguiksh flames including sprinklers, standpipes, fire hose cabinets, extinguishers etc.
Standard 14 d. understanding of regulations pertaining to movement: access to the means of egress
Standard 14g. apply appropriate federal, state and local codes
Standard 14h. apply appropriate standards
Standard 14i. apply appropriate accessibility guidelines

Extreme Programming: The dense program in the design studio

Roberto J. Rengel
University of Wisconsin - Madison

Problem

Programming is one of the most important tasks performed by interior designers. The Council for Interior Design Accreditation expects students to be "able to identify and define relevant aspects of a design problem (goals, objectives, performance criteria)", and also "gather, evaluate, and apply appropriate and necessary information and research findings to solve the problem" (CIDA, 2011). Although basic programming can be done within the context of design studio projects, real-life programming is of such complexity that it is hard to simulate in the studio due to time and contextual constraints.

This presentation documents an effort to engage the programming task aggressively during a semester long studio class. Students were expected to produce a comprehensive, rigorous, professional-quality program focused on interiors in three and a half weeks. The main objectives were to

- collect relevant information from real-life clients
- Use reference sources to gather programming information
- collect, organize, and share large amounts of information expeditiously
- use well-known programming models and adapt them to interiors-specific applications
- incorporate work culture research to help define and structure the client's organization

Method

The task consisted of generating a program for a large architecture/engineering firm. Thirty two students were divided into teams of 3-4. Each team was assigned specific programming tasks. Some information was gathered collectively during two initial meetings with representatives from the company. Most of the information, however, was gathered by the individual teams who then shared their findings with the other teams. The main programming models adopted were Problem Seeking (Pena, 2001) and Issue Based Programming (Duerk, 1993), both customized for interiors-specific applications. Five overarching principles from Pena were stressed during the exercise: client involvement, effective graphic communication, bare essentials, abstract thinking, and efficient operation (Pena, 2001).

To diagnose and define the various organizational cultures and subcultures within the client's overall organization, students were required to study and apply The Competing Values Framework (Cameron, 2009; Tharp, 2009). Other requirements included incorporating precedent studies from international firms and conducting mini-research inquiries on assigned topics such as generations at work and workplace satisfaction.

Outcomes

The ambitious assignment yielded some of the best student programs the author has seen. Students engaged the client, consulted sources, gathered and shared large amounts of detailed information, used and adapted the Pena and Duerk programming models, and successfully incorporated relevant research in the process. The graphic quality of the programs was excellent and comparable to programs produced in industry (Figures 1 – 3).

Several aspects of the experience are being evaluated by the author. These include:

1. The pace: Was the pace too fast for an effective learning experience?

2. Effectiveness of the information sharing approach. Was the approach too complex and confusing?
3. Limits of the team approach. Is the breadth achieved by the team approach (at the expense of individual learning) justified?
4. Assessment: What are appropriate ways of assessing the success of this assignment in terms of learning outcomes?

References
APA

Cameron, K. (2006). Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework. San Francisco: Josey-Bass

Council of Interior Design Accreditation (2010). *Professional Standards 2011*

Duerk, D (1993). Architectural Programming: Information Management for Design. New York: Van Nostrand

Pena, W. and Parshall, S. (2001) Problem Seeking: An Architectural Programming Primer. New York: Wiley

Tharp, B. (2009). *Defining "Culture" and "Organizational Culture": From Anthropology to the Office*. Haworth Organizational Culture White Paper

Figure 1: Organizational Culture Analysis

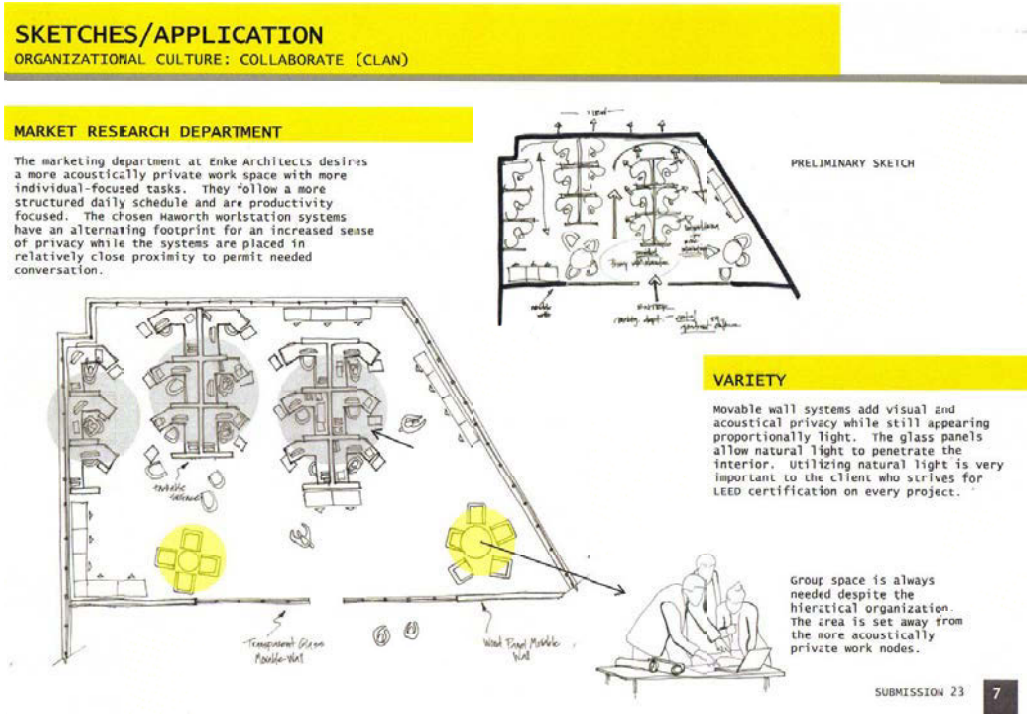


Figure 2: Summary of Client Goals Example

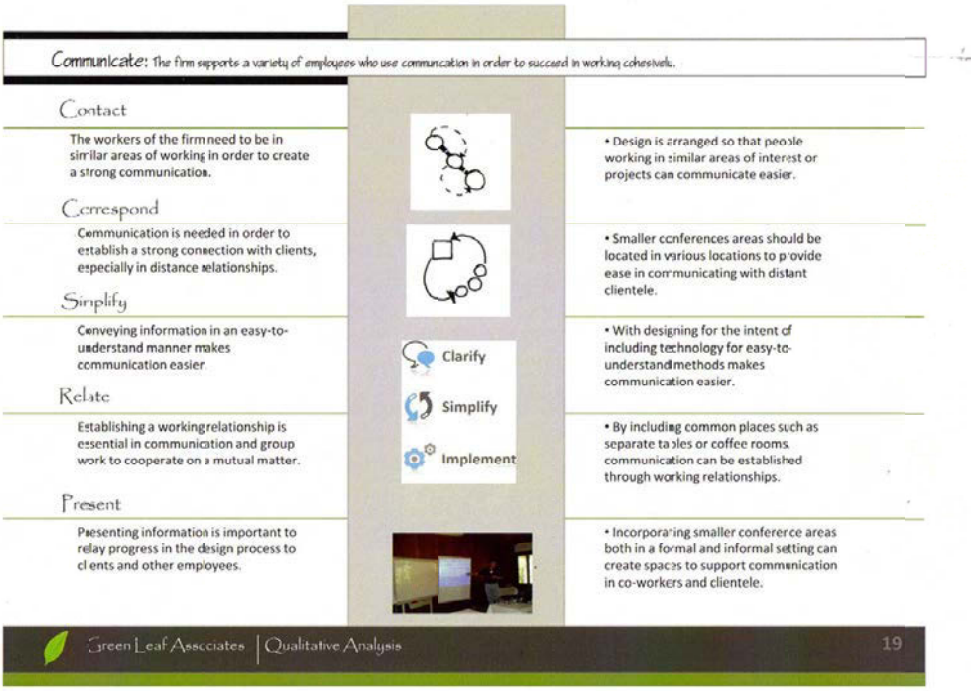
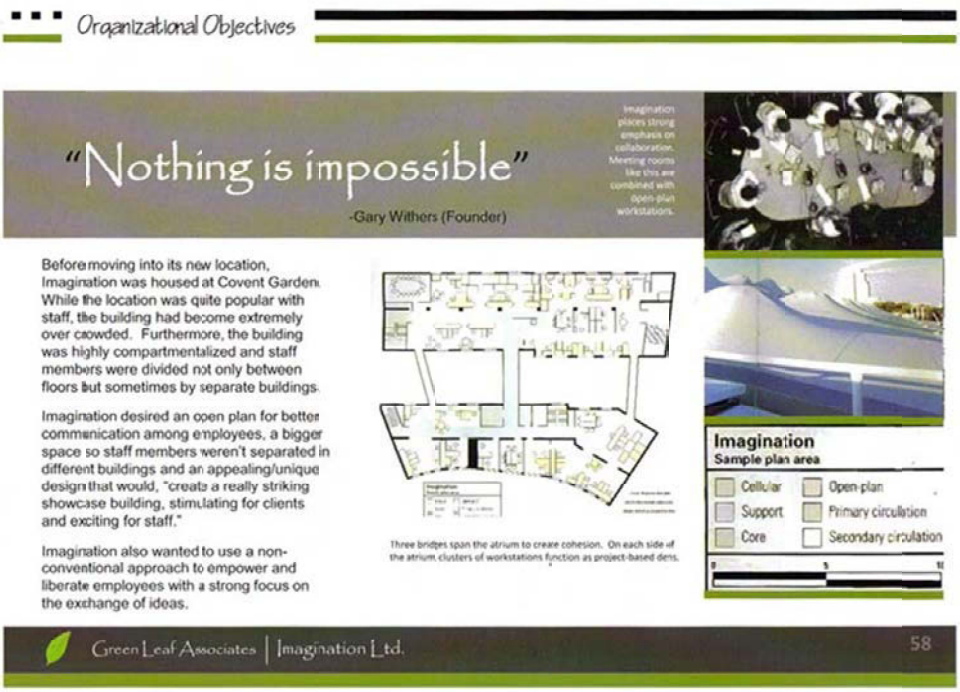


Figure 3: Precedent Study Example



A Bar Stool, Ernst Haeckel, and Rhinoceros: Learning Object Modeling Technology through Design Problem Solving

William Riehm & Annie Coggan Crawford

Mississippi State University & Parsons/New School

ABSTRACT

The use of the-dimensional spatial modeling software in interior design pedagogy has been a point of conversation for many years. Most recently at the 2011 IDEC national conference, Hans-Peter (Hepi) Wachter presented a paper that covered the role of gaming software in design studio curriculum. Also at that conference, Amy Crumpton and Lindsey Lamas Miller discussed the future role of computer technology and interior design education integration. In both of these previous discussions, the focus was on three-dimensional environmental design software and its role in spatial design problems. In this presentation, this conversation is expanded to include object modeling software, specifically McNeel's non-uniform rational B-spline modeling software, Rhinoceros 3D (Rhino), and its application in a furniture design course which is integrated into an interior design curriculum as well as the use of three dimensional printing.

A specific assignment is reviewed in this presentation, the design of a bar stool based on the botanical illustrations of Ernst Haeckel (1834-1919). This assignment is used as the furniture design course's final project. For the instructor, the Haeckel drawings were an illustration of the biological nature of structure. For the student, the device of the nineteenth century drawings did many things: it exposed the students to a body of nineteenth century drawings that are beautiful and full of inspiration for their design work, it presented the students with a nineteenth century sensibility while the use of Rhino, as a design tool, brought about final products with a twenty-first century sensibility.

The process of the project was swift and direct. The students selected images to which they were attracted, and worked from the image to create model in Rhino. The strategy of "learning by doing" was employed, and the project served both as a design problem as well as a vehicle to teach the Rhino program. Rhino, being ideal for the curvilinear nature of the Haeckel drawings, was easily seen as a new

valuable tool because programs more familiar to students such as Sketch-up and Revit do not relate as easily to formal language the students now found themselves using. Rhino also provided them with the necessary interface for using a three-dimensional printer.

The formal results of this project are strange, intriguing, and innovative. This made balancing aesthetic judgment and technical assessment difficult. Students were asked to surrender to the elements of the source material, digital methods, and fabrication techniques. Unlike the typical technical drudgery of learning new technical tools, this assignment provided students the ability to move flexibly through new software, and output tools with experimental enthusiasm and élan. Students engaged in a rare discussion of biomimicry while learning new technologies in a way that would prepare them for professional environments that may provide little training for new technologies. In the end, students gained an ability to draw inspiration from the natural world and bring it forward into a designed technical form. Most importantly, it prompted a conversation about contemporary design versus traditional and allowed students to learn design values through new technologies

REFERENCES (CHICAGO STYLE)

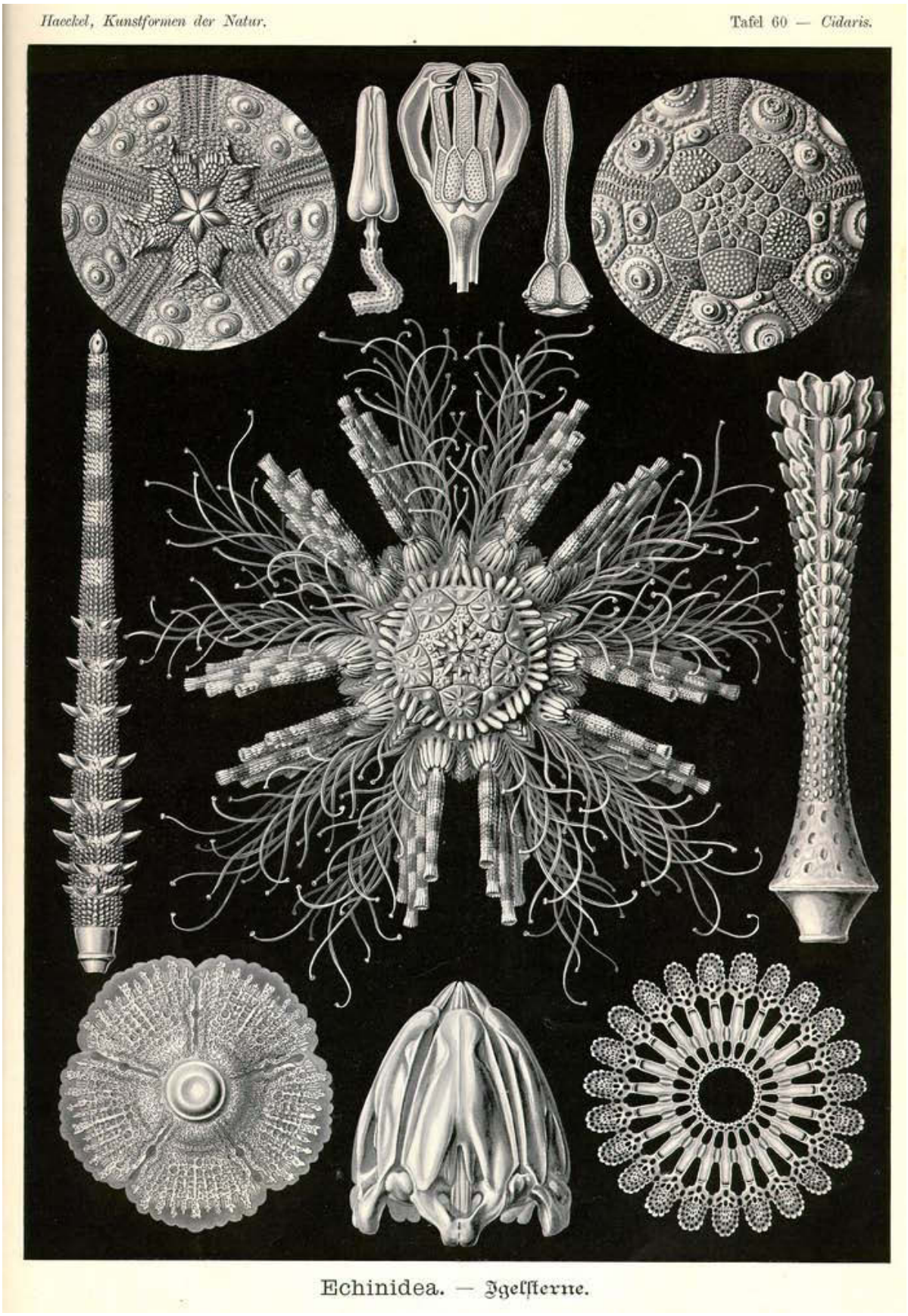
Breidbach, Olaf. *Visions of Nature : The Art and Science of Ernst Haeckel*. Munich ; London: Prestel, 2006.

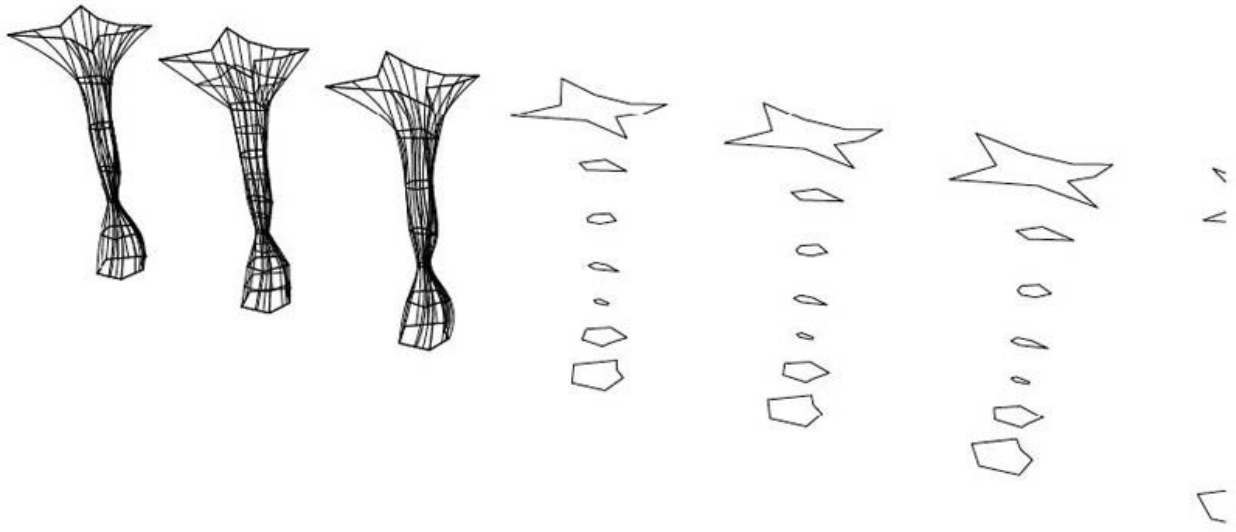
Crumpton, Amy, and Lindsey Lamas Miller. "The E-Design Studio: Employing Multiple Technologies to Improve Interior Design Teaching and Learning." Paper presented at the IDEC 2011 Annual Conference, Denver, CO, March 16-19 2011.

Wachter, Hans-Peter (Hepi). "Teaching Advanced Interior Design Presentation: 3-D Imaging and Gaming Software." Paper presented at the IDEC 2011 Annual Conference, Denver, CO, March 16-19 2011.

APPENDIX

Figure 1: Ernst Haeckel, “Echinidea,” lithograph print c, 1904. In *The Art and Science of Ernst Haeckel*, by Olaf Briedbach, London: Prestel, 2006. (Haeckel_diagram.jpg)
Figure 2: Student Work, “Stool Development,” digital screen capture, 2010 (StudentWork_1.jpg)
Figure 3: Student Work, “Stool,” digital laser print, 2011 (StudentWork_2.jpg)
Figure 4: Student Work, “Stool,” photopolymer 3d prints, 2010 (StudentWork_3.jpg)
Figure 5: Student Work, “Stool,” extruded filament 3d prints, 2011 (StudentWork_4.jpg)


Haeckel, Kunstformen der Natur.
Tafel 60 — Cidaris.
Echinidea. — Igelsterne.



The Utilization of Building Information Modeling (BIM) Software for Student Understanding of Building Systems

Michelle C. Rose

The University of Southern Mississippi

ABSTRACT

Problem: Building Information Modeling (BIM) software is becoming an industry standard for communicating and producing design projects (Crumpton & Miller, 2010). Because BIM software provides an integrated approach to designing built environments, interior design programs, curriculum, and faculty must employ new pedagogical models to prepare students for the future (Asojo, 2011). BIM requires the user to select a series of building assembly components in order to create a typical interior design project. In the process of creating an interior space, the software requires the user to select wall, floor, and ceiling assembly types. In some instances, the selection process will include stair construction, foundation type, roof assemblies, or other building methods. Rather than faculty identifying the specific component types in a project statement or program for the students, the students should be taught to make accurate choices independently.

Methodology: In order for students to make informed decisions when generating a BIM model, a thorough understanding of each building assembly and construction procedure would need to be addressed. A course was selected that encapsulated the components needed to develop an understanding of the construction methods utilized in a typical BIM model. The selected course objectives addressed the areas of the analysis and application of architectural detailing, building systems, standards and codes, problem-solving, and space planning. A project was modified to use BIM software (see Figures 1 and 2), instead of the formerly utilized two-dimensional drafting software, to create a two-story mixed occupancy use building that addressed code compliance, vertical circulation, and emergency egress issues (see Figures 3-5). Students were lectured on each building construction component, while being taught to use the BIM software, allowing students to make informed decisions for each component type as the building and project was being constructed. Additionally, pre-tests and post-tests were given to the students before and after lectures on each building component in order to discern student understanding of

building components prior to and after the lectures. To ascertain student understanding of building systems utilizing BIM software, the students were given a comprehensive test upon completion of the project that examined retention of the students' building systems knowledge and long-term memory effects of the tested lecture information.

Results: Student ability to describe and demonstrate knowledge of building systems, architectural detailing, and the application of the proper systems for code compliance increased from the former course projects, in which BIM software was not utilized. Additionally, students understood and could demonstrate understanding of the vertical circulation design for the project, as well as justify decisions for material and finish choices. Although BIM software provides the means for low-effort and automated design of architectural systems and detail work, faculty should embrace the software programs as new teaching tools. By using BIM software as the means to produce the project construction drawings, course time was allowed to add the additional lectures and testing components. Additionally, the BIM software allowed students to focus on design, and not be weighted down with tedious drafting issues.

REFERENCES (APA)

Crumpton, A. & Miller, L. L. (2011). The E-Design Studio: Employing Multiple Technologies to Improve Interior Design Teaching and Learning. Proceedings of Interior Design Educators Council 2011 Annual Conference, 26-29.

Asojo, A. O. (2011). An Instructional Design for Building Information Modeling (BIM) and Revit in Interior Design Curriculum. Proceedings of Interior Design Educators Council 2011 Annual Conference, 170-176.

APPENDIX

Figure 1: Project Description (P1_Description.pdf)
Figure 2: Project Deliverables & Evaluation (P1_Evaluation.pdf)
Figure 3: Project Examples (P1_Ex1.pdf)
Figure 3: Project Examples (P1_Ex2.pdf)
Figure 3: Project Examples (P1_Ex3.pdf)

BATTAGLIA RESIDENCE AND SPECIALTY SHOPPE

PROJECT DESCRIPTION

Project Statement
Your firm has been hired by Mr. and Mrs. Battaglia to renovate an existing building located in Dallas, Texas to accommodate a specialty store on the first level, and a private loft home on the second level. The specialty store will carry a variety of wine, coffee, gourmet food, and gifts that reflect their Italian heritage. Your job is to design the facility and draw all construction documents necessary for the demolition and construction of this project.

General Criteria
The Battaglia Building is a two story building with solid brick masonry walls on the exterior. Although the building is structurally sound, neglect has made it impossible to salvage any of the interior wall or floor assemblies, and all materials must be demolished and removed. Currently, there is no second floor level, so a staircase and second level floor must be constructed. The lower level currently has 16'-0" high partitions, however, the renovated building will have a 12'-0" finished ceiling height on the first level with a 2'-0" plenum, and 10'-0" finished ceiling height for the second level. The first floor windows are positioned 2'-0" above finished floor (AFF) and are 8'-0" in height. The second level windows are positioned 16'-0" AFF and are 6'-0" in height. The Battaglia's have requested the staircase be a minimum clear width of 4'-0" for universal design purposes.

The facility shall meet or exceed the minimum requirements of all applicable building codes, the NFPA Life Safety Code, and the ADA (Americans with Disabilities Act) Standards for Accessible Design. Additionally, universal design features, for both the business and the residence, have been requested by the clients.

The Battaglia's have requested top of the line technology for the building, as well as the ability to adapt to new technology. Every room/area is to have individual voice and data capabilities. Security is a must! All additional power, plumbing, and HVAC must be delivered through the floor, ceiling, and interior wall systems. Only existing power locations may be accessed through an exterior wall. Mr. and Mrs. Battaglia prefer the HVAC ducts be located in ceilings, and that all walls and the residence ceilings be a gypsum board finished surface. However, they have requested an acoustical ceiling for the first floor specialty store. Every other facet of the decorative finishes is at the designer's discretion.

Keep in mind, Mr. and Mrs. Battaglia would like this project completed very quickly! Decide on a good layout that meets all of the requirements, and keep moving! Time management is crucial in order to meet deadlines.

Program Requirements: Wine & Gourmet Food Shoppe
Research and documentation of the client preferences should be clearly identified and implemented with the following criteria outlined below.

Executive Office
Private office for Mr. and Mrs. Battaglia. Should be a large office and private from the building's public entrance.
Freestanding furniture to include:
- Executive desk w/ return
- Executive high back task chair
- 2 guest chairs
- 10 linear feet of lateral file storage
- 45 linear feet of shelf space

Cashier Station
Include one cashier station in close proximity to the public entrance.
Considerations:
- Seating
- Storage
- Security
- Product point of purchase displays
- Packaging materials
- Specialized services

Product Displays
Include ample display space for product selections.
Display types:
- Wine
- Coffee
- Dry foods
- Refrigerated foods – self serve and/or full service
- Frozen foods – self serve and/or full service
- Gifts
- Wine and/or gourmet food accessories
- Tasting areas
- Other specialized products/services

Restroom
Include one restroom away from public view. See ADA requirements for layouts.
Include:
- Water closet
- Lavatory
- Mirror separate from lavatory
- Accessories – hand dryer, soap dispenser, waste disposal, paper dispenser, etc…

Facility Storage
Minimum 200 square feet of space. Do not show any furnishings.

Program Requirements: Loft Home
The private home for Mr. and Mrs. Battaglia should be functional, yet ready for upscale entertainment. The staircase leading to the loft apartment should be private and have a separate secure entrance from the back of the building that does not pass through the business, but is accessible from the business. Mr. and Mrs. Battaglia are a young urban couple that do not have any children or other persons residing in the home, and entertain frequently. They enjoy the atmosphere that typical loft style homes provide, except with a bit more privacy, and would like a comfortable, yet impressive, place to live.

Areas to include:
- Master Bedroom Suite with Master Bathroom
- Guest Bedroom
- Guest Bathroom
- Powder Room (Half Bath)
- Living Room
- Dining Room
- Kitchen
- Laundry Area

Kitchen
The kitchen must have a minimum of 158" of countertop frontage, and include a pantry and high-end appliances. However, space is conservative for all areas of the home for the city dwellers. Please design accordingly.

BATTAGLIA RESIDENCE AND SPECIALTY SHOPPE

PROJECT EVALUATION

COMPONENT	POINTS POSSIBLE
Title Page w/ List of Drawings	10
STRUCTURAL	
S-101: Foundation Plan	10
S-201: Exterior Elevation	10
S-301: Building Section	10
S-302: Building Transverse Section	10
S-303: Wall Sections A. Wall Type A B. Wall Type B	10
S-304: Stair Section	10
S-501: Stair Details	10
S-901: Framing Full Overview	10
ARCHITECTURAL	
A-101: Demolition Plan	10
A-102: First Level Floor Plan	10
A-103: Second Level Floor Plan	10
ELECTRICAL	
E-101: First Level Power & Communication	10
E-102: First Level Lighting Plan	10
E-103: First Level Reflected Ceiling Plan	10
E-104: Second Level Power & Communication	10
E-105: Second Level Lighting Plan	10
E-106: Second Level Reflected Ceiling Plan	10
MECHANICAL	
M-101: First Level Fire Sprinkler Plan	10
INTERIORS	
I-101: First Level Furnishings Plan	10
I-102: First Level Finish Plan	10
I-103: Second Level Furnishings Plan	10
I-104: Second Level Finish Plan	10
I-201 to I-202: Interior Elevations A. Check Out Station B. Check Out Station C. Display Cabinetry D. Public Restroom E. Kitchen Elevation F. Kitchen Elevation G. Master Bath Elevation H. Guest Bath Elevation	40
I-501: Detail Drawings A. Cornice Detail B. Base Trim Detail C. Door Surround/Trim Detail D. Countertop Profile Detail	20
I-901 to I-906: Presentation Views (6 Views)	60
GENERAL REQUIREMENTS Program Requirements / Spelling/Grammar	50
TOTAL	**400**

BATTAGLIA PROJECT EVALUATION | MICHELLE C. ROSE | FALL 2011

BATTAGLIA RESIDENCE AND SPECIALTY SHOPPE

PROJECT EXAMPLES

Figure 3.1. Title Page

Includes Table of Contents, List of Abbreviations, Project Title, and student's choice of imagery

Figure 3.2. Building Section

Building Section showing all furnishings, fixtures, and equipment, along with structural elements. Levels and ceiling heights noted.

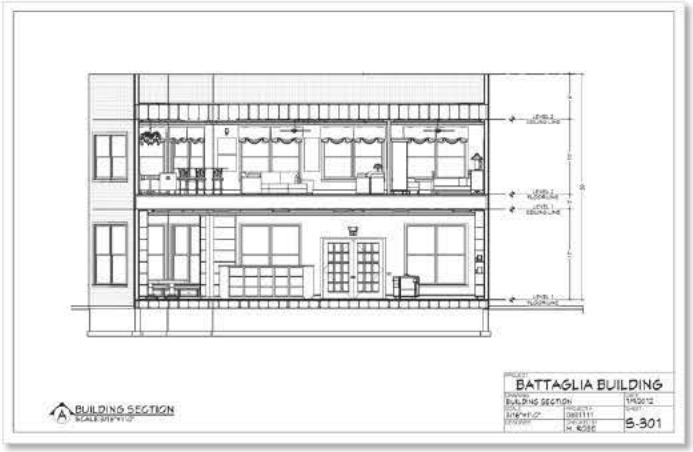
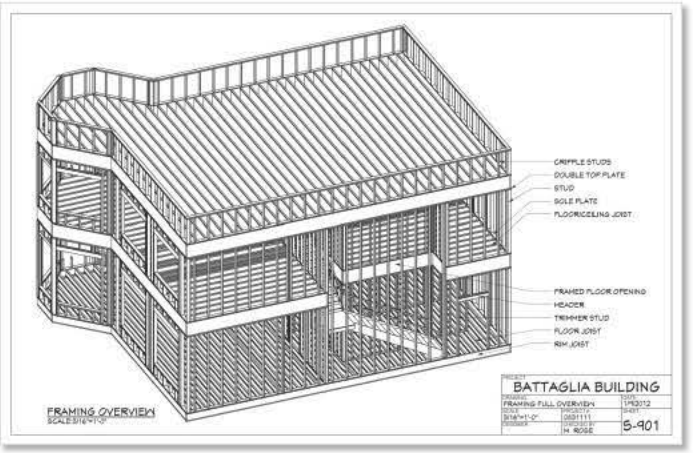


Figure 3.3. Framing Overview

Includes floor, ceiling, wall, and roof assemblies, including a parapet roof system, as well as window, door, and stair framing assemblies. Provides an opportunity to identify various framing components.



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BATTAGLIA RESIDENCE AND SPECIALTY SHOPPE

PROJECT EXAMPLES

Figure 4.1. Demolition Plan

Includes general demolition notes, along with all partitions to be demolished and partitions to remain.

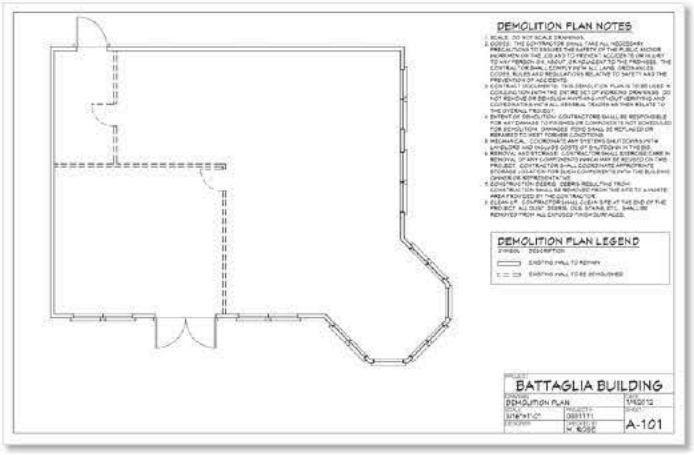


Figure 4.2. Floor Plan

Includes all built-in features, dimensions of existing and new partitions, general floor plan notes, notations of elevation views and perspective views, and stair section.

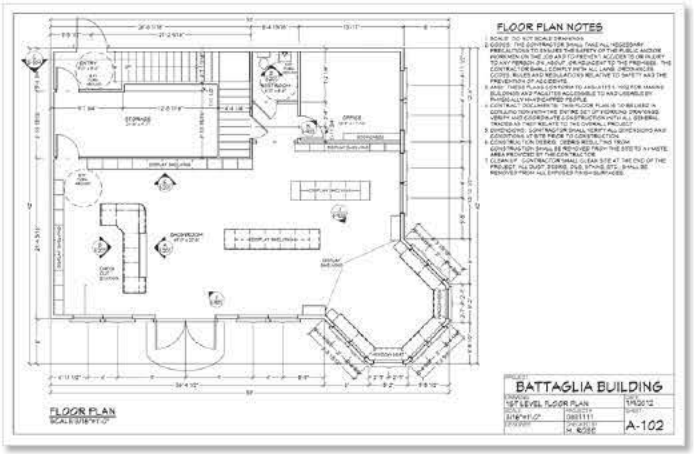
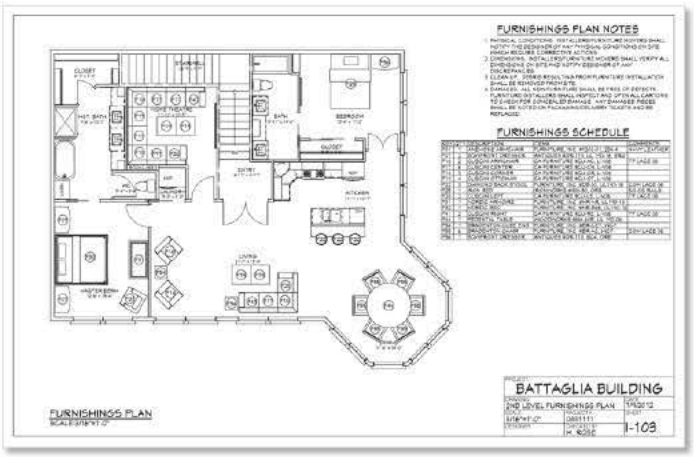


Figure 4.3. Furnishings Plan

Includes all furnishings, noted and keyed to a detailed furnishings schedule, along with general furnishings notes.



BATTAGLIA PROJECT EXAMPLES | MICHELLE C. ROSE | FALL 2011

BATTAGLIA RESIDENCE AND SPECIALTY SHOPPE

PROJECT EXAMPLES

Figure 5.1. Fire Sprinkler Plan

Includes fire sprinklers with dimensioned locations, exit signage, and built-in fire extinguisher locations.

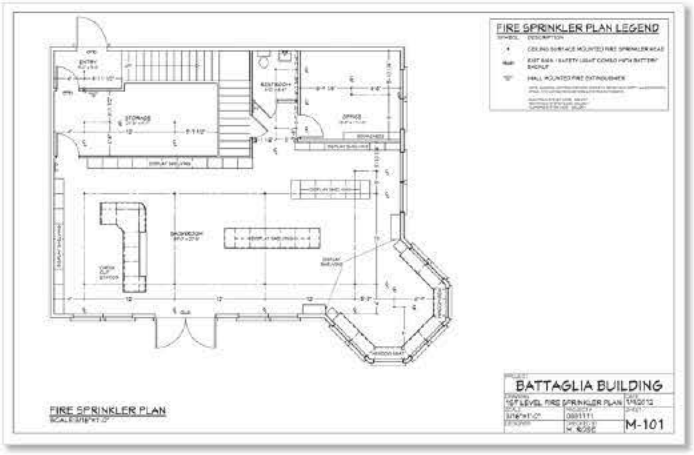


Figure 5.2. Lighting Plan

Includes all lighting, switching, exhaust fans, circuitry, electrical and/or control panels, and general lighting notes.

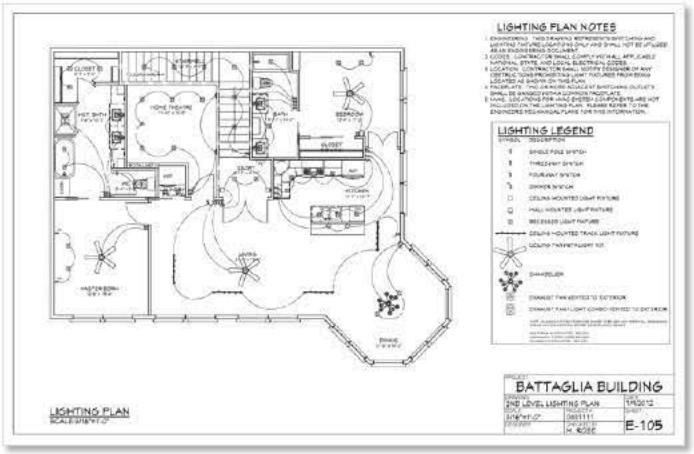
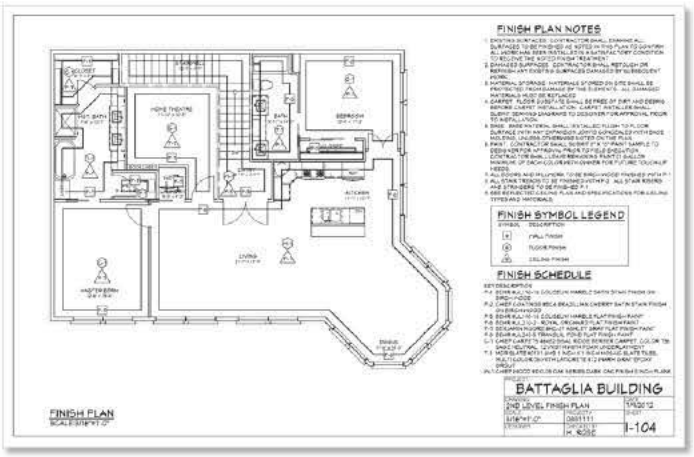


Figure 5.3. Finish Plan

Includes floor, wall, and ceiling finishes, general finish notes, and a detailed schedule of finish materials and types.



BATTAGLIA PROJECT EXAMPLES | MICHELLE C. ROSE | FALL 2011

COLOR EDUCATION FOR INTERIOR DESIGNERS: IS JOSEF ALBERS IN THE CURRICULUM?

Magdalena Sánchez-Dahl & Lori Anthony

Chatham University

ABSTRACT

Interiors that are unattractive, depressing, or irritating are often the result of poorly chosen color. Some thought and professional training in this area can yield to superior results (Pile, 1997). The challenges that interior designers face with the use of color can be exceptionally complex, often full of surprises and hazardous pitfalls, even for professional designers with many years of experience (Miller,1997). Despite the advances in technology and the multiple applications of digital images that have been developed especially in the latest years, color problems and final decisions in the design industries are still solved solely through “the human eye” (Holtzschue, 2002).

The purpose of this study is to determine two factors: 1) the importance of color education among interior design programs in the U.S., 2) the extent of Josef Albers’ interaction of color teachings within the color curriculum of these same programs. Josef Albers was a color theorist and abstract artist that focused his work in the instability and relativity of color, as well as the training of the eye to “see” color (Dorosz & Watson, 2011). According to Albers, even within an unstable idea of color, effects can be predicted and controlled (Holtzschue, 2002). Are interior design students being trained to predict and control color effects through Albers teachings?

Via an on-line survey, the study reached 19 color education professors in CIDA accredited interior design programs. Findings revealed that 1) Color class scored the lowest in terms of importance compared with other interior design courses. 2) The survey indicated that 68% of participants incorporated Albers’ teachings in their course, however only 45% used color-aid paper as working material. 3) Fifty three

SOTL Presentation, 457 words.

percent of color classes were combined with other important subjects, leaving limited time to establish a thorough understanding of color.

Conclusions: The historical overview of the relationship between color and civilization illustrates that color is ageless, timeless, and it is essential for human life. Even in today's technologically-intensive era, designers still rely on their sight to reach the ultimate decision about the use of color. In the field of color, where there are no standardized rules or formulas, it is the training of the eye that will allow a designer to stand out among peers. Josef Albers invites students with an interest in color to experience the interaction of color through a series of exercises to then apply the technical knowledge as they see fit. The main objective of his teachings is that after working through the series of exercises the eye will experience a shift on how it sees the interaction of color. The results of this survey highlight some surprising and potentially disappointing trends in color education as apparently Albers' methodologies are structured at a more theoretical level and to a lesser degree at a practical and experimental level.

(APA Style)

References

Albers, J. (2006). Interaction of color (Rev. ed.). New Haven, CT: Yale University Press.

Dorosz, C; & Watson, JR. (2011). Designing with color: concepts and applications. New York, NY: Fairchild Books.

Holtzsche, L. (2002). Understanding color: an introduction for designers (2nd ed.). New York: John Wiley & Sons.

Miller, M. C. (1997). Color for interior architecture. New York: John Wiley & Sons.

Pile, John. (1997). Color in interior design. New York: McGraw-Hill.

SOTL Presentation, 457 words.

Appendix

(1) Figure 22. Viewer's Eye is Challenged. Reprinted with permission.
File name: Sanchez-Dahl-Appendix1.pdf

(2) Table 3. Importance of Color Vs Other Interior Design Courses.
File name: Sanchez-Dahl-Appendix2.pdf

(3) Table 4. Albers' Approach is Integral & Emphasized in my Teachings.
File name: Sanchez-Dahl-Appendix3.pdf

(4) Table 5. Most Important Skill for Interior Designers Working with Color.
File name: Sanchez-Dahl-Appendix4.pdf

(5) Table 6. Color Theorists Included in Curriculum.
File name: Sanchez-Dahl-Appendix5.pdf

APPENDIX 1

In the original design for this study, the viewer's eye is challenged when the same color is presented with different backgrounds. In the figure below (see Figure 22) a stripe of ochre is placed under horizontal dark blue and yellow stripes with a resulting effect of apparently being two different colors at the top and at the bottom. The individual has to look at the center of the exercise where the yellow and the blue colors connect; it is very easy to see how different the top ochre strap looks from the bottom one (Albers, 2006).

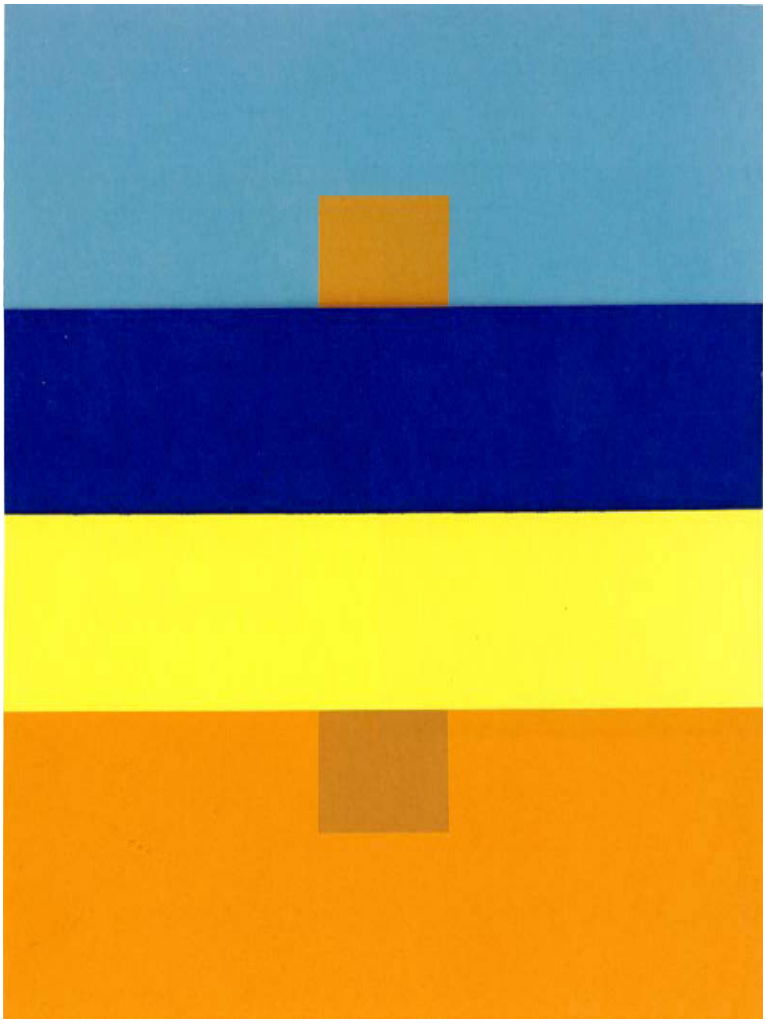
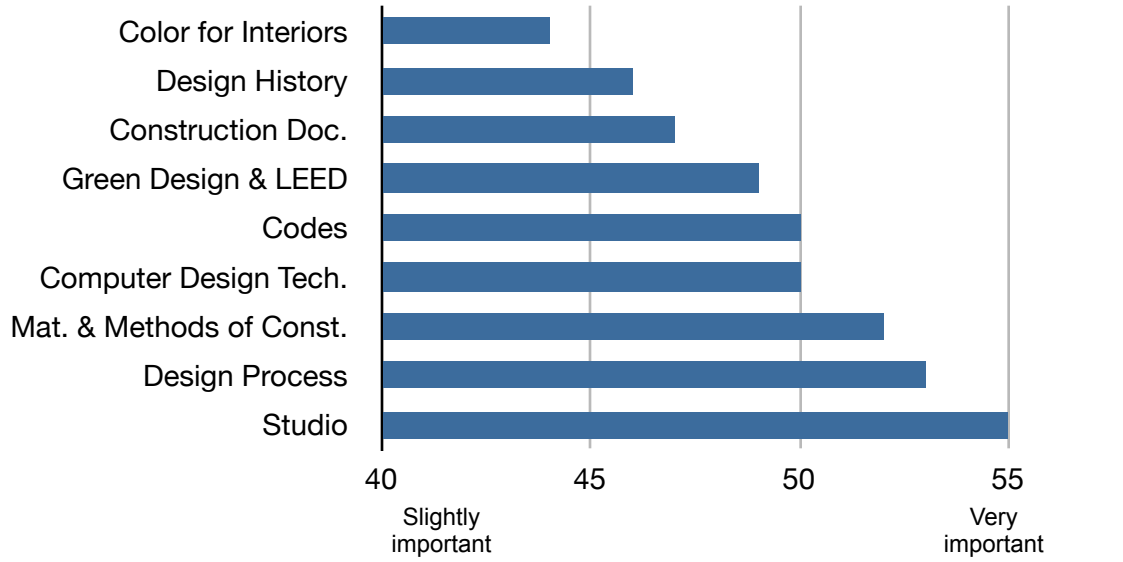


Figure 22. Viewer's Eye is Challenged. "No normal human eye is able to see both of the small squares alike" (Albers, 1963, p. 76). Copyright 2006 by Yale University Press. Reprinted with permission.

APPENDIX 2

Table 3

Importance of Color Vs Other Interior Design Courses

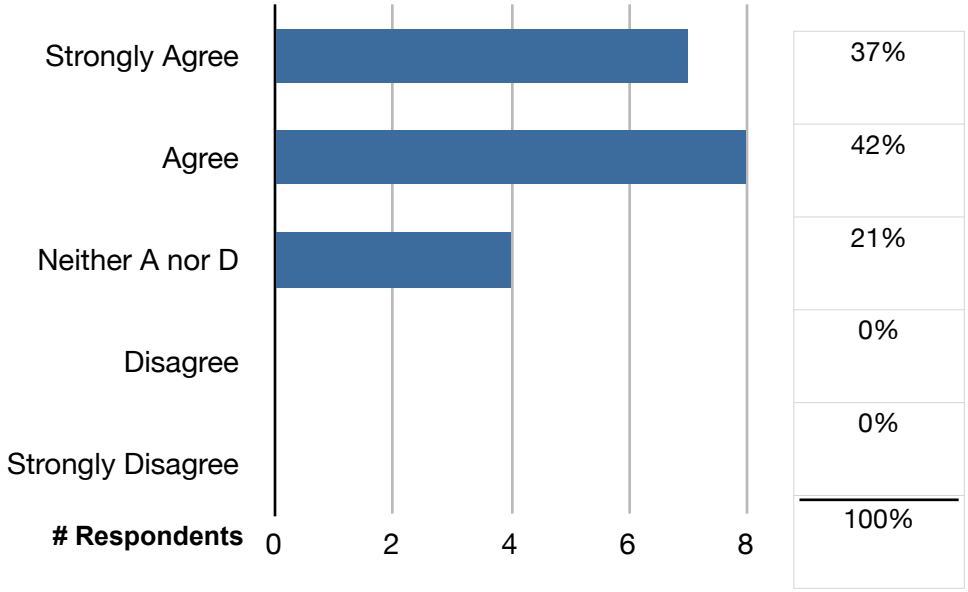


Note. Color class received the lowest total score of 44 (slightly important); while studio class received the highest score of 55 (very important).

APPENDIX 3

Table 4

Albers Approach is Integral & Emphasized in my Teachings

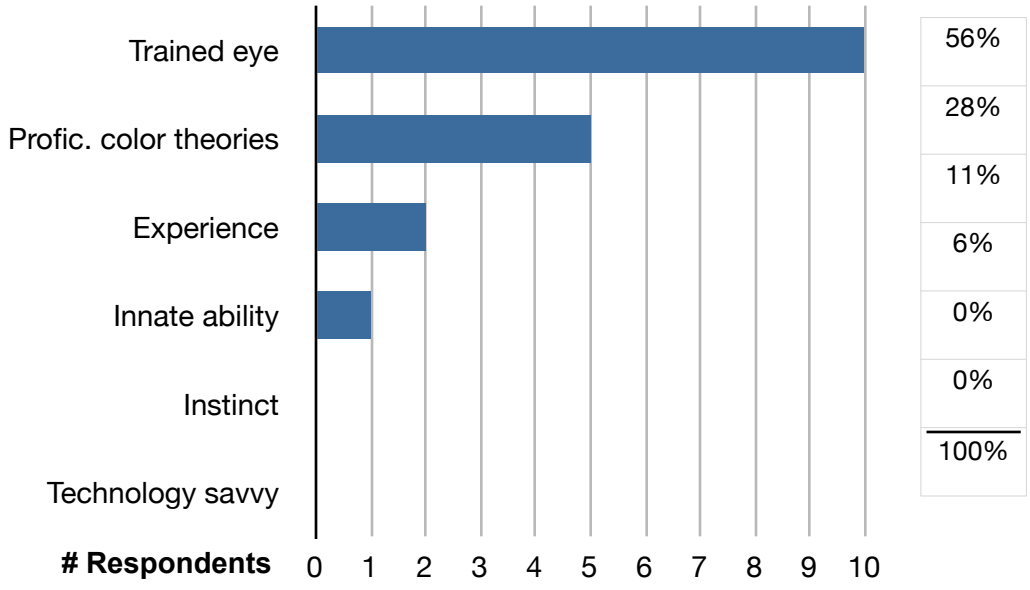


Note: Almost 80% of respondents considered Albers' approach as integral and was emphasized in their teachings.

APPENDIX 4

Table 5

Most Important Skill for Interior Designers Working with Color

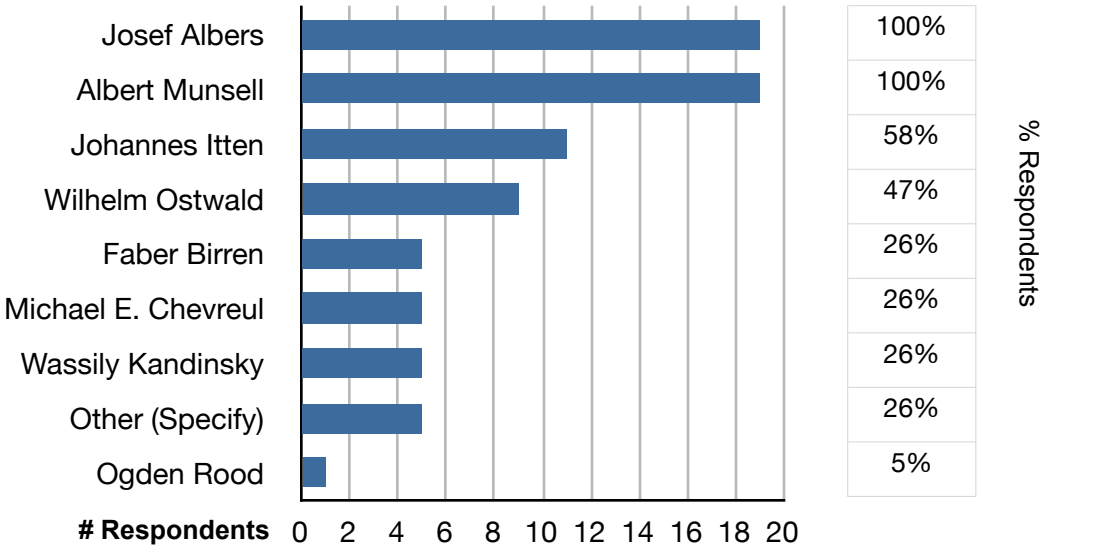


Note: This finding highlights that at least at a hypothetical level the importance of a trained eye achieved by Albers' teachings appears to be the most valuable asset an interior designer student and professional can acquire.

APPENDIX 5

Table 6

Color Theorists Included in Curriculum



Note: The title of this research study asked the following question: Is Josef Albers included in the curriculum? All respondents answered “yes”.

Green BIM: Investigating environmental performance of interior environments using Building Information Modeling in the interior design curriculum

Tina Sarawgi

The University of North Carolina at Greensboro

ABSTRACT

Interior designers today are working as part of environmentally aware design teams. This presents a growing opportunity for them to contribute their special awareness of interior environments to this team effort and to understand the work of other design professionals (Binggelli, 2010). Council of Interior Design Accreditation guidelines on environmental systems and controls in Standard 12 requires that entry-level interior designers use the principles of lighting, acoustics, thermal comfort, and indoor air quality to enhance the health, safety, welfare, and performance of building occupants (CIDA, 2011). These topics are best understood when access to a comprehensive dataset regarding the form, materials, context, and systems of the space is available.

Building Information Modeling (BIM) allows for multidisciplinary information to be superimposed within one model incorporating structural, mechanical, electrical, plumbing and lighting (Tucker, 2010). Hence an ideal opportunity exists for sustainability measures and performance analysis to be integrated within the BIM model (Azhar & Brown, 2009). With programs such as *Autodesk Ecotect* that can import BIM models, interior designers can holistically study the performance of interior environments leading to creation of more comfortable, healthy, and sustainable spaces for its inhabitants (Poh Lam & Yeang, 2009; Azhar & Brown, 2009).

This paper reports on the use of Building Information Modeling and Simulation tools for environmental analyses in the building systems undergraduate course and graduate-level project in an interior design program. The teaching approach was to introduce the students to the concepts and methods of integrated building systems and guide them to an iterative process of simulating the environmental performance of existing interior spaces using *Autodesk Revit* BIM models imported into *Autodesk Ecotect* (See sample assignment handout in Appendix). Students utilized *Autodesk Ecotect* in performing a variety of

simulation tasks including shading and solar access studies, lighting studies, and estimation of occupant comfort based on thermal performance of the space. The graduate project focused on analyzing the impact of environmental conditions on shipping containers and what changes need to be made to arrive at a comfortable and habitable interior environment. An in-depth study was conducted using *Autodesk Ecotect* (See Figures 1, 2, 3 and 4).

A building systems course does not traditionally elicit enthusiasm and interest from the interior design students. *Autodesk Ecotect* was found to be an effective interactive learning tool for a novice environmental designer to understand many of the important concepts necessary for optimal performance of interior environments. The resultant graphics were easily interpreted. While most results were quickly generated, for specific simulation tasks such as lighting, simulating smaller spaces was found to be more successful due to longer analysis run times.

Results from the two learning experiences would be of interest to educators who teach environmental systems courses in interior design programs. Interior designers do not need to design environmental systems, but be aware of their role and impact on the interiors within an integrated context. With continued emphasis on sustainability and energy conservation, educators can guide future interior designers to the center of dialog with other building professionals through the use of the environmental performance simulation tools.

REFERENCES (APA)

Azhar S. & Brown, J. (2009). BIM-based sustainability analyses. *International Journal of Construction Education and Research*, 5 (4), 276-292.

Binggelli, C. (2010). *Building Systems for Interior Designers, 2nd edition.* Hoboken, NJ: John Wiley & Sons, Inc.

Council of Interior Design Accreditation (2011). *CIDA Professional Standards 2011.* Retrieved September 23, 2011 from http://www.accredit-id.org/professional-standards

Poh Lam, K. & Yeang, K. (2009). Computational Building Performance Modelling and Ecodesign. *Architectural Design.* 79 (5), 126–129.

Tucker, L. (2010). *Sustainable Building Systems and Construction for Designers.* Fairchild Books.

APPENDIX

Assignment 1: Building Simulation Using Ecotect. (simulation_assignment_ecotect.pdf)

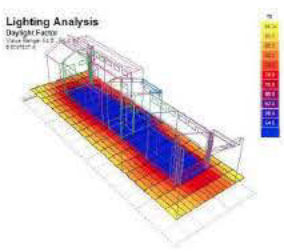
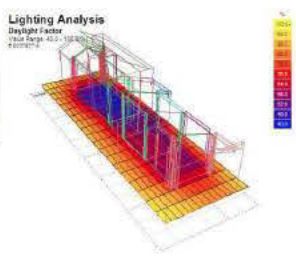
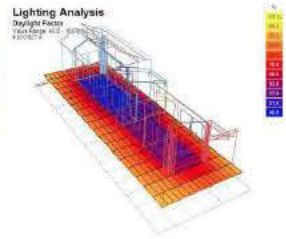
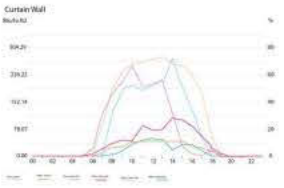
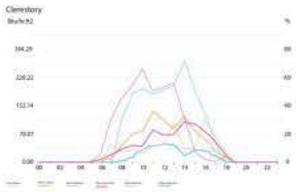
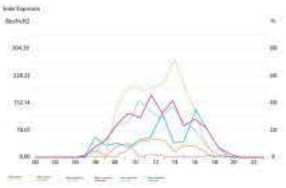
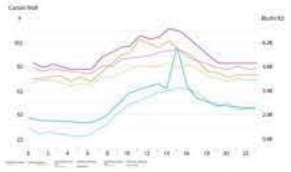
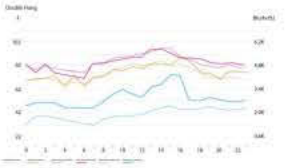
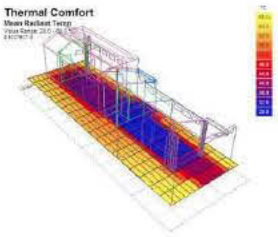
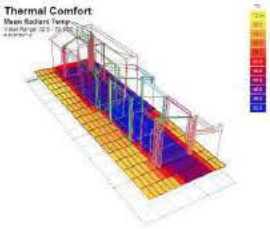
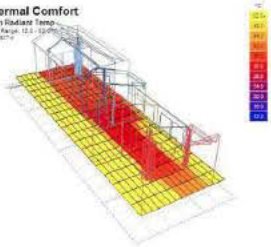
Figure 1: In this graduate student project, three design scenarios were established along the east and west façade of the shipping container: (1) clerestory windows (2) double-hung windows and (3) curtain walls to test its environmental performance.
(design_scenarios.jpg)

Figure 2: Lighting, Solar exposure, Thermal analysis, and Thermal comfort analyses was performed on each option (curtain wall, clerestory and double-hung windows) on July 20th, the hottest day of the year in New Orleans, LA at noon. (environmental_analyses_1.pdf)

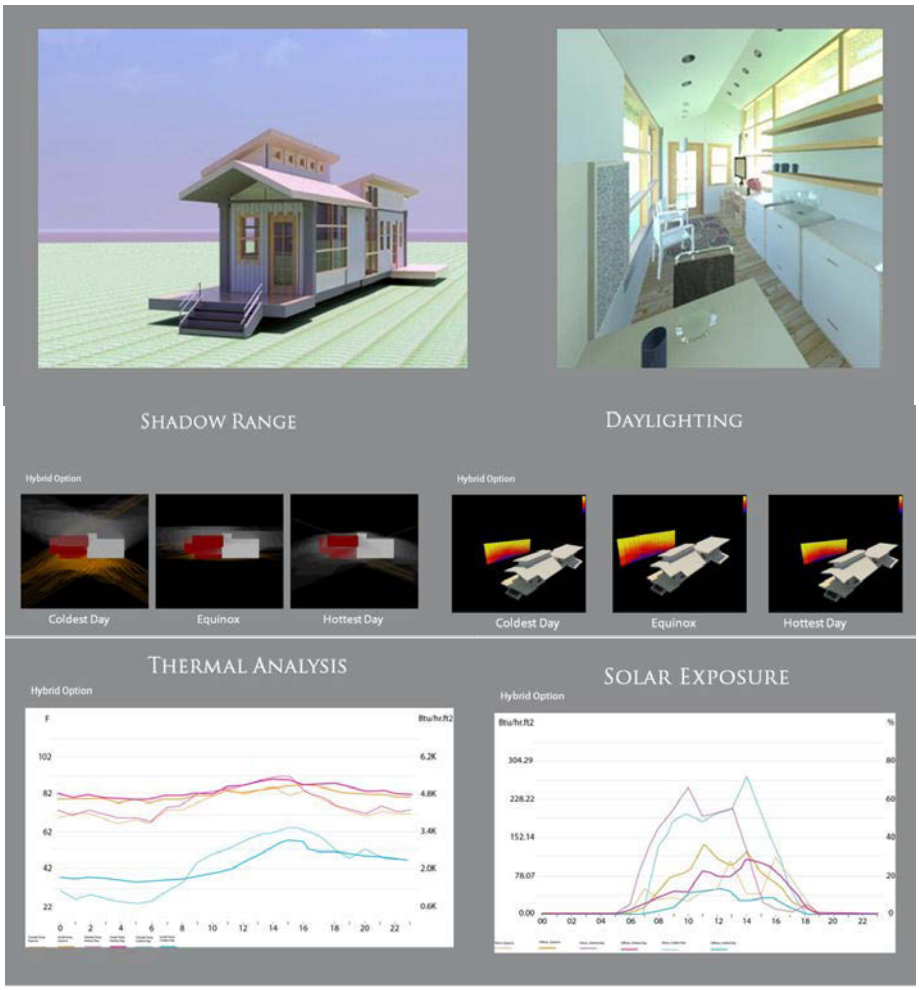
Figure 3: Analyses performed on each option (curtain wall, clerestory and double-hung windows) on July 20th, the hottest day of the year in New Orleans, LA at noon to examine Solar Rays. The images show solar rays over 12 hours on coldest day, hottest day and equinox in New Orleans, L.A. The double-hung window option receives more daylight than the clerestory option but not as much as the curtain wall option. Heat gain is the reverse of daylight gain in the three options, thus the curtain wall option receives the most heat gain whereas the clerestory option receives the least. (environmental _analyses_2.pdf)

Figure 4. The images show the hybrid option, a combination of the three design scenarios. Curtain walls are used in the public spaces to provide the maximum amount of light, and clerestory windows are placed to admit light deep into the space. In the semi-private spaces, double hung windows are provided to provide light that can be controlled. Shading devices along the exterior aid in controlling daylighting and heat gain inside the space.
(hybrid_option_performance.pdf)

SHIPPING CONTAINER MODEL
Double Hung
Clerestory
Curtain Wall

Options	Curtain wall	Clerestory windows	Double-hung windows
Lighting analysis			
Solar exposure			
Thermal analysis			
Thermal comfort			

SOLAR RAYS
CURTAIN WALL
6 a.m.
8 a.m.
10 a.m.
12 p.m.
2 p.m.
4 p.m.
6 p.m.
Coldest Day
Hottest Day
Equinox
SOLAR RAYS
CLERESTORY
6 a.m.
8 a.m.
10 a.m.
12 p.m.
2 p.m.
4 p.m.
6 p.m.
Coldest Day
Hottest Day
Equinox
SOLAR RAYS
DOUBLE HUNG
6 a.m.
8 a.m.
10 a.m.
12 p.m.
2 p.m.
4 p.m.
6 p.m.
Coldest Day
Hottest Day
Equinox


SHADOW RANGE
DAYLIGHTING
Hybrid Option
Coldest Day
Equinox
Hottest Day
Hybrid Option
Coldest Day
Equinox
Hottest Day
THERMAL ANALYSIS
Hybrid Option
SOLAR EXPOSURE
Hybrid Option

Interior Design Without Architecture: A Studio Exploration in Prefabricating an Amtrak Train Interior

Deborah Schneiderman

Pratt Institute

Problem

"The essence of movement is freedom and the technological challenges that accompany its exploration naturally lead away from the stiff, static approach found in much conventional building design…" (Kronenberg 1998, 1)

Interior design is often considered a subset of architecture; such definition fails to recognize that interior space is not limited to the inside of a building. This studio, in collaboration with Amtrak, explored the application of interior design, sustainability and prefabrication within specific train cars. The design of train cars has been dominated by the Engineering and Industrial design professions, but the field of interior design has much to add in creating livable, functional and sustainable environments within these mobile and contained spaces.

Prefabrication was critical to this studio as Amtrak, at the time of the studio, was investigating prefabrication techniques for a major redesign of their own car shells and interiors. Amtrak entered this studio having conducted extensive research around interior design issues and provided train car CAD drawings and specifications. Amtrak was involved in the studio at several critical junctures; students were invited to a field visit at the train service yard, Amtrak Industrial Designers visited the studio early in the semester to discuss design issues and again to review final projects.

Teaching Methodology

Fourth year interior design students were given the opportunity to select their studio by topic, the response to the Amtrak studio was overwhelming, resulting in filling the studio beyond its intended capacity.

The course began with a research report, the historical survey and case study was written and presented by the students to convey the history and detail of train car interiors. Next, through lecture, the students were introduced to the topic 'Prefabricated Interior Design' to aid in their research and design of prefabricated elements for the train. Design exercises were constructed to introduce concepts of confinement and scale, and methods of modularization. Students worked from micro to macro to design three-components. First, students designed and fabricated full-scale screens sited between their desks to better understand scale and the division of confined space. Second, students worked individually and then as an all class team to design and build a full-scale prefabricated wall prototype to appreciate and understand prefabricated and modularized space. Third and as the primary semester project, students designed multiple train car interiors, for both sleeper and diner cars (figures 1-4).

Results/Relevance to Interior Design

It is a critical challenge for the Interior Designer to consider not only the typical scenario of design for building interiors but to also consider emerging specialties within the discipline. (Davies 2010, 76-77)

Qualitative data collected through observations at site visits and individual and juried critiques demonstrated overwhelming positive response to the Interior Design Without Architecture/Amtrak studio project. This teaching study's examination of interior design in a non-traditional environment demonstrates a necessity and enthusiasm for alternative approaches to interior design pedagogy.

References (Chicago Style [Author-Date])

Davies, Brian. 2010. “Enabling Exploration: Educating Future Leaders in Extreme Design.” In Proceedings of the Annual Conference of the Interior Design Educators Council, Atlanta, 2010, 74-79, Indianapolis: Interior Design Educators Council.

Kronenberg, Robert. 1998. Transportable Environments. Routledge New York, NY.

Appendix A [Images]

figure 1

Final Critique

Critique.JPG

figure 2

Sleeper Car with high adaptability and custom OLED wallpaper

Sleeper_1.pdf

figure 3

Sleeper Car with stacked and shifted compartments

Sleeper_2.pdf

figure 4

Café car with multidirectional seating

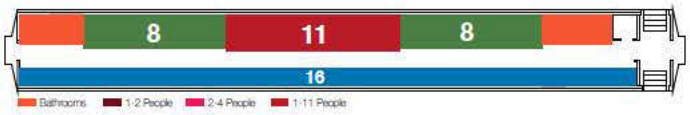
Café.pdf

Appendix B

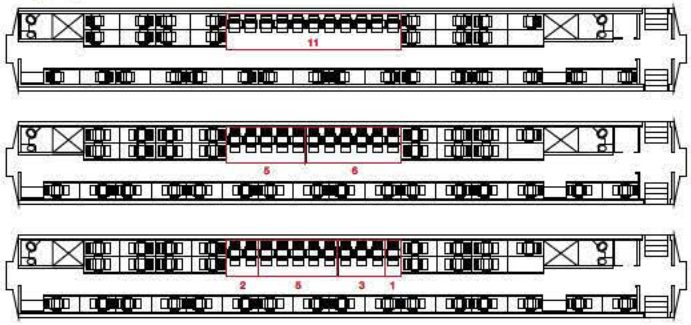
Syllabus and Project Descriptions

INT401_dschneiderman_fall11_IDEC.pdf

Sleeper Car Before= 32/ Coach Car= 57 Sleeper Car Now= 43

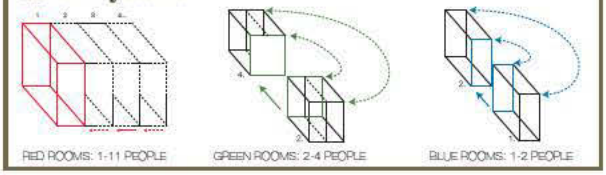


Sleep up to 11 in the Red Rooms.

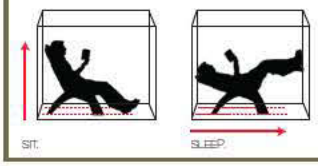


SLEEPER CAR- A hybridization of the original sleeping car and the coach car. This new design gives you as a passenger many options while traveling. You can travel just as comfortably alone as you can with group up to eleven people. This is possible with the retractable smart fabric wall partitions. As you lay back in your Zero Gravity chair that moves forward slightly, it will put you into the ideal comfort position, and you are then able to watch or project your electronic devices or videos onto the fabric partitions.

Room Systems.

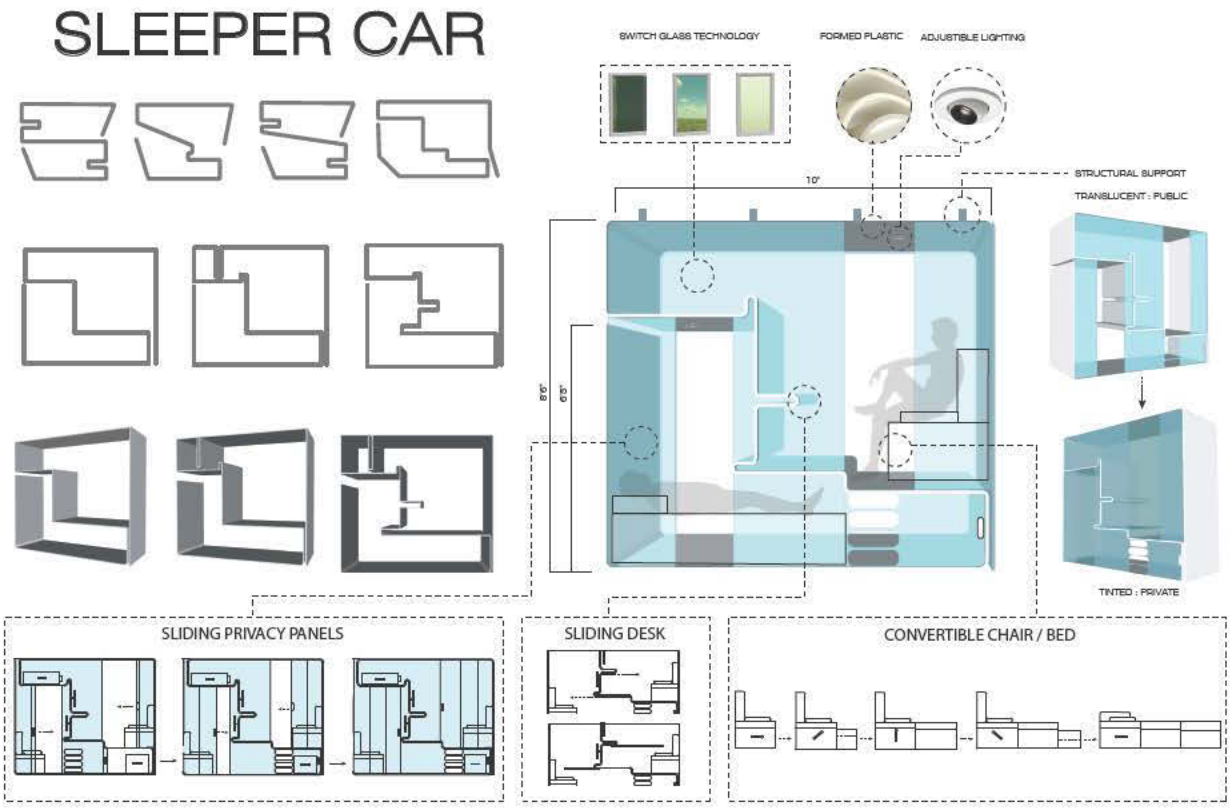


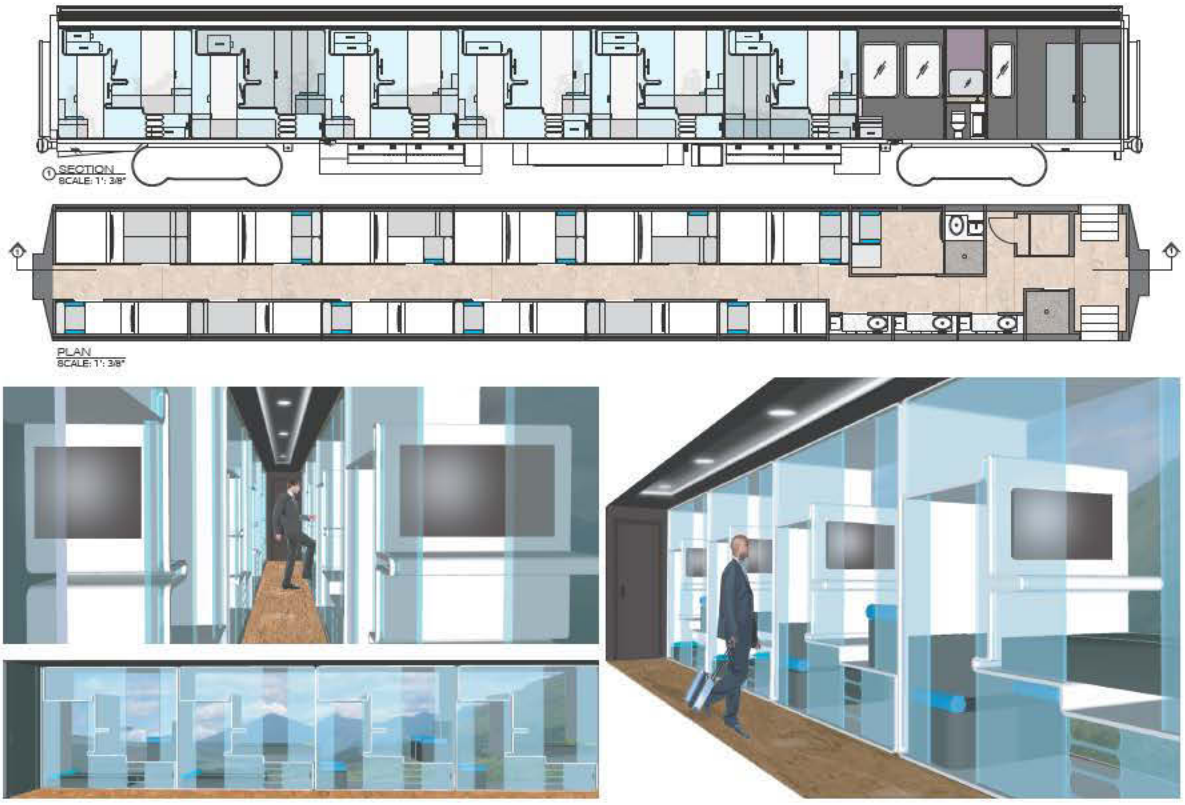
Chair Positions.



Sleeper Car Plan- Scale: 3/8"=1'-0"

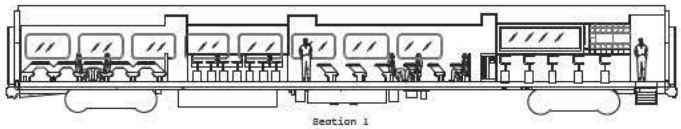
Sleeper Car.


SLEEPER CAR
SWITCH GLASS TECHNOLOGY
FORMED PLASTIC
ADJUSTIBLE LIGHTING
STRUCTURAL SUPPORT
TRANSLUCENT : PUBLIC
TINTED : PRIVATE
SLIDING PRIVACY PANELS
SLIDING DESK
CONVERTIBLE CHAIR / BED


SECTION
SCALE: 1': 3/8"
PLAN
SCALE: 1': 3/8"

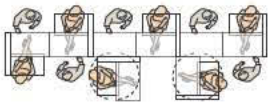
Cafe car

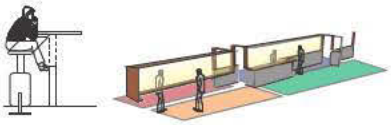
Plan

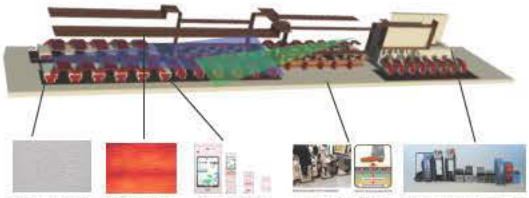

Section 1

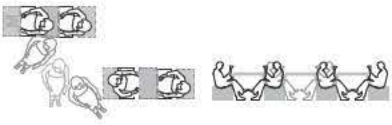
Perspective 1

Perspective 2

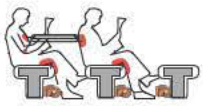

Rotating barstool


Bar Table as a continuous piece to serve multiple functions


White Leather Jagorta wood Bio plastic Piezoeleotrio Spice Airline Galley


Flexible seating

Flexibility offers change in positions for different people


Cushioned areas for comfort

Storage space within seats and tables

Pratt Institute of Art and Design / Interior Design / Fall 2011

Course Number/Title
INT 401
Credits
4.00
Course Location
Pratt Studios Mondays and Thursdays 9:30-12:30

Instructor Information

Name	**Academic Title**	**e-mail**
Deborah Schneiderman	Associate Professor	dschneid@pratt.edu

BULLETIN DESCRIPTION:
INT-401 presents advanced problems in design dealing with complex interior and environmental problems.

DETAILED DESCRIPTION:
Advanced Design Studios focus on a single methodological approach to interior and environmental issues, thereby allowing a thorough understanding of the translation of program and concept to specific design issues through detailed research and development.

This studio will explore the application of interior prefabrication in a non-architecture environment. Prefabrication in the field architecture is by no means a novel concept. Though much attention has been given to the prefabrication of architecture there has been virtually no pointed discussion on the influence and importance of prefabrication within interior environment. The techniques and applications of prefabrication of the interior have been evident for thousands of years, and prefabrication in the built environment owes much of its advancement to concepts investigated in terms of interior elements and components.

Also prevalent in Design is the discussion of transportable environments. When speaking of transportable environments Robert Kronenberg states– "The essence of movement is freedom and the technological challenges that accompany its exploration naturally lead away from the stiff, static approach found in much conventional building design. Transportable buildings take hours, days or minutes to erect. As with vehicles, arrival and departure are integral to their character, as are the qualities of power, vitality and excitement. The environments such structures create therefore possess a unique quality associated with event and memory that static architecture can never match".

Projects will address the application of interior prefabrication in a non-architecture environment. We will work in collaboration with Amtrak to test and explore new design strategies for train car interiors. Amtrak is currently in the process of procuring new sleeper and diner cars and utilizing prefabrication technologies and has recently done extensive market research around interior design issues – they will participate at key points in the semester.

LEARNING OBJECTIVES:
Students will each formulate a personal, self-directed design process: a conceptual framework to guide their decision-making. They will be expected to master the conceptual and physical tools of interior design through individual projects; to be able to explain, defend, and modify the design process through presentations and discussions, analysis and research, reading, drawing and model-making.

Students are required to produce work on time, and in volume. They will be asked to demonstrate ideas in sketch form, physical models, sets of finished presentation drawings, material and color boards, and finely rendered images.

BIBLIOGRAPHY

Transportable Environments 3 – Robert Kronenberg
Italy: The New Domestic Landscape by Emilio Ambasz
Houses in Motion: The Genesis, History and Development of the Portable Building -Robert Kronenburg
Mobile: The Art of Portable Architecture – Jennifer Seigal

METHODOLOGY:

ASSIGNMENT 1A

Screen

Develop a "screen" to be sited at one of the edges of your desk in studio. This screen should act as a membrane that mediates a *simple* exchange, passage, filtration, etc. - an inter***act***ion, visual or physical - across the screen. The screen (material and form) and the terms by which it acts as a mediator (program) should be developed simultaneously and should respond to each other. Consider the screen as a module of a whole.

Consider:

What does a screen provide? Utility? View? Privacy? Connection? What passes through? What is obstructed? What is obstructed? What is the relationship between the two sides? Does it change or is it absolute? How does it relate to the human body, the actions around it, time? How does the screen affect all the senses?

requirements:

Full scale screen, securely sited between desks.
Media –cardboard, glue.

ASSIGNMENT 1B

Research Assignment: Interior Design without Architecture

Investigate the advent and historical precedents of train and mobile interiors. You may select any segment of train history for you focus. Your paper is to be 1000 words, academically cited and referenced (at least 5 sources) and include images and samples where applicable. In addition to the written paper – material researched will be presented visually/verbally.

Refer to the Chicago Manual of style notes and bibliography for reference information
http://www.chicagomanualofstyle.org/tools_citationguide.html

ASSIGNMENT 2

Modular Wall

Develop and design a system for a modular wall. The system must be adaptable to existing conditions

Consider

How will your modular system adapt to the conditions of the site, height and width. How will your system define public and private space.

requirements:

Model
Media to determined as per conceptual goals of project.

ASSIGNMENT 3

Programmatic Introduction

Interior Design without Architecture: Amtrak Train Interiors

Building upon an understanding of how a prefabricated modularized kit assembles into an interior environment, the scale of the body within the space and the consideration of the division of public and private space consider the design for the train Interior. Consider modularity, prefabrication and interchangeability.

3A *Sleeping Car* multiple typologies will be explored

3B *Dining Car* multiple typologies will be explored

Project Documentation:
Through out the semester students will be required to document all work using all technology available and post on the class FTP site for shared viewing and use. As a collaborative project we look upon all work as a shared resource to the common goal of a full-scale installation. Each student shall create a file within the FTP site for their work to be stored. All posted work shall be in a PDF format maximum size – 1280 pixels wide by 720 pixels high.

Assessment and Grading:
Students will be evaluated on the following:

Attendance and Class Participation, Research and Analysis, Material Development and Presentation, Team Work and Collaboration

Grading:
A= Excellent/ beyond expectations (90-100 PTS)
B= Above Average (80-89 PTS)
C= Average (70-79 PTS)
D= Below average but passing (60-69 PTS)
F= Failure to meet the minimum requirements of the class (below 60 PTS)

Requirements: Students will also be required to draw and build product prototypes in actual scale all semester long. Plans, sections and elevations drawn in autocad or manually, as well as in sketchup, 3d studio max and rhino 3-d models are the minimum drawing requirement weekly and at presentations. Students will become familiar with photoshop and illustrator and power point for presentation formats.

Students will work at half and full scale for the first weeks of the semester in material specific models. Then project scale will shift to full-scale development. Students will build mock ups in research specific materials.

Course Requirements
Developmental drawings, models and supporting documentation are required for each class. Attendance and participation in midterm and final presentations are required. Successful completion of midterm and final project requirements and reviews is required and no make-up or postponed project submissions will be accepted except in the case of unforeseen circumstances and emergencies. Excused absences and project delays must be officially cleared, by professors-in advance-in order to be considered valid. As per Institute rules, (3) three unexcused absences will result in an automatic failure of the course.

Students will be required to develop supporting physical and digital drawings and models. Student projects will require students to work in studio, on-site and in the architectural model shop in order to develop and complete semester projects. All students must complete shop certification requirements and have a validated shop sticker in order to use the facilities. Shop certification schedules and shop hours will be available during the first week of class.

Empowering Students Through Collaboration Across Institutions: A Community Health and Design Studio Class

Hans-Peter (Hepi) Wachter
Shawn Schaefer
Dave Boeck

University of Oklahoma
and
George Mann

Texas A&M University

ABSTRACT
The case studied is an interdisciplinary design collaboration between architecture students and interior design students at University of Oklahoma, students from the Urban Design Studio at the University of Oklahoma Tulsa campus, the Architecture for Health Design Studio at the Texas A&M University in College Station Texas, the clinical program development at the Tisdale Health Specialty Center, the University of Oklahoma School of Community Medicine and the Economic Development Corporation of Tulsa where the Health Facility is planned to be build. The students also worked with community partners, collaborators in the field of the build environment and partnering healthcare provider and professionals in the medical field with a focus on community healthcare facilities and public health in the community (figure 1).

Framework

The project involved a multi-disciplinary design collaboration between architecture and interior design students at the College of Architecture of the University of Oklahoma, the Urban Design Studio Tulsa, the Architecture for Health Design Studio at the Texas A&M University, the clinical program development at the Tisdale Wayman Tisdale Specialty Center, the University of Oklahoma School of Community Medicine and the Tulsa Economic Development Corporation. Invited speakers enriched the course concept of

multi-disciplinary contributions to the process. There is evidence that such approaches promote student learning (Karsten, H.D., O.Connor, R.E. 2002).

The project developed a communication concept through the World Wide Web as public interface (Wiki and Blog) (figure 2) (figure 3), a project steering committee comprised of public service organizations and focus groups lead by medical communities.

'Collaborative Learning' is often used as a synonym for cooperative learning when, in fact, it is a separate strategy that encompasses a broader range of group interactions such as developing learning communities and stimulating discussions (Bruffee 1993).

The interaction with the clinical development program and the exchange with the Tulsa Economic Development Corporation encouraged the understanding of diverse disciplines, methods, perspectives, and approaches in the development of a Community Health project. Interdisciplinary design studio settings provide education to instill effective teaming skills and actively entrench collaborative techniques. Such teaming skills are critical in the workplace of the build environment (Howes, 2000). The industry indicates importance of a multi-disciplinary team approach in developing successful projects.

The project aids in facilitating a first look at the relationships between design and medical disciplines and how to instruct and construct translational knowledge in designing health facilities. Wilsons (1996) meaning construction view of knowledge for example, compares such knowledge with meaning of instruction.

All project phases required student team work and pre-defined deliverables which were presented verbally and visually to all other constituencies. In multi-disciplinary teams, members must not only understand the connections between separate disciplines (figure 4), but also be able to visually communicate and recognize concepts and ideas with each other. Graell-Colas. M, Gill C. (2009). This paper/ presentation will demonstrate how students had broadened learning outcome through the exposure to, and work relationship with, the participating parties and how the collaboration across institutions enriched student learning experience which could not have been accomplished by one teaching institution alone.

REFERENCES (APA)

Bruffee K. (1995) Sharing our Toys: Cooperative Learning versus Collaborative learning. Change: The Magazine of Higher Learning, 1939-9146, Volume 27, , 1995, Pages 12 – 18

Graell-Colas. M, Gill C. (2008). Visual Literacy Across Disciplines: Visualization Tools for Generating and Communicating Information in Multidisciplinary Teams, Proceedings of the fifth International Conference of Learning, Chicago Illinois

Howes, J. (2000). Is working together working? in Changing Architectural Education: Towards a new professionalism, Ed. By David Nicol and Simon Pitting, London: E& FN SPON 128-135

Karsten, H.D., O.Connor, R.E. (2002). Lessons Learned from Teaching an Interdisciplinary Undergraduate Course on Sustainable Agriculture Science and Policy, Journal of Natural. Resource. Life Science. Education., Vol. 31, 2002, 111-116

Wilson B. G. (1996) Constructivist learning environments: case studies in instructional design. Forword by David N. Perkins. Educational Technology Publications Englewood Cliffs, New Jersey 07632. USA.

APPENDIX

Figure 1: Project Handout (appx fig.1 project_handout_wachter.pdf)

Figure 2: Blog and Writing (appx fig.2 blog_writing_wachter.pdf)

Figure 3: Community Health Design Blog (appx fig.3 tisdale_blog_wachter.pdf)

Figure 4: Student Role Definition (appx fig.4 student_role_wachter.pdf)

ID4744/ Arch3554 COMMUNITY HEALTH

Tisdale Specialty Health Center Project Program

A collaborative project involving ARCH 3554 ID 4744 and

Community Health Design Studio

Introduction:

The clinic, to be built at 36th Street North and Hartford, will focus primarily on specialty care, including the treatment of cancer, diabetes and heart disease. Working in collaboration with federally funded community health centers such as Morton, Community Health Connections and the Tulsa City-County Health Department, the clinic will work specifically to reduce preventable health disparities in those illnesses. It will also offer Urgent Care; diagnostic testing such as CT, MRI and mammography; colonoscopy and endoscopy procedures; one-day and out-patient surgery; cardiac rehabilitation; chemotherapy; and enhanced coordinated electronic health records through Greater THAN: Tulsa Health Access Network. The Greater Tulsa Health Access Network is a consortium of healthcare related and interested organizations who have come together with the singular purpose of improving the health and quality of life for all Oklahomans.

The studio will aid in facilitating a first look at the relationships between community health, healthcare design and the role a community health center can take to foster "healthy environments". We are using the term "healthy environments" to indicate the operational principal is holistic and inclusive of public health, care, environmental design and community. The project seeks to build relationships between those components to provide a better and inclusive understanding of community health to the students participating in this program.

First, health care involves an inclusive planning process through educational and community outreach events (to assess health needs, reduce health inequalities, listen to users' views, and work in partnership with local agencies) and the translation of the findings into a health environment design.

Second, community development recognizes the social, economic, and environmental causes of ill health and links user involvement and commissioning to improve health and reduce inequalities. We seek to create patterns that can be developed and taught to improve community health by ensuring that, for example, farmers' markets and neighborhood grocery stores are supported, or by promoting sidewalks, parks and other environmental components that encourage physical activity besides the considerations that will go into the design of a health facility itself.

Third, a community health center can identify and support community networks as a catalyst for economic stimulus, thus improve health and provide important services that will support the health center and the community. For example, health food grocery stores are valuable assets to a community, not only do they make healthy food more accessible, but they also can provide living-wage jobs.

Studio Project:

The studio project involves multi-disciplinary design collaboration between interior design and architecture students at the University of Oklahoma, the Urban Design Studio in Tulsa, the Architecture for Health Design Studio at the Texas A&M University with 40 years of experience in healthcare design teaching, the clinical program development at the Tisdale Specialty Center, School of Community Medicine and the Tulsa Economic Development Corporation. Students at the University of Oklahoma will work in groups of four

(two interior design and two architecture students) to total 10 groups and eight teams from the Architecture for Health Design Studio at the Texas A&M University. The teams will be working on alternative designs for the Tisdale Clinic, its future expansion and the rehabilitation of the Northland Shopping Center.

The project groups at the University of Oklahoma and the Architecture for Health Design Studio at the Texas A&M University will work independently on their design. The two studios will collaborate through the Architecture for Health Design lecture series, which is video broadcast to the Urban Design Studio Tulsa and the University of Oklahoma each Wednesday during the fall semester. The two studios will also collaborate during the project kick-off in Tulsa October 4th and 5th through lectures, site and design firm visits and a studio charrette. The design groups will present together in Dallas at HKS for the mid-point review October 25th and for the final presentations in Tulsa, OK and in College Station, TX beginning of December.

Learning Objectives

1. Develop a understanding of cultural, social and economic influence in the design a community health facility
2. Develop verbal and graphic communication skills necessary in a design collaboration
3. Develop a better understanding of a collaborative team approach by designing a community health facility
4. Develop an understanding of materials and furnishings used in healthcare facilities design
5. Develop competence in the design of structural as well as building materials and components including structural systems such as steel and reinforced concrete, glazing systems roofing systems, and exterior and interior finish systems.
6. Develop skills in interdisciplinary team design process including graphic and verbal communication skills as well as interpersonal and collaboration skills

Project Expectations

Design teams will meet weekly and journal their process including project goals and objectives. Schedules and intermediate deliverables are to be submitted to the designated drop boxes in electronic course management system Desire2Learn (D2L).

Design teams will meet weekly with professors and practitioner reviewers to present and discuss their ideas and design process.

Teams will work on meeting the design goals discussed in the reviews and incorporate this information in their blog journals weekly.

Teams will also develop a list of self-critical analysis and questions/ideas for each desk critique to ensure dialogue and learning and submit the revised list to the drop box in D2L by the end of each week.

Teams will digitize all sketches and process work, both analogue and digital, and upload it to drop boxes weekly as well is to the project blog.

ID4744/ Arch3554 COMMUNITY HEALTH

All team members will participate in all phases of the project, including the initial ideation and matrixes development, spacial adjacency diagram development, schematic site organization and layout, and 3-d form and building organization processes.

Teams will receive a power point template to use for final project progress and process and to submit to the drop box in D2L at the end of the project. All project deliverables will be turned in on CD-ROM and the drop box on D2L. The format on the CD Rom will be both in pdf and jpg.

Site

The site, located at the corner of East 36th Street North and Hartford in North Tulsa is the site of an historic, commercial center known as Northland Shopping Center(see the attached images and aerial photograph). The center is partially empty. It is located within 10 min of crosstown highways including the LL Tisdale Parkway, the Gilcrease Expressway, and the Cherokee Expressway, and within 10 minutes of downtown Tulsa. The Neighborhood around the proposed clinic site developed primarily in the 1950's and 1960's in a typical suburban fashion, with single family subdivisions surrounding the strip mall of the Northland Shopping Center, the area has suffered the same decline as much of the inner city of Tulsa. Demographic data shows a declining, older population in predominantly African-American census tracts, while county assessor records show increased numbers of vacant properties and properties in poor condition. The Northland mall and surrounding commercial development along 36th Street North is largely vacant or underutilized. There are concerns about crime and the quality of the local schools.

The project presentation will include the following Architectural and Interior Design drawings:

Key Plan at 1"= 100' (leadership Arch)

Site Pan at an appropriate scale to include the portion of the shopping center that will be incorporated into your team design (leadership Arch and ID)

Floor Plans at 1/8"= 1'-0" (leadership Arch)

Rendered Furniture Floor Plan at 1/8" = 1'-0" of the developed 8000sf area(s) (leadership ID)

Reflected Ceiling Plans at 1/8"=1'-0" (leadership Arch general, ID for 8000sf design development)

Rendered Building Sections Perspectives (2) (leadership Arch and ID)

Rendered Interior Perspectives (4) (leadership ID)

Exterior Wall Sections (2) (leadership Arch)

Structural Plan and Details (leadership Arch)

Also required will be a physical project model at the same scale as the site plan. (leadership Arch)

Other Project Deliverables:

Material Boards and Specifications (leadership ID)

Team web site and blog development on current web page http://northlandplan.pbworks.com (leadership Arch and ID)

Project Manual including specifications for architectural roofing and exterior wall and window systems (leadership Arch)

Teams will receive a power point template (5 slides) to use to document project progress and process at the end of the project and submit to the drop box in D2L. All project deliverables will be turned in on disk and in the drop box on D2L, in digital format before grades will be sent out. All files needs to be both in pdf for documents and layouts, presentation posters and jpg for single picture files (leadership ID).

Teams:

team list

Note

Teams 1-5 will start desk review on Monday Oct 11th

Teams 6-10 will start desk review on Wednesday October 13th

Teams will alternate days each week

Note: Due to the size and complexity of the program of spaces, each team will only be required to develop design development level detail for 8,000 sf of space. Depending on the choice of areas to develop, this may include 1, 2 or 3 departments. The rest of the areas will be of schematic level detail only.

Each team, using the information provided for the neighborhood demographics (census data, demographic zip code data and disease profile data for the zip code), will develop a project and concept statement with ideation poster for one commercial business relating to the needs of the neighborhood and connected to the specialty healthcare clinic being designed reflecting the idea of promoting a healthy community. (the previous concepts from the interior design studio healthcare administration cannot be used)

Program of Spaces:
Program list

ID4744/ Arch3554 COMMUNITY HEALTH

BLOG AND WRITING AS A TEAM

Journals help you to document your process and keep you and your team members on task and informed.
A blog will substitute the journal folder. Blogs have the advantage that they are public and can be accessed and edited by every team member. Blogs are also a public window in which the team can share their process and request comments from the public, client, users etc.
Your team is expected to contribute to the project blog with weekly entries.
Include the following:

- project ideas,
- 3- d sketches,
- diagrams,
- article references and information that you find related to the project,
- the teams weekly reflection. (the week's strategy and goals, feedback received, what went well and what did not)

The blog's web address http://puyangeyehospital.wordpress.com

You will need to request access to the blog first. Klick on the upper right corner "request access"
Post every Sunday starting October 17th till November 28th

Your blog entry will become part of the project grade and missing entries will suffer your grade significantly.

Objectives:

you will familiarize yourselves with strategic planning, goal setting and the organization of work meetings.
you will learn skills to organize a collaborative work environment and document your progress and process.
you will experience and learn to work together in an integrated design approach with the input and evaluation of your work by all members of your team.
You will reflect and review your work progress in an inter-disciplinary environment and thus better understand your design process.

Format:
Your blog entry expectation includes:

- one paragraph of text in which you describe your team's weekly progress and the design process you went through.
  - What design issues did you discuss/ approach/solve?
  - How did you solve design issues as a group?

ID4744/ Arch3554 COMMUNITY HEALTH

- List the strategies you had that week and goals that you met and define your group goals for the following week. Explain why you did not meet a goal is it applies to your group.

- include project ideas that might not have made it to the reviews, links to articles or site articles you found helpful and information that you find related to the project, and include your teams weekly reflections on the project .(this could include a summary of an interesting, educational, challenging situation or learning outcome concerning your project)
- include a model picture, or picture or your review presentation etc.
- include a 2-d and 3-d sketch of the week's design or process solution
- include a diagram/ concept sketch explaining one of the week's concepts you discussed

community health

ID4744/ Arch3554 COMMUNITY HEALTH

STUDENT ROLL DEFINITIONS

Objectives:

Develop an understanding of the culture of the other discipline in the group
Develop an understanding of discipline specific boundaries in the design process
Develop an understanding of terminology and visual communication used by the other discipline
Develop a strategy to work in concert with the other discipline

When architecture and interior design students work together, task and expertise will overlap. The interior design is influenced by the structure and site concerning issues such as egress, access, lighting, view relationships, acoustics and sound control, building function etc. The exterior is influenced by egress, access, lighting, view relationships, interior volumetric needs or preferences and circulation etc.

Each of the interior design or architecture decisions in the design process can affect and influences the other, so you must develop a communication system that allows and encourages dialogue. We advise you to schedule formal meetings once a week in addition to your informal "coordination meetings". One team member each week will distribute an agenda with items that you like to discuss in those meetings including the goals you like to set (see figure 1). Documentation or "minutes" of your meetings are necessary so you can follow what you have discussed and agreed on and present the decisions to others. Design and Architecture are communicated visually. To be successful you will need to develop a common "visual language" expressed in sketches and diagrams and an understanding of each other's professional terminology.

We foster an inside-out concept in which your group will consider the site, using the findings to "fit" a blocked footprint on the site. Adjacencies and view relationships, community connectivity and approach to the building will be evaluated and turned into a preliminary floor plan diagram (blocking diagram). Your group will discuss and make decisions on circulation needs and patterns and interior volumetric needs or preferences. Architectural form can follow these preliminary findings and conclusions.

Every team member will bring something to the table. Four members might have four different concepts. Can you tackle all four concepts into your design? Can you, as a team prioritize importance? What is doable during the time period you have available?
Your team of Four has to agree on your program, your innovations and find a common idea how you will express community in your design. Work out adjacencies and circulation patterns (incl. way finding concepts) first. Relate your findings to the outside (views, windows, opening, gardens etc.)

ID4744/ Arch3554 COMMUNITY HEALTH

Relate the form of the architecture to the interior space plan. Architects develop form and roof line based on the information you have collected together. The complete team will discuss orientation of the building on the site based on site considerations, community connectivity and circulation.

While the architectural form and site is developed by architecture, interior design will study interior design cases (precedence) and relate the findings to your concepts and future design. Develop the schematic space plan while architectural form and site is developed. Your schematic space plan needs to be finished when form and site have a “face”. Finally the team can make final adjustments to bring inside and outside together.

As architecture is developing the architectural form and site further, finalizes construction, exterior texture and materials you will develop the interior concepts and participate in merging concepts and ideas into one design expression.

The required deliverables are listed in the handout for each discipline. Some of the drawings and documents will be produced together with shared accountability; other drawings and documents are the responsibility of one of the disciplines. At the end, however, the project will be more successful if your disciplines work in concert and not in a linear fashion in which you “hand down” work to the other discipline or split up design decisions among team members. Work out as many design issues together and make as many collaborative decisions as possible.

community health

ID4744/ Arch3554 COMMUNITY HEALTH

figure 1:

Community Health and
Environmental Desing Studio
University, Division
Program, etc.

MEETING MINUTES
NO.xxxx **Fall –** xxxx

LOCATION: add location **MEETING DATE:** add meeting date

PRESENT	ATTENDEE NAME	
If present initial here	Add attendee name	Position or role of attendee

ITEM COURT	DESCRIPTION	STATUS	STARED	DUE	BALL IN
001-2010	New Item: date and topic of item				

Text and facts of discussion, votes etc.

Closed/Open: strike one of them and date
Status: Still Active ?

ITEM COURT	DESCRIPTION	STATUS	STARED	DUE	BALL IN
002-2010	New Item: date and topic of item				

Text and facts of discussion, votes etc.

Closed/Open: strike one of them and date
Status: Still Active ?

ITEM COURT	DESCRIPTION	STATUS	STARED	DUE	BALL IN
003-2010	New Item: date and topic of item				

Text and facts of discussion, votes etc.

Closed/Open: strike one of them and date
Status: Still Active ?

community health

Re-bridging the Gap Between Written and Visual Communication Skills for Interior Design Students in the Midst of an Evolving Style of Learning

Steven B. Webber

Eastern Michigan University

ABSTRACT

Students of Interior Design are often expected to exchange between verbal and written communication skills and visual and spatial design skills. The first instance of this phenomenon occurs when the entering first year student encounters the first design and drafting studio and design theory coursework. The work of Watson and Thompson (2001) found that students of Interior Design have very diverse learning styles, including a significant group of students who are Bimodal as defined by the Gregorc Style Delineator, a unique trait compared to other fields of study. The work of Demirkan and Demirbas (2008) reinforces the finding of diverse learning styles of first year Interior Design students, particularly when compared to a 2005 study of the learning styles of a group of architects by Kolb and Kolb who were found to be along the “reflective observation” end of the AE-RO axis of the Experiential Learning Theory method by Kolb. This diversity potentially intensifies leading up to the fourth year of study as students focus more heavily on their visual and spatial communication skills. If the 2005 Kolb study of architects is any indicator, then the learning styles of students in this field may change with time in the profession. In this context, the four years of undergraduate study foreshadows what the typical Interior Designer does on a daily basis in an effort to bridge the gap between the verbal communication world and design communication world. The problem educators face is, how can an Interior Design program/instructor, most effectively approach professional writing for Interior Design during the fourth year of study with the intent of preparing the students for the professional world?

To address this problem, the instructor utilized learning techniques for writing that parallel techniques utilized in the design studio. Strategies included identifying precedents in writing based upon audience, purpose, and genre (design project precedent studies), brainstorming (concept development), written drafts (sketching iterations) (Fig. 3), peer evaluation (critique) (Fig. 2), and revision for final instructor evaluation. The student work of the course focused on six individual writing assignments (Fig.

1) and one comprehensive group project. The group project integrated the individual writing assignments of the group team members into an e-newsletter or mock website written specifically to practicing alumni of the interior design program (Fig. 4). The course in question is new, having one semester to draw upon for evidence.

Based upon student evaluations and student work, several important outcomes can be observed. First, interior design students vary in their enjoyment and appreciation of the writing process. Second, the instructor must establish a strong connection between success in the Interior Design profession and having strong written-verbal and visual-spatial communication skills. Third, the instructor must establish strong connections between the design process and writing process. Fourth, the lectures, in-class exercises, assignments, and projects must be relevant to creative and technical interior design topics and processes. Fifth, the instructor must capitalize on the students' desire to bolster their portfolio. These conclusions will be supported by student work samples, student peer evaluation samples, and student responses to the course.

References (APA)

Demirkan, H., & Demirbas, O. O. (2008). Focus on the learning styles of freshman design students. *Design Studies, 29*(3), 254-255-266. doi:September 15, 2011

Eakins, P., 1942-. (2005.). *Writing for interior design /.* New York : Fairchild,.

Guerin, D. A., PhD., Olson, M. J., M.A., Zborowsky, T., PhD., & Lim, Y., PhD. (1999). Exploring writing-to-learn in design. *Journal of Interior Design, 25*(1), 26-27-36.

Watson, S. A., Ed.D., & Thompson, C., PhD. (2001). Learning styles of interior design students as assessed by the gregorc style delineator. *Journal of Interior Design, 27*(1), 12-13-19.

Wolf, K., PhD, Bates, D., Manikowske, L., PhD, & Amundsen, R. (2005). Learning styles: Do they differ by discipline? *Journal of Family and Consumer Sciences, 97*(4), 18-19-22.

Appendix

Figure 1: Sample Assignment Brief
Figure 2: Blank Sample Peer Evaluation Form
Figure 3: Partial Sample Student Writing Prior to Group Project
Figure 4: Student Work Sample – Group Project (Mock Website)

Assignment 2: Emerging Practice

Topic.

Select a small practice that has been founded in the last 10 years. The firm/company could be interior design, architecture, industrial design, graphic design, web design, or a combination of any and all of these fields.

Topic selection due: 01.11.2011, email to instructor.

Research.

Peruse the internet, design publications, and any other media sources available in an effort to gain information. The idea is to achieve an understanding of the goals, priorities, and mission of the creative team. What makes them different? Why was the company founded? How does their creative process work? Look for examples of their work and select one project to focus on. How does the project speak to the creative process of the team involved? How does the project embody the spirit of this particular practice? The questions provided above are simply a starting point. You are expected to take it much further.

Complete a one paragraph abstract. Include a list of 3 sources minimum. Include images of the key people involved if available, and the project that you will focus on. Due: 01.25.2011

Write.

Construct your article as relevant to the audience, topic, and genre. You are writing to other design professionals in an informative manner. Your reader is one who wants to know more about this firm, understands how to think creatively, and probably has some solid understanding of the profession that your chosen practice relates to. They are also visual people. Your writing should demonstrate critical thought and be composed in a graphically pleasing way. In addition, write a concept statement and solution statement for the chosen project. The statements cannot be plagiarized, and must be seamlessly integrated into the article.

Required Length: 750 words.

Submit electronic files of your work. Follow this file naming convention: IDE430_*yourname*_assignment2. A 5% penalty may be assessed for not following this convention. Email to "(left blank for IDEC submission".

Topic Selection: Tuesday, January 11 email to instructor before the beginning of class.
Abstract: Tuesday, January 25 hard copy at the beginning of class. (10% of grade)
Pre-draft: Thursday, February 01 hard copy for group critique at beginning of class.
Final: Thursday, February 03 hard copy and digital (email) beginning of class (90% of grade).

Revisions: Voluntary. Due 04.05.2011 hard copy and digital (email) beginning of class (averaged with grade)

Peer Writing Evaluation

Writer: _____ **Evaluator:** _____

Critical Thought

What is the strongest argument/statement made by the writer (provide the first few words and last few words as identification)? Explain why you chose this.

What is the weakest argument/statement made by the writer (provide the first few words and last few words as identification)? Explain why you chose this.

Does each main point have objective evidence in support? Point out all arguments that do not (provide the first few words and last few words as identification).

Structure/Mechanics

Are there any misspelled words? If so, circle them in the writing sample.

Are there any expletive constructions in the sample writing? If so, underline them in the writing sample.

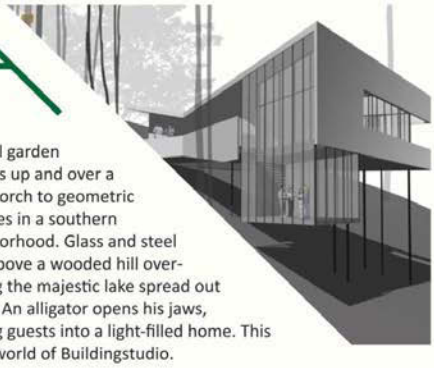
Are there any bloopers in the sample writing? If so, bracket them in the writing sample.

Describe one structural/mechanical issue for the writer to work on that needs the most improvement.

Overall

Evaluate the writing in an overall sense by assigning a grade (A, B, C, D, F). Provide a brief explanation why.

A



vertical garden reaches up and over a front porch to geometric modules in a southern neighborhood. Glass and steel float above a wooded hill overlooking the majestic lake spread out below. An alligator opens his jaws, inviting guests into a light-filled home. This is the world of Buildingstudio.

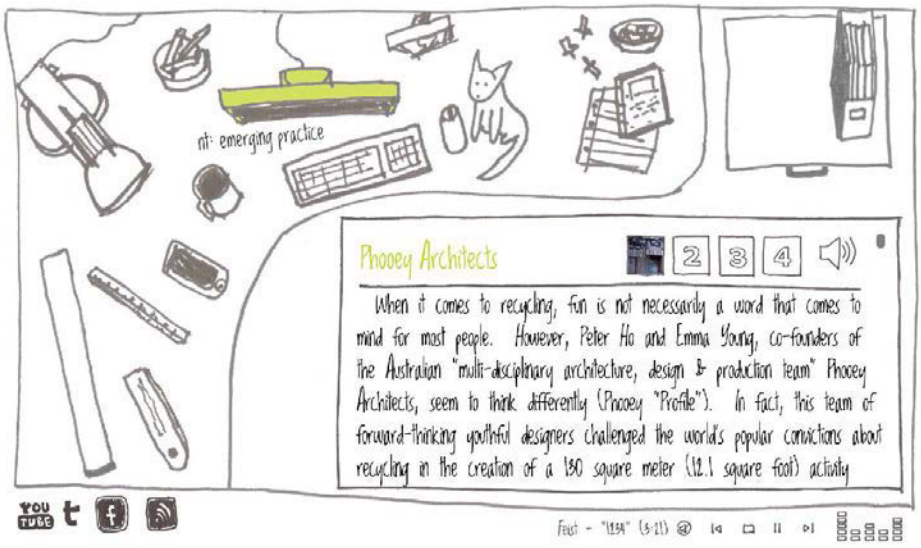
Buildingstudio is an architectural firm based in New Orleans, LA. The firm was founded in 1999 by Coleman Coker (*Buildingtudio*). With one look at their portfolio it is easy to see how this small firm has grown to national fame, having exhibitions in places such as the MoMA in New York and the San Francisco Museum of Modern Art. They have also partaken in national competitions including "The Future of Concrete" which was part of the "Liquid Stone" exhibition, at the National Building Museum in Washington, D.C. The task was to "develop a cutting-edge hypothetical project using a self-consolidating concrete 'Agilia' developed by the French-owned company LaFarge" (*Buildingstudio*).

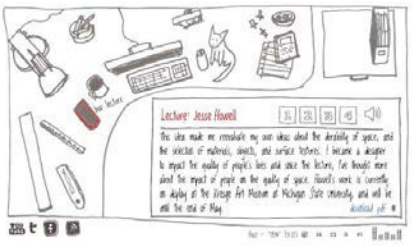
CW: Lost Rock, BRIDGES Center, Urban/Suburban NOLA

Buildingstudio's ideology is to create artistic structures with focus on the human experience ("Architecture and Design"). Every project utilizes modern materials and forms. While each one is distinct and unique, there are certain unifying elements throughout. Structural steel members, preformed metal sheathing, and ample amounts of glass for fenestration are a few key materials found in most Buildingstudio designs (*Buildingstudio*). Many of their structures are very geometric, both inside and out. Often, an oblique wall or roof will be used, adding an extra element of drama to the building.

The designers of Buildingstudio pay close attention to the type of environment their structures will occupy. One example is the Lost Rock cabin project in Beaver Lake, AR. The program called for foundations with minimal invasion into the hilly wooded landscape. Many of the cabin models extended upwards to create smaller footprints and avoid demolition of surrounding trees. Much of the natural environment was able to be preserved because of the effort (*Buildingstudio*). Contrasting the raw natural environment of Lost Rock is the developed urban setting for the BRIDGES Center in Memphis, TN. This project called for a 51,000 square-foot structure with 150 parking spaces. The conventional idea for this project would have been a multi-story building with a large asphalt parking lot adjacent to it. However, a towering structure would not have fit in with the scale of the surrounding neighborhood, which is made up mainly of single story structures. The solution was a single story building that stretched the entire area of the lot. Parking was relocated from street level to the rooftop (*Buildingstudio*). Both projects effectively tackle two very different settings.

While the aforementioned projects are great structural feats, the most well known building by the firm is the Alligator House in New Orleans, LA. A long white building sits in a once unoccupied lot in a New Orleans


nt: emerging practice
Phooey Architects
2
3
4
When it comes to recycling, fun is not necessarily a word that comes to mind for most people. However, Peter Ho and Emma Young, co-founders of the Australian "multi-disciplinary architecture, design & production team" Phooey Architects, seem to think differently (Phooey "Profile"). In fact, this team of forward-thinking youthful designers challenged the world's popular convictions about recycling in the creation of a 130 square meter (12.1 square foot) activity


Lecture: Jesse Howell

CREATIVE SCHOLARSHIP

Reconsidering the Everyday

Tad Gloeckler

University of Georgia – Lamar Dodd School of Art

Statement

Materials: clear acrylic, painted wood facsimiles of prescription drugs, found objects *(gelatin capsules, dietary supplements, incandescent light-strip)*, paper, plywood, paint

Dimensions: *(with pedestal)* 58" high, 58" wide, 40" deep

Completed: 2011

Conceptual Intention

"Reconsidering the Everyday" presents a symptom of the health care dilemma. The project contemplates prescription drug use. Artifact materials are predominantly clear acrylic. Transparency focuses visual attention on each prescription drug, while also addressing alternate concepts of transparency including: openness, communication, and accountability.

This project offers a range of intentions and experiences: from harmless observations of finding beauty and delight in the everyday *(simple reassuring rituals, or aesthetic qualities of individual drugs - form, color, scale, texture, embedded codes, etc.)*, to unnerving thoughts of drugs prescribing identity. A clinical appearing workstation provides appropriate context, and effective display of presented artifacts.

Wearing prescription drugs as jewelry reveals objective extremes. Prescription drugs are substituted for precious stones, indicating unique aesthetic qualities and tremendous value *(a substance that can maintain wearer health and existence)*. The day-of-the week dispensing system simultaneously implies reassuring ritual, or relentless routine. The jewelry collection has a temporal aesthetic, and pill-box quality, that a viewer may recognize as excess and/or indifference *(candy necklace or cereal box prize)*.

An individual's jewelry collection is often intended to communicate something about personality or identity. The jewelry presented here is public acknowledgement, a statement of a pre-existing condition, or a health situation that requires intervention. The drugs reveal information considered very private. Presentation of a medical condition may explain behavior, or determine behavior.

Less obvious contradictions appear throughout the work and expand upon health maintenance ironies identified above. The jewelry collection, dispensing systems, and even the workstation, are units that quickly and simply slide or snap together; so their permanence may be unconvincing. Acrylic, the predominant material, expands the experience of transience and may imply disrespect for a serious health issue. Acrylic is a material generally perceived as temporal or disposable, but in fact, aggressively resists decomposition and can remain unchanged for a lifetime. The jewelry collection and dependent artifacts first appear implausible and amusing, yet each have a corresponding set of didactic graphic instructions that imply sincerity and concern.

Artist Statement - General Goals

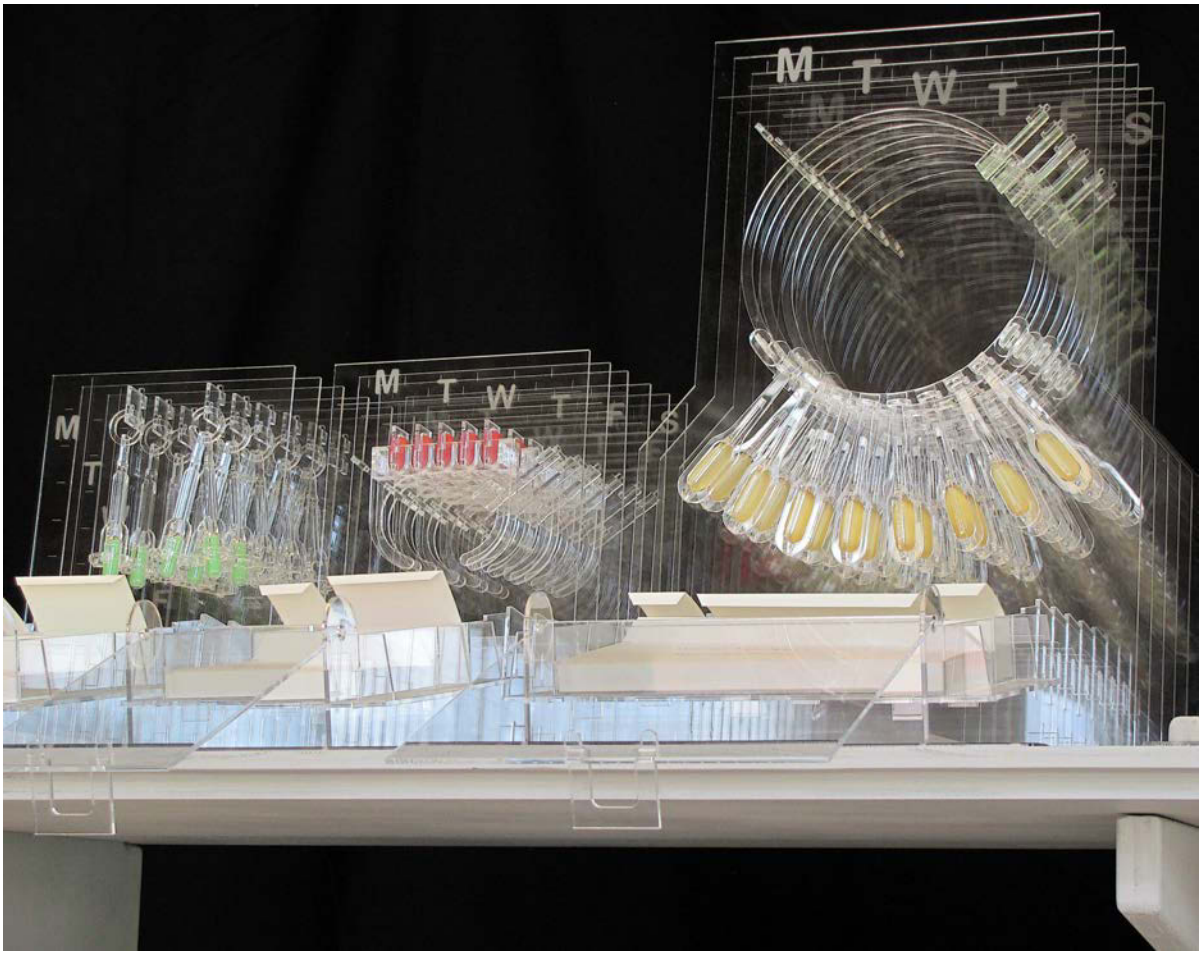
Encourage viewers to reexamine familiar objects and surroundings, cultivate curiosity, and contemplate complexities of human existence.

Serious intent and peculiar indifference emerge simultaneously; viewers oscillate from one understanding to the next, and struggle to clearly grasp the truth. Fantasy and reality are obscured. This short period of disorientation can open the viewer's mind to unique suggestion, appeal to new interpretations of familiar surroundings, and question buried assumptions.

Projects embrace a methodical and deliberate design process. Beautiful assemblage *(the art of fitting together)* is an essential aesthetic concern. Complexity is deceptive; individual components are precisely engineered for simple function, structural clarity, and/or striking appearance. Invention is a standard.

Images

Figure 1: Overall view of project (Reconsidering _the_Everyday_Overall_View.jpg)
Figure 2: Detail view of project (Reconsidering _the_Everyday_Detail_View.jpg)


M T W T F S
M T W T F S
M T W T F S

Omega-3 Dietary Supplement Necklace
Kaffex
Omega-3 supplement
Enalapril Maleate
Prepsyphen-APAP

The Lost Moments

Saral Surakul

The University of Georgia

DESIGN STATEMENT

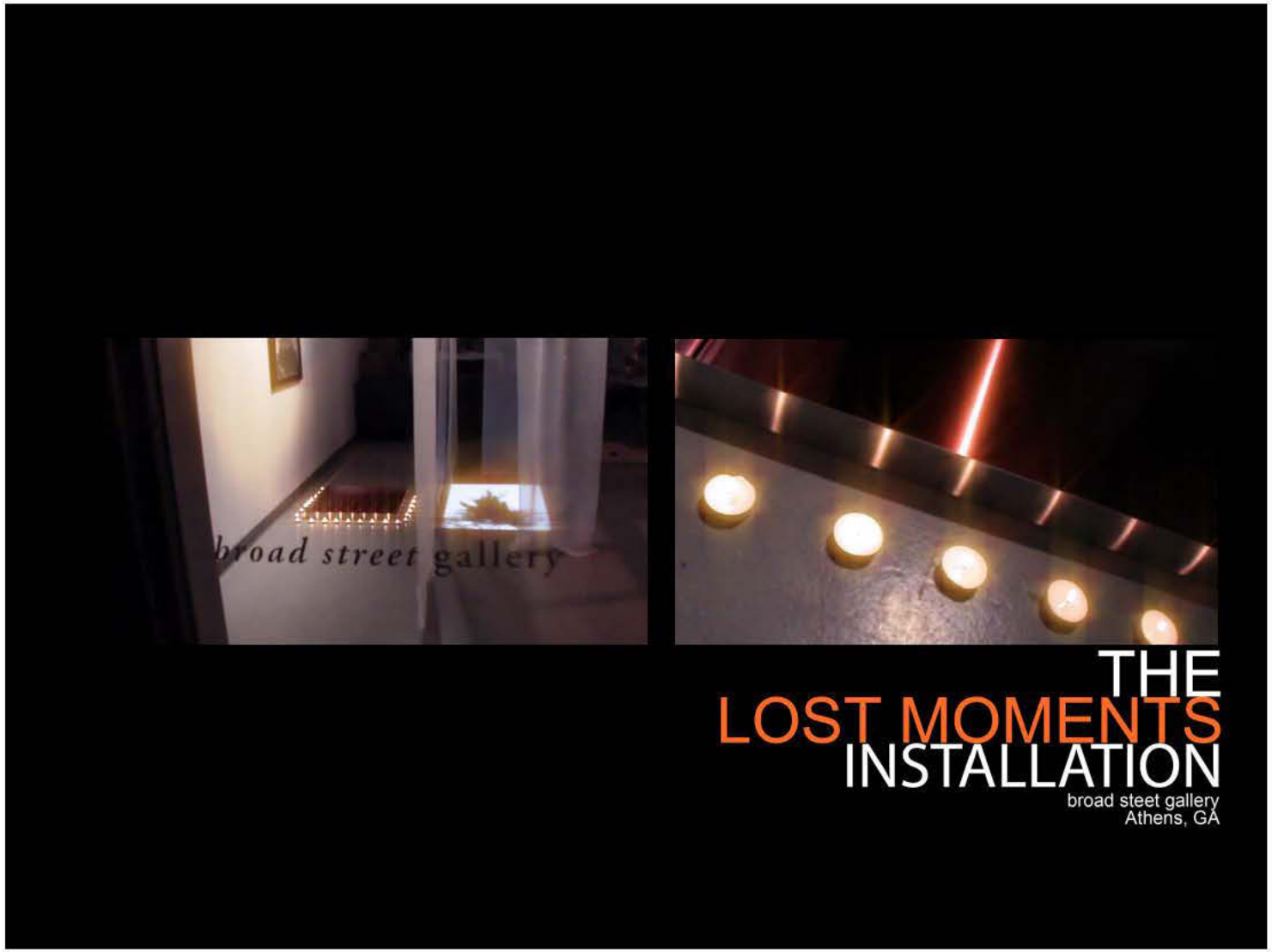
My artwork reflects the dark aspect of everyday life's issues. In my work, I abstract the social and cultural matters that influence me to create stories of my own. I started experimenting with three-dimensional modeling software, animation and video editing which I later started teaching the same subject five years ago. It has become the medium that pushes the limit of my work where the aesthetic, movement and composition can be further explored.

The Lost Moments installation is inspired by the birth of my second niece. After learning about the happy event, my thoughts went to those who did not have the same privilege to witness the beauty of this world. The art installation intends to create a profound spiritual experience focusing on the meaning of the lost moments. The arrangement bears a resemblance of a prayer altar. On the wall, the digital painting, Devi, illustrates an image of a six-armed goddess inspired by Durga, the Hindu goddess of mercy. She is created in a form of a ball-jointed doll sitting on an electric chair which is supported by a golden lotus. The left half of the picture depicts the situation when a baby is born and well protected. The lotus flowers symbolize purity and birth. A medical tool and preserved baby in the right half render the opposite. Devi is digitally created in 3DStudio Max and printed on canvas.

To achieve the mysterious and obscure views, I suspend five translucent fabric strips from the gallery ceiling. They loosely divide the space in front of the painting into two chambers. The first chamber near the wall contains a stainless steel container filled with red liquid symbolizes a womb. The red pigment is added daily to increase the color intensity. Each time it takes approximately 30 minutes for the pigment to be completely dissolved. This process creates a liquid artwork that looks different every day. The candles around the container suggest that the altar has been visited by worshippers.

The second chamber is designed for the video projection. The video is created with the intention to be a moving abstract painting; the animation is mostly black and white. The still ink stroke background serves as a virtual canvas of an imaginary world where different events occur. The events begin with objects in

the real world that are soon revealed to exist merely in the imagination of a child. The entire first section of these events intends to give viewers some pieces of the information of the core message that will later be unveiled. The meaning of the animation becomes clearer after the appearance of a baby who is attacked by needle injections which turned back the clock revealing the fact that the things that viewers have seen at the beginning has never actually happened. The ink stroke background, then, turns into a big black bird representing the soul leaving the body. The child has never been born.

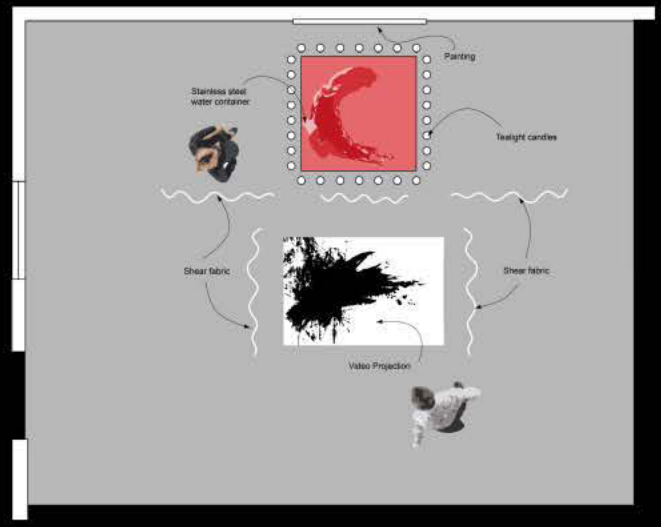

broad street gallery
THE
LOST MOMENTS
INSTALLATION
broad steet gallery
Athens, GA

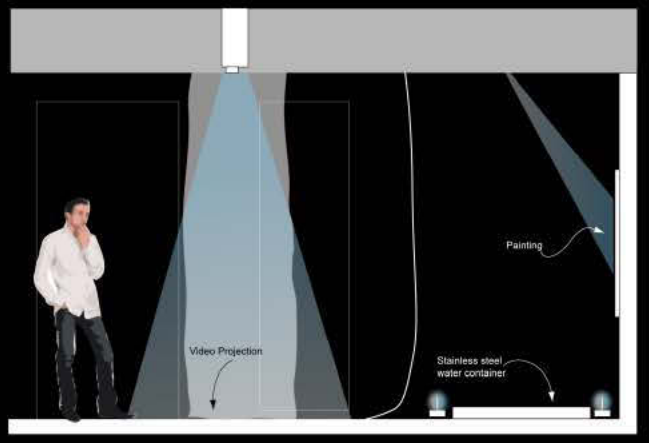
DEVI
PAINTING
Digital rendering on canvas
3DS Max and Photoshop

ANIM
ATION
Computer animation
3DS Max, Vray, and Photoshop

CONCEPT SKETCHES

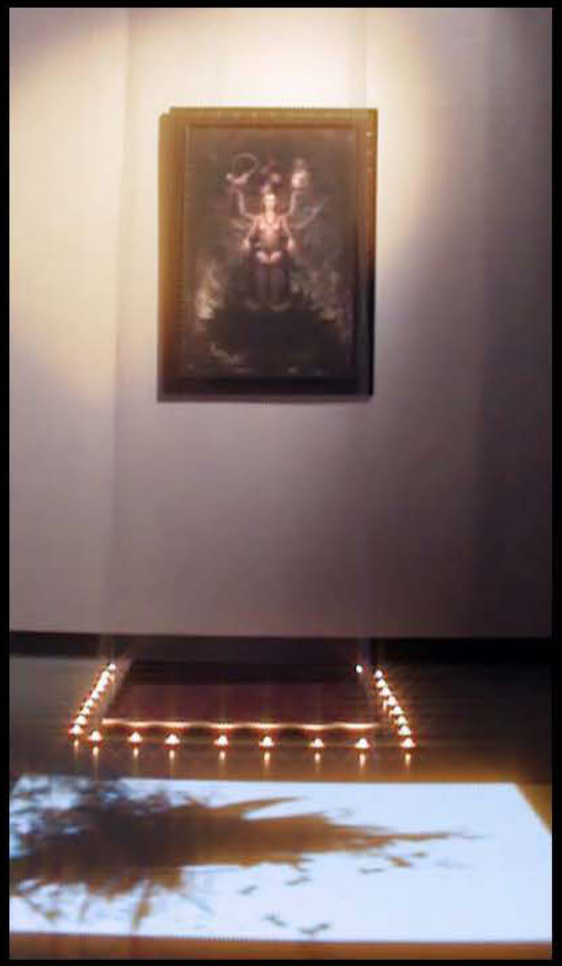
INSTAL LATION



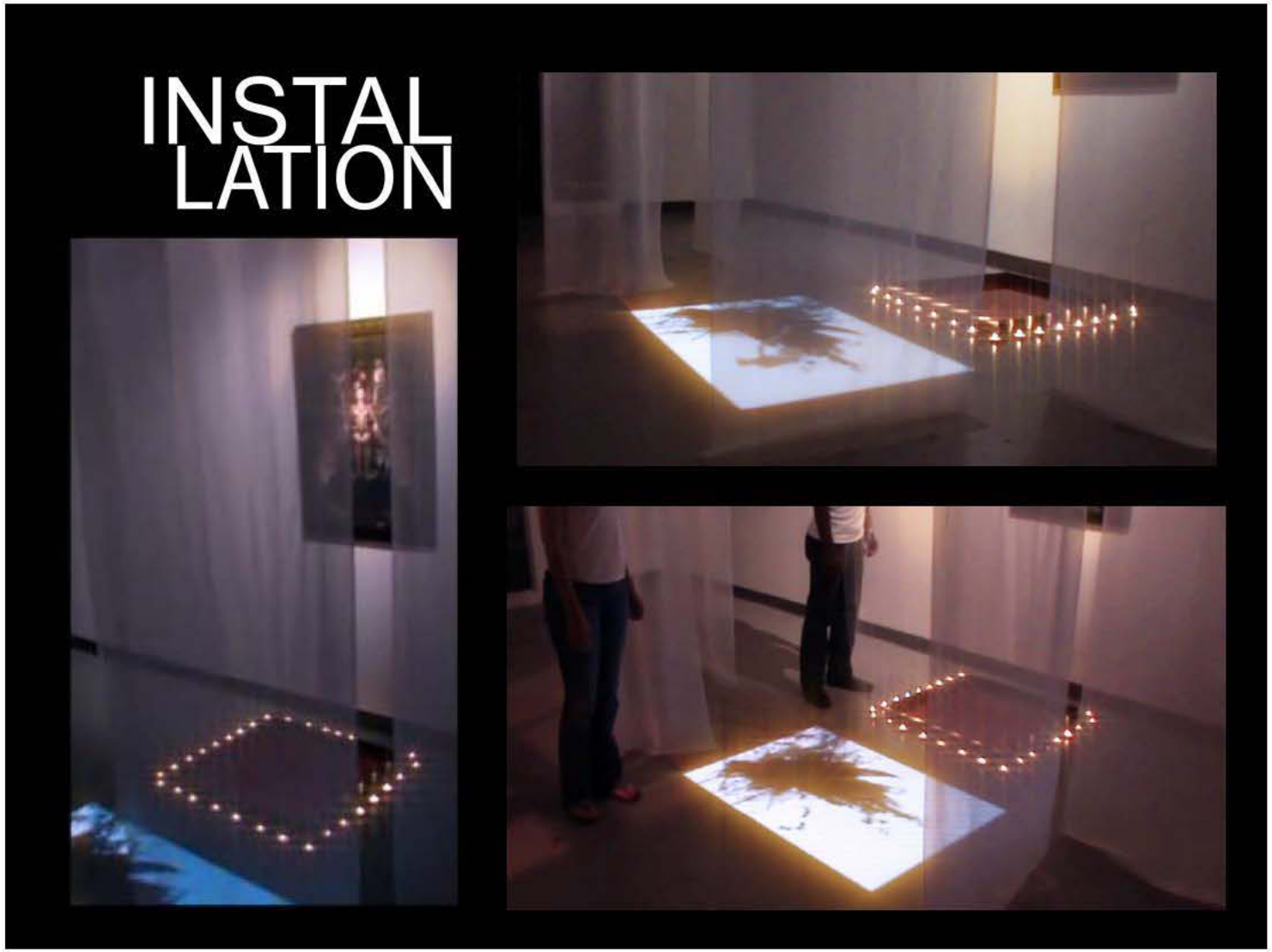


STAIN LESS

The first chamber near the wall contains a stainless steel container filled with red liquid symbolizes a womb. The red pigment is added daily to increase the color intensity. Each time it takes approximately 30 minutes for the pigment to be completely dissolved. This process creates a liquid artwork that looks different every day. The candles around the container suggest that the altar has been visited by worshippers.



ANIM
ATION
The second chamber is designed for the video projection. The video is created with the intention to be a moving abstract painting; the animation is mostly black and white. The still ink stroke background serves as a virtual canvas of an imaginary world where different events occur.


INSTAL
LATION

INSTAL
LATION

Memento Mori

Saral Surakul

The University of Georgia

DESIGN STATEMENT

The history of a Latin phrase “Memento Mori” can be traced back since Roman times. It can be translated as “remember your mortality” or “you are only mortal.” The idea appears in the Christian art commonly found in the paintings and cemetery architecture reminding people of their own mortality. The idea of Memento Mori in Christianity is remarkably parallel to the four notable truths of life cycle in Buddhism that everyone encounters: birth, sickness, old age, and death. Everything is ephemeral and transient.

The Memento Mori series revolves around these ideas. The beauty of these images is just an illusion with hidden messages. The figures of young girls used in all pictures serve as a vessel conveying different connotations as they sometimes depict the message or are the subject matter themselves.

The images are digitally created. It is a hybrid between art and illustration. First the models are sculpted by pushing and pulling faces of boxes in 3ds Max. The models then are unwrapped and wrapped with textures that may be painted digitally or may use digital photography. Lights are introduced with casting shadows and cameras with all properties of real world cameras can be set up and positioned. With the advanced technology, three-dimensional spaces existing only on the computer can be brought out into the real world as two-dimensional objects. The images are printed on canvas to mimic the feel of traditional paintings. The Memento Mori series is as follows:

Birth

This first piece can be viewed as an image of Gaia or the Earth Mother. Using a tree as an analogy, our body is made of bones, veins, and organs. It grows like a tree that springs from the ground. The green tone of the picture projects the sense of spring when the earth wakes up from a long sleep.

Sickness

When we are sick, we are miserable. The figure portrays a serious sickness such as cancer and tumor which can terminate one's life. The bouquet of organs symbolizes the internal and external suffering. The red color suggests gloomy atmosphere and portrays a dangerous quality.

Old Age

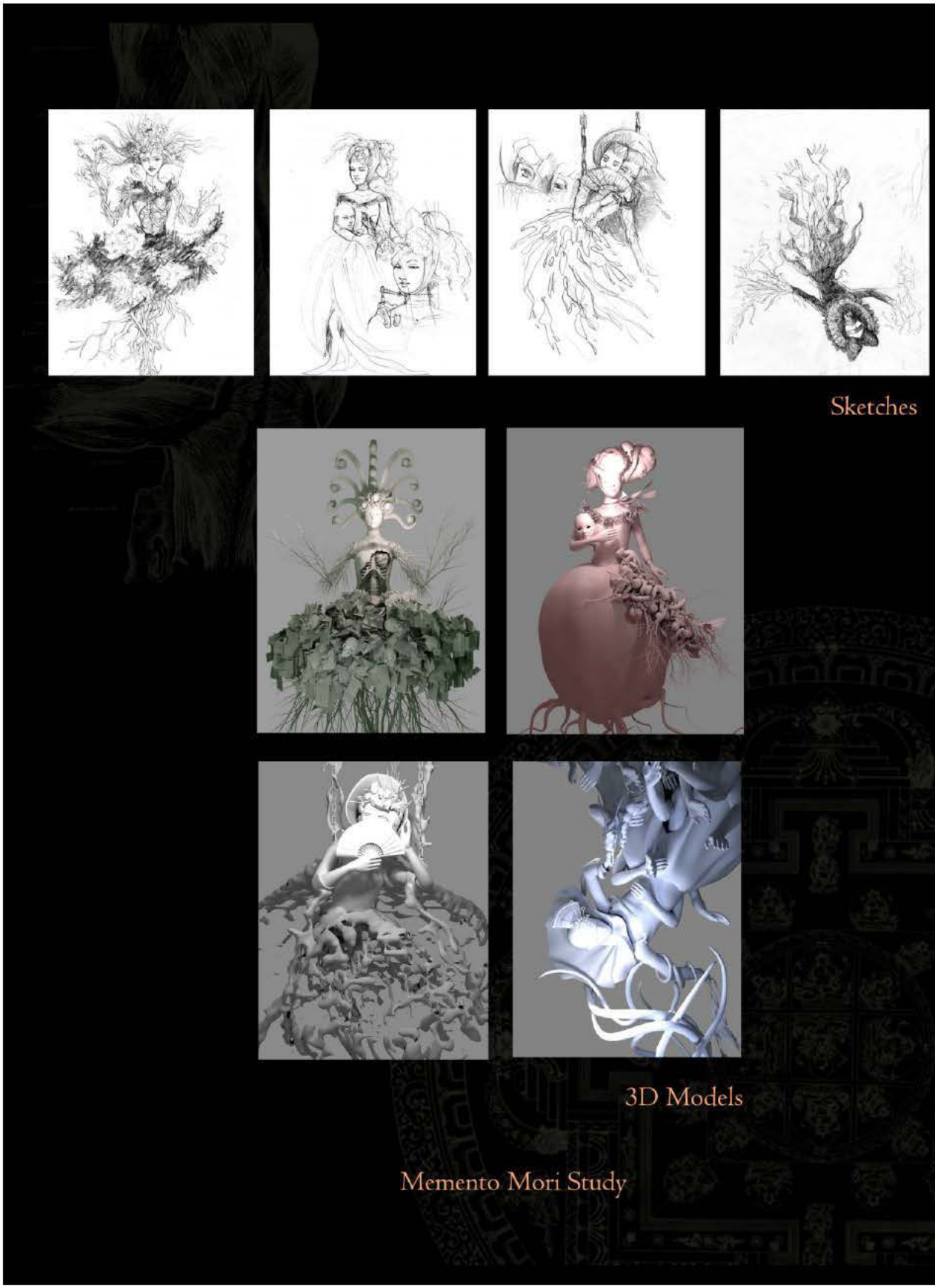
When old, we will have ache and pains and find it hard to get around. The image bares an image of a double faced figure of young and old ages. The melting of the body supported by sticks and suspended on the hooks suggests the declination of health and vitality. The white environment signifies the fading phase of life.

Death

None of us wants to die. We feel deep sorrow when someone dies. The falling figure symbolizes all of us. The hand of our love ones try to pull us from death but none succeeds. Death will pull us down when the time comes no matter how hard we try to hold on to life. Black is the sensible color of choice.

My work is a doorway that links between the world of light and dark, beauty and horror, imagination and reality. Stirring a sense of eeriness is always my interest.

Memento Mori
Vita brevis breviter in brevi finietur,
Mors venit velociter quae neminem veretur,
Omnia mors perimit et nulli miseretur,
Ad mortem festinamus peccare desistamus


Sketches
3D Models
Memento Mori Study

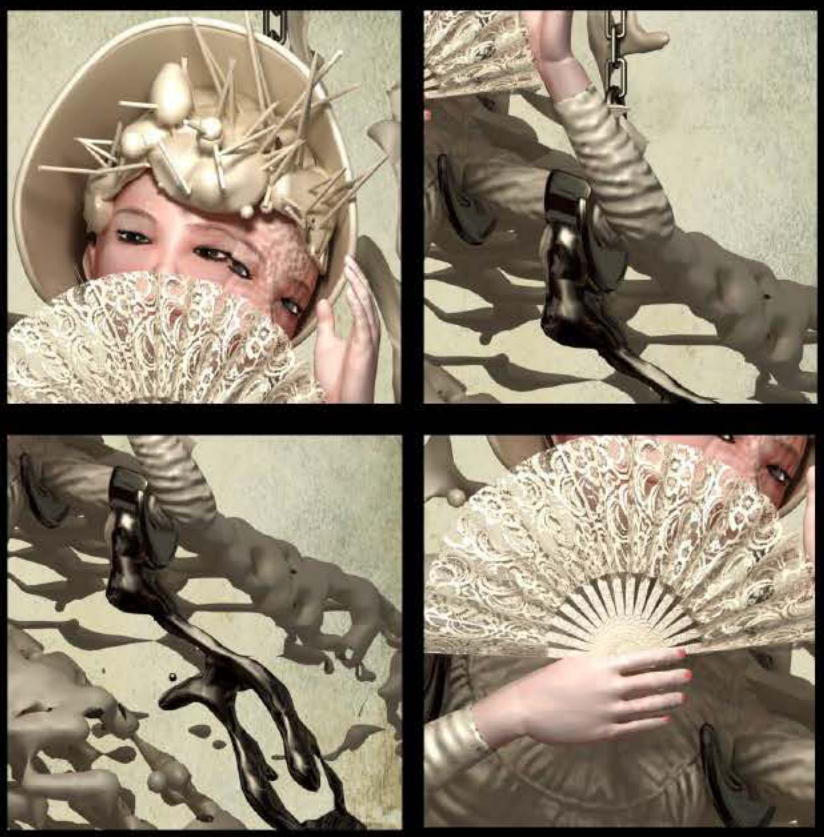
Memento Mori - Birth

Memento Mori - Birth

Memento Mori - Sickness

Memento Mori - Sickness

Memento Mori - Old Age



Memento Mori - Old Age

Memento Mori - Death

Memento Mori - Death

Entry Table #15

Tim Cozzens

Columbia College Chicago

CONTEXT

Conceptually, this work is a continuation of a long-standing investigation into pieces of furniture which rely on an interior surface (other than the floor) for support. They are typically wall mounted, sometimes engaging the floor, other times implying a connection. They are typically scaled to human intervention; that is vertically arranged, with overall proportions relative to the human body.

The function that each piece serves is relatively minor - to look at oneself upon entry/exit, to offer a small shelf for keys/wallet, etc., and occasionally to provide ancillary storage.

PROCESS + OUTCOMES

The formal qualities of Entry Table #15 are drawn from a vocabulary typically understood as architectural; walls, roofs, etc. As I was dismantling the existing roof from a construction project, I cut away sections in order to safely remove it overhead. When the decking came away, I was struck with the character of the material on the underside...and what amazing condition it was in; the porch dates to the late 1800's. The seaming and the finish reminded me of metal-clad fire doors in old timber buildings and how much I admired the pattern and patina.

As I always search for connections between my furniture works and larger scale interventions, I decided to use one of the roof sections as the basis for the next piece. I sketched the solution of a piece of wood in the shop, and began the piece without any scaled drawings. This approach was a continuation of a process I began in graduate school in an attempt to respond more intuitively to the work at hand.

Having spent years refining interior spatial solutions sometimes challenged my desire to work more spontaneously. I mentally framed the fabrication of this piece as investigational to allow for my fine craft tendencies to be subjugated to a desire to work quickly through an idea.

The process photos included show the removal of built-up layers of "roof patch" that had been applied over the years. As I worked to remove this build-up, I found myself wondering about the inclusion of this material (tar) in the finished work and decided to work towards that end. The vertical member connecting the lath to the metal clad panel is a stud removed from the project as well. Two sides were milled, sanded and waxed to conceptually acknowledge the “new” and two were left “as-is”, including original cut nails protruding from the surface, referencing the “old”.

PLANED 2X
7'
MIRROR
MIRROR
STEEL

STEEL

Knowhere: Finding the Ways We Wayfind

by Samantha Perkins
Miami University

This project is a didactic project installed in a gallery space, using environmental graphics which communicate information and relate information to a spatial proposal.

Knowhere: Finding the Ways We Wayfind points out how human behavior and environmental context aids in navigation decisions, in an effort to determine a better method of teaching wayfinding design to both students and potential clients. By using the containing venue, the building in which it's housed, as a teaching tool, the exhibit does something never done within the context of this academic setting before, pulling itself out of the confines of the gallery space, and letting the design take over the entire basement level of the Miami University Department of Architecture and Interior Design.

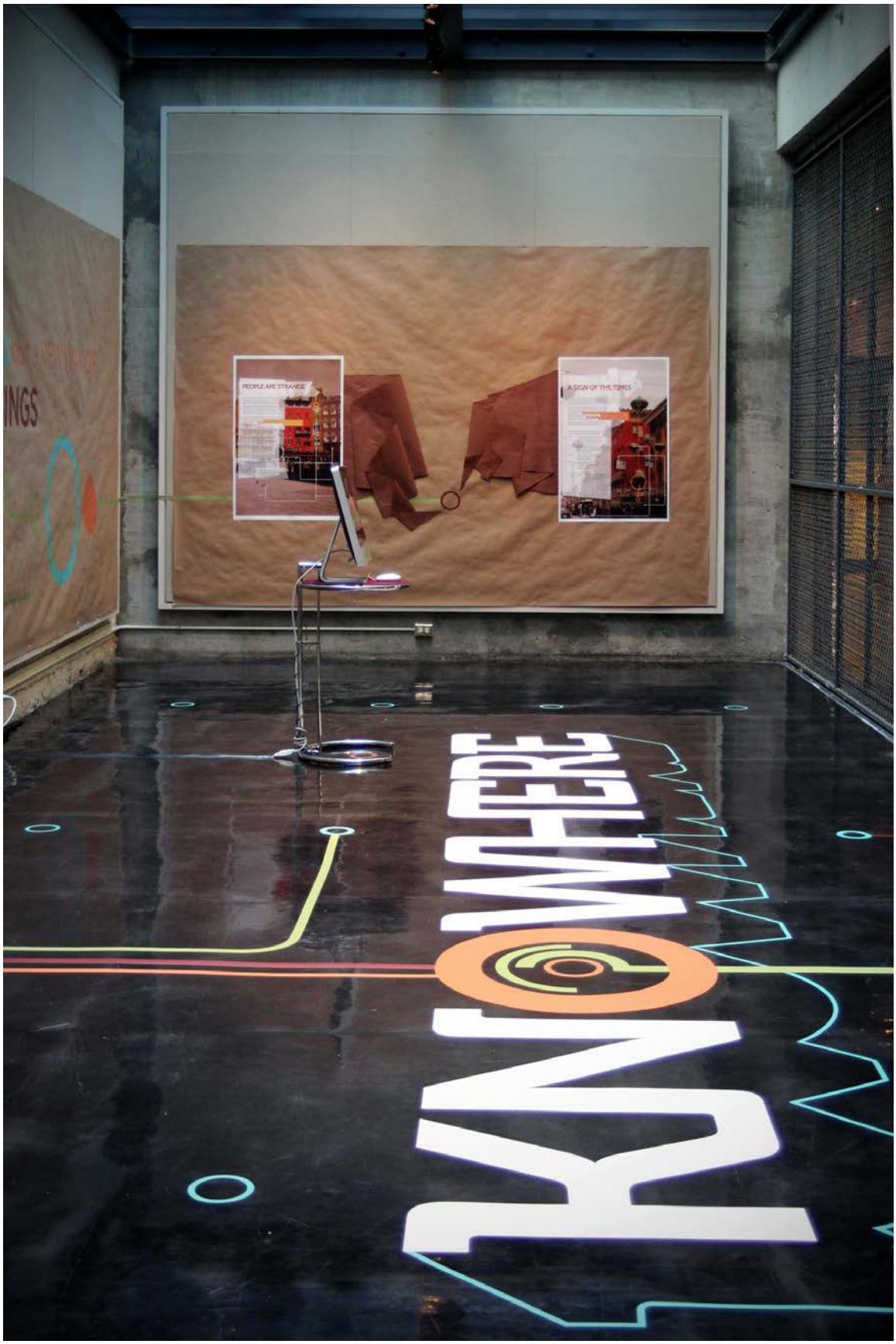
The *Knowhere* exhibit starts a conversation between the visitor and the building, pointing out moments of decision-making, and questioning whether the context of these moments works or not. It encourages people to look around at their surroundings and determine what about that place influences their understanding of location and sense of place.

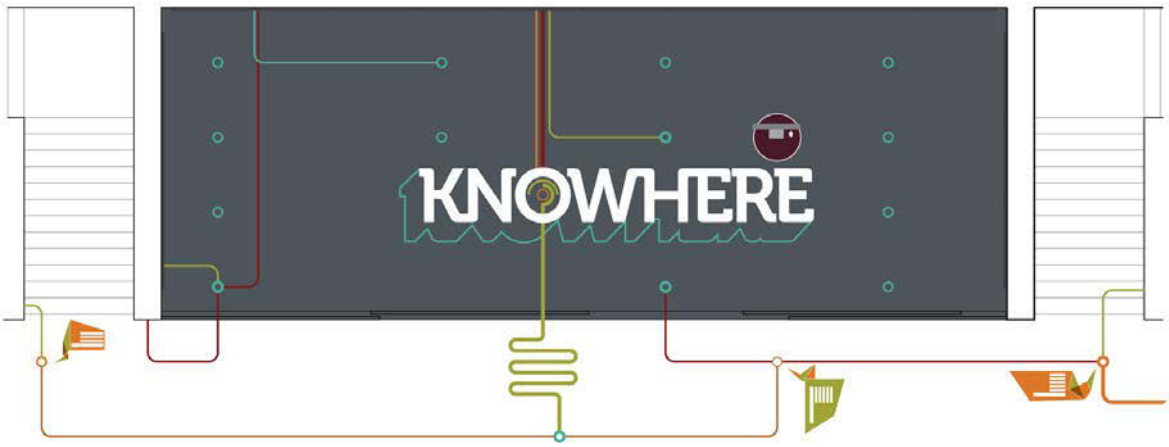
Knowhere initiates this dialog utilizing a Rosetta Stone. It applies traditional wayfinding elements of typeset signage matching the exhibit graphics to orient people within the building using a vocabulary they are accustomed to. By starting the conversation in this way, the exhibit uses a known language (signage) to familiarize the audience with the visual language of the exhibit, and then uses related ideas to evolve and continue the discussion.

These related ideas and the tools of point, line and plane, *Knowhere* finds moments of learning within seemingly mundane surroundings. The uninteresting elevator lobby becomes a transitional space that cleanses the palette. The decision point at the end of a stairwell acts as a hub that allows orientation and redirection. The overlooked corridor that leads to hidden workspaces are all called to attention. The grandiose statue at the main entry transforms into a circulation tool and "meet me" location.

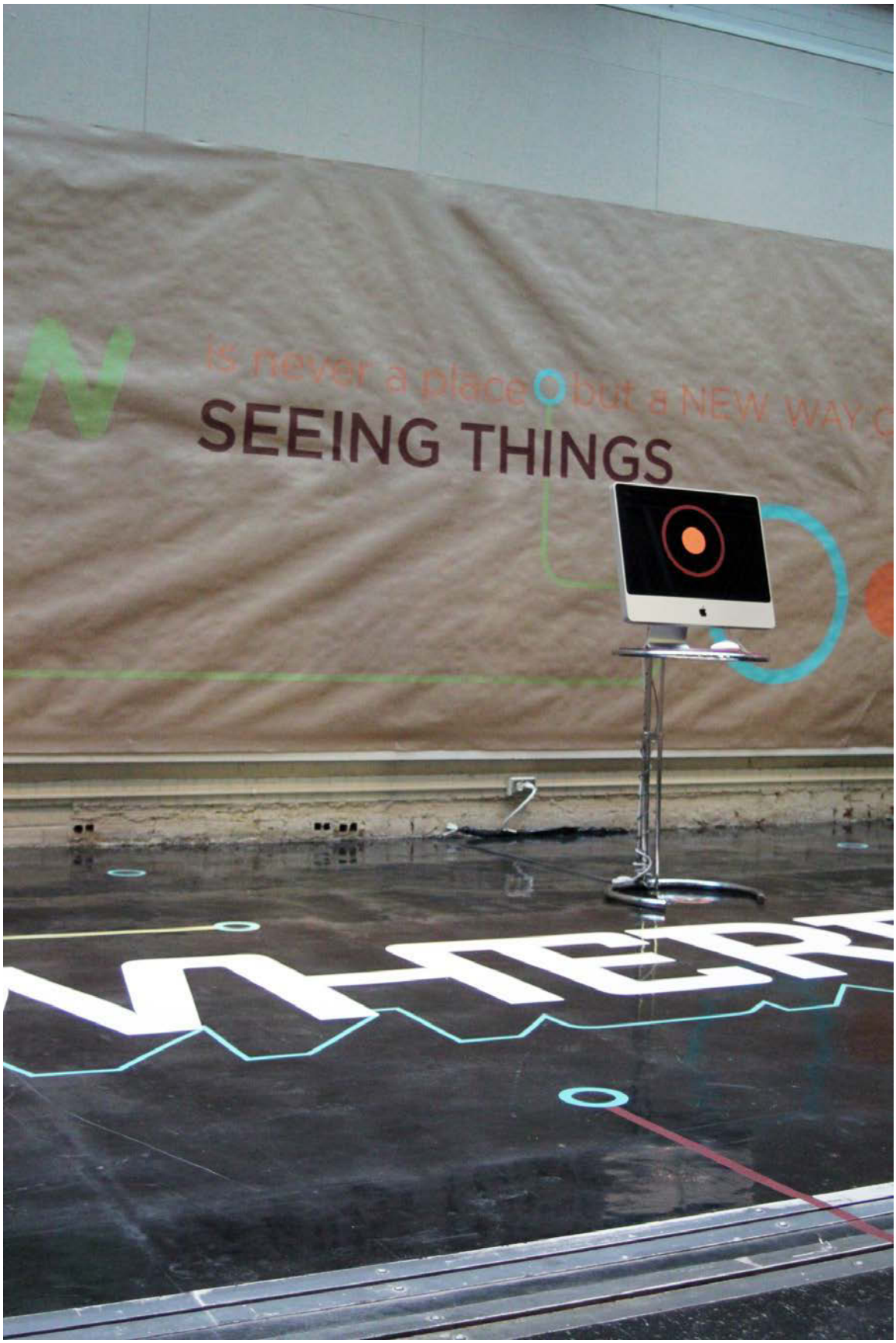
All of these ideas connect together using paths that lead visitors through space by providing further insight into how these tools can help inform and lead, with the final destination rendering examples of how branding and wayfinding can create a sense of place within an empty space.

Along the walls of the gallery itself, posters describe how architecture, human behavior, and branding ideas can add to seemingly subconscious wayfinding decision-making processes. The concepts presented, and the methods of interaction that led them to this space, challenge students to look at their world in a different way, question how their own designs play this same game, and hopefully, help them find new ways to wayfind.

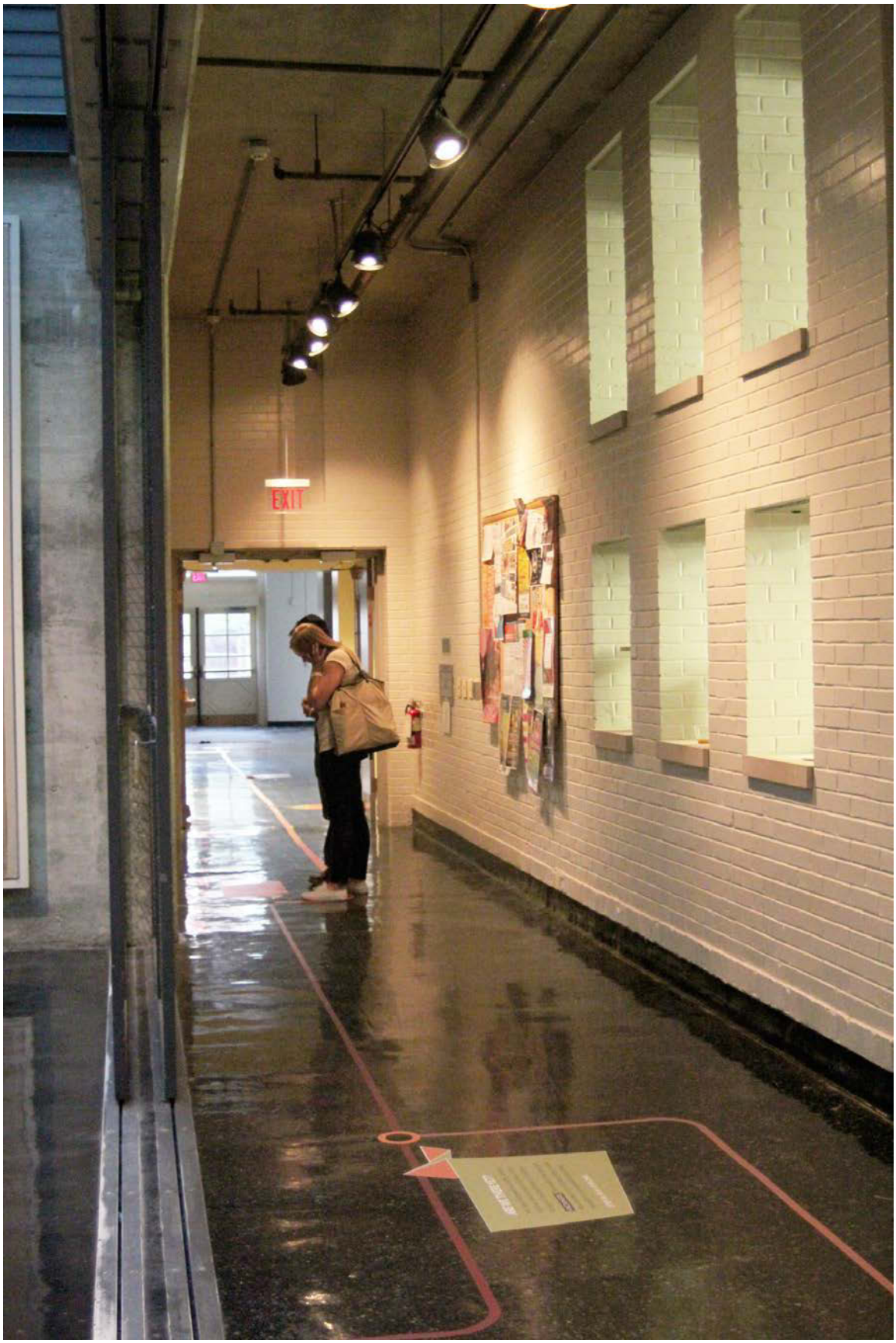

PEOPLE ARE STRANGE
A SIGN OF THE TIMES
NOWHERE



01 EXHIBIT DESIGN—FLOOR GRAPHICS PLAN

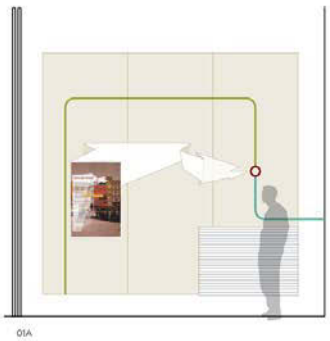

SEEING THINGS

VAY OF
STRANGE

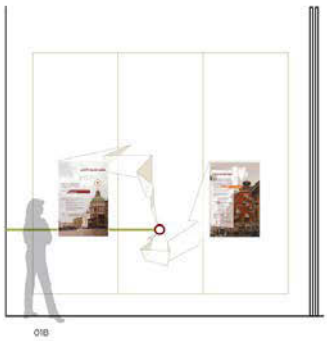

EXIT

EEING THINGS

IGNORE THIS
Odd corridors tend to remain unseen. How can you change this problem? A change in color, lighting, or texture might help out in GRABBING ATTENTION.
01 FLOOR TALKER—SIDE STUDIOS
SCALE: 1-1/2"=1'-0"
CHANGE OF SPACE
This small space works as an elevator lobby, but it also works as a TRANSITION between the entry vestibule and the rest of the building.
The smaller size sets you up for a change between spaces. It clears the palette, so to speak.
02 FLOOR TALKER—ELEVATOR
SCALE: 1-1/2"=1'-0"
MISSED IT, HUH?
This hall leads to a lecture room, which you could also acces by the main entry.
SYMMETRICAL ACCESS gives you a second chance to get in, or maybe it just gets you closer to your seat without anyone noticing you coming in late...
03 FLOOR TALKER—ROOM ONE
SCALE: 1-1/2"=1'-0"
UP OR AWAY
Arrival here means you now face a decision. This point is what we call A HUB, though a small one at that. Lots of paths coming together to allow for reorientation and redirection.
Left? Right? Up or onwards?
04 FLOOR TALKER—STAIR ONE
SCALE: 1-1/2"=1'-0"
A BLANK STAIR
Look around. Turning off of the stairs in one direction you find the gallery, the library, and a clear, visible exit path.
In the other direction, a rather uninviting space with twisting corridors blocking your view.
Which way would you want to go? Where will the CLUES lead you to?
05 FLOOR TALKER—STAIR TWO
SCALE: 1-1/2"=1'-0"
ARE WE THERE YET?
You have followed the paths, passing all other destinations and have finally arrived at the beginning of a journey.
KNOWHERE. The exhibit that asks just how behavior and context help people navigate and understand new areas.
STEP IN. PLAY. EXPLORE.
06 FLOOR TALKER—CAGE
SCALE: 1-1/2"=1'-0"
KNOWHERE
EXHIBIT DESIGN DRAWINGS
designed by Samantha Perkins
6.00.1
FLOOR GRAPHICS—OPTION ONE



01 EXHIBIT DESIGN—WALL GRAPHIC ELEVATIONS



02 EXHIBIT DESIGN—WALL GRAPHIC ELEVATIONS

03 EXHIBIT DESIGN—WALL GRAPHIC ELEVATIONS

A CITY IN MY MIND

People cannot navigate in a void. Instead, they look to their surroundings to find clues on how to understand and interact within a location. Color, lighting, texture, hardness and softness of materials, and how others act all tell us how to behave in a space. We act differently in a cathedral than we do in a theater, though both are essentially the same.

As we move through these rich environments, we use them and their unique characteristics as wayfinding elements, or maybe visual breadcrumbs, to find our way around.

Much like the story of Hansel and Gretel, where two small children toss breadcrumbs while being lead along a wandering path, wayfinding elements lead people from place to place, point to point, crumb to crumb until they safely find their desired destination.

WAYFINDING DEVICES TEND TO ORGANIZE AROUND FOUR MAIN IDEAS:

LANDMARKS The duomo near us acts as a visible landmark, anchoring us anywhere in the city so long as we can see it.

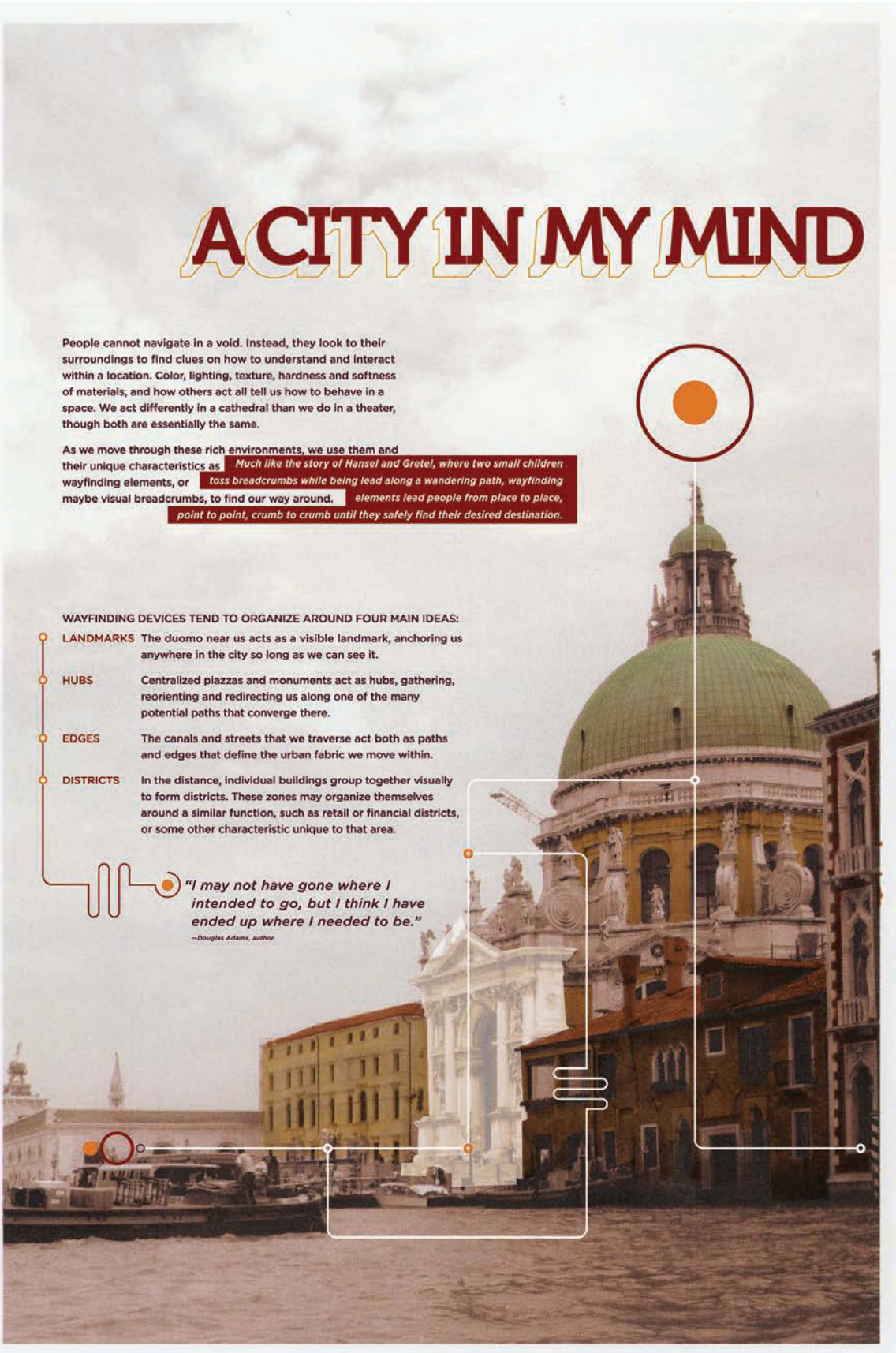
HUBS Centralized piazzas and monuments act as hubs, gathering, reorienting and redirecting us along one of the many potential paths that converge there.

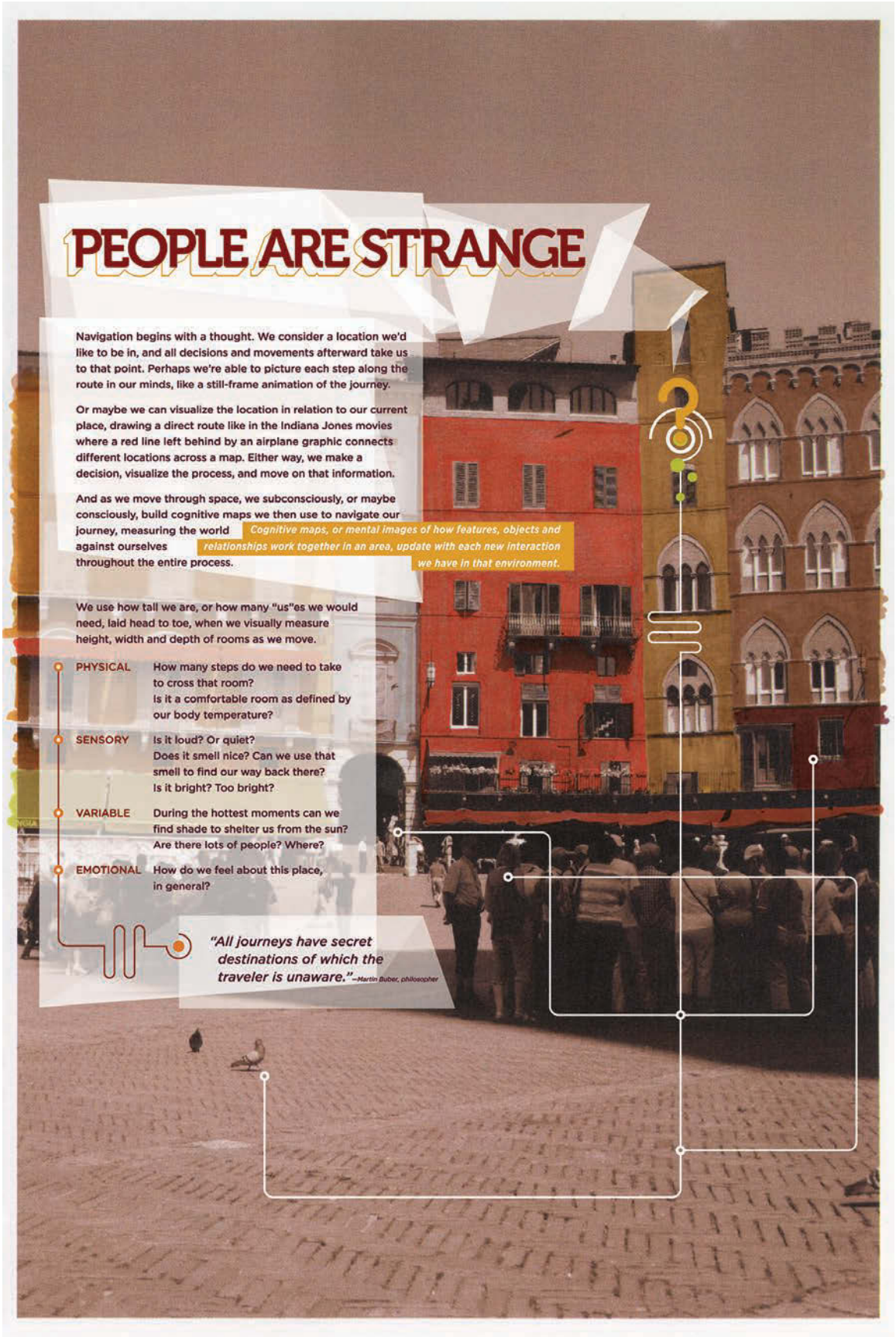
EDGES The canals and streets that we traverse act both as paths and edges that define the urban fabric we move within.

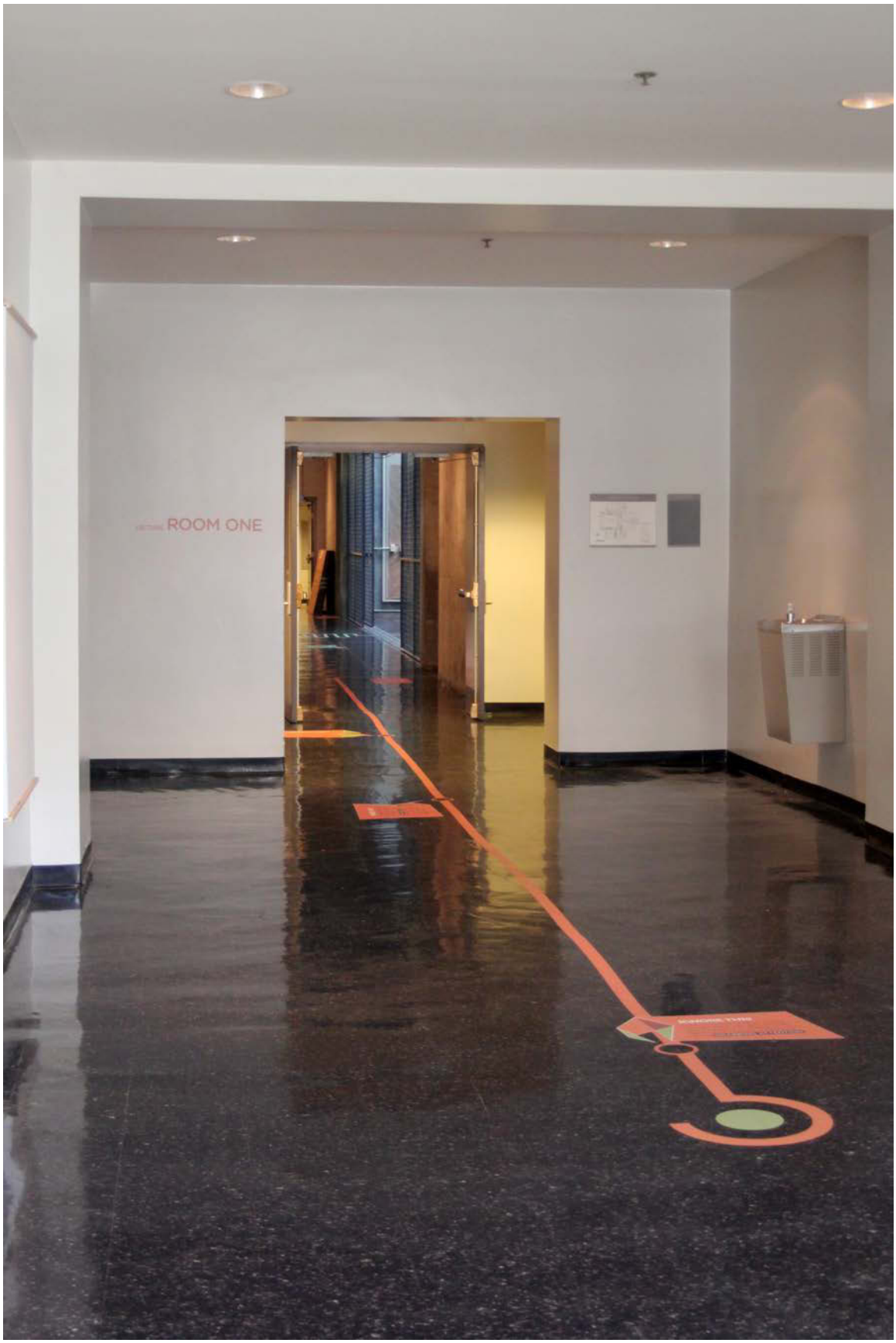
DISTRICTS In the distance, individual buildings group together visually to form districts. These zones may organize themselves around a similar function, such as retail or financial districts, or some other characteristic unique to that area.

"I may not have gone where I intended to go, but I think I have ended up where I needed to be."

—Douglas Adams, author




PEOPLE ARE STRANGE
Navigation begins with a thought. We consider a location we'd like to be in, and all decisions and movements afterward take us to that point. Perhaps we're able to picture each step along the route in our minds, like a still-frame animation of the journey.
Or maybe we can visualize the location in relation to our current place, drawing a direct route like in the Indiana Jones movies where a red line left behind by an airplane graphic connects different locations across a map. Either way, we make a decision, visualize the process, and move on that information.
And as we move through space, we subconsciously, or maybe consciously, build cognitive maps we then use to navigate our journey, measuring the world against ourselves throughout the entire process.
Cognitive maps, or mental images of how features, objects and relationships work together in an area, update with each new interaction we have in that environment.
We use how tall we are, or how many "us"es we would need, laid head to toe, when we visually measure height, width and depth of rooms as we move.
PHYSICAL How many steps do we need to take to cross that room? Is it a comfortable room as defined by our body temperature?
SENSORY Is it loud? Or quiet? Does it smell nice? Can we use that smell to find our way back there? Is it bright? Too bright?
VARIABLE During the hottest moments can we find shade to shelter us from the sun? Are there lots of people? Where?
EMOTIONAL How do we feel about this place, in general?
"All journeys have secret destinations of which the traveler is unaware."—Martin Buber, philosopher


ROOM ONE

MORE EFFORT~~LESS~~: A Responsive Intervention

Tamie Glass, Ulrich Dangel

The University of Texas at Austin

DESIGN STATEMENT

Approach

The renovation of this 1980s home design by architect Alan Taniguchi displays little signs of effort. Spaces flow with ease, extending your gaze to the landscape beyond. The deceptively simple results conceal the extensiveness of this three-year long project, which is indicative of the responsive, intervened approach taken by the designers (Brooker and Stone).

Context

The new owner was intrigued by the serenity of the lot, as well as the home's latent architectural qualities. Fortunately, the client was not merely interested in addressing the structure's much needed updating and repair (requiring new windows and doors, replacement of all building systems, refinishing of the exterior, etc.) but wanted a greater vision that would breathe new life into the property. Even though the client and team knew that it would be more cost-efficient to rebuild, there was no debate that the spirit of the home was worth preserving. Despite the destructive nature of remodeling, the designers wanted to take advantage of the existing structure's embodied energy. In addition to being more sustainable, extending the overall lifespan of the building would retain the genius loci that had originated with the well-known regional architect's design.

Interior

A striking effect of the house's 4,500sf interior is its simultaneous largeness and smallness, modesty and grandeur, which the designers were interested in retaining. The impressive volume but small footprint of the living room exemplifies this quality. Unfortunately, low ceiling heights throughout much of the house and a lack of daylight in an otherwise closed-room plan was considered less desirable for a contemporary home. The removal of partition walls and the addition of full-height glazing provides immersive views in several key public zones offering visual relief in the formerly dark, compressed areas, while also transforming the residence's social dynamic. In the interest of longevity, the material selection was not

driven by current trends but rather out of a desire to create a timeless palette of durable materials that will age gracefully. Natural and tactile finishes including wood, stone, leather, and linen are juxtaposed against glass and steel for a warm modernism. The overall restrained elegance and sophisticated aesthetic represent the designers' interest in minimal detailing, honest materials, and careful craftsmanship.

Conclusion

A thorough reading of the building became the impetus for the comprehensive remodel. The major catalyst for the next layer of construction was a desire for more openness that would fundamentally change how the house is occupied while keeping the intimacy of the spaces. A series of carefully considered interventions has not only heightened the character of the residence but has allowed it to be successfully reinterpreted for the 21st century. In a manner that is both appropriately bold yet sufficiently respectful so as not to overawe the original, the design approach renews the spirit of the house for a more contemporary open plan lifestyle that reflects today's values.

REFERENCES (MLA)

Brooker, Graeme, and Sally Stone. "Responsive Interiors." Form & Structure. Lausanne: AVA Academia, 2007. 100+. Print.

Texas Architect Nov.-Dec. 1982: 38-39. Print.

IMAGES

Figure 1: Overview of Existing Residence (Figure_01.pdf)
Figure 2: Overview of Residence After Renovation (Figure_02.pdf)
Figure 3: Intervention 1 - Addition and Subtraction (Figure_03.pdf)
Figure 4: Intervention 2 - Exterior Connections (Figure_04.pdf)
Figure 5: Intervention 3 - Open Plan Living (Figure_05.pdf)
Figure 6: Intervention 3 - Open Plan Living Continued (Figure_06.pdf)
Figure 7: Intervention 4 - Embracing Voyeurism (Figure_07.pdf)
Figure 8: Intervention 4 - Embracing Voyeurism Continued (Figure_08.pdf)
Figure 9: Intervention 5 - Warm Modernism (Figure_09.pdf)
Figure 10: Intervention 5 - Warm Modernism Continued (Figure_10.pdf)

MORE EFFORT~~LESS~~:
A Responsive Intervention

1

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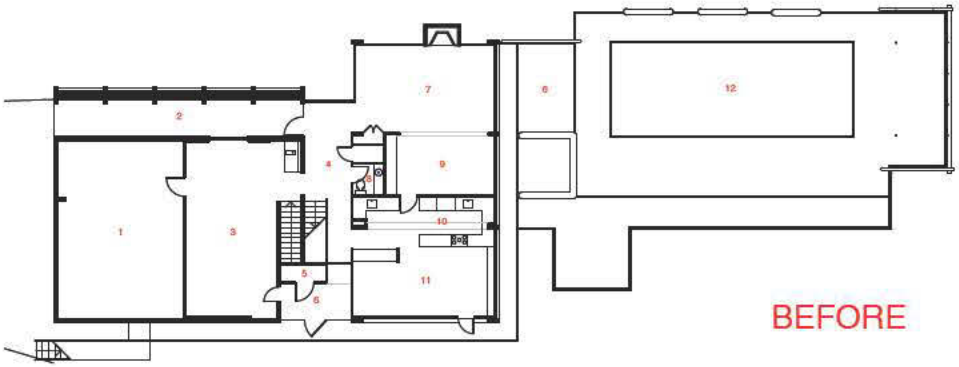
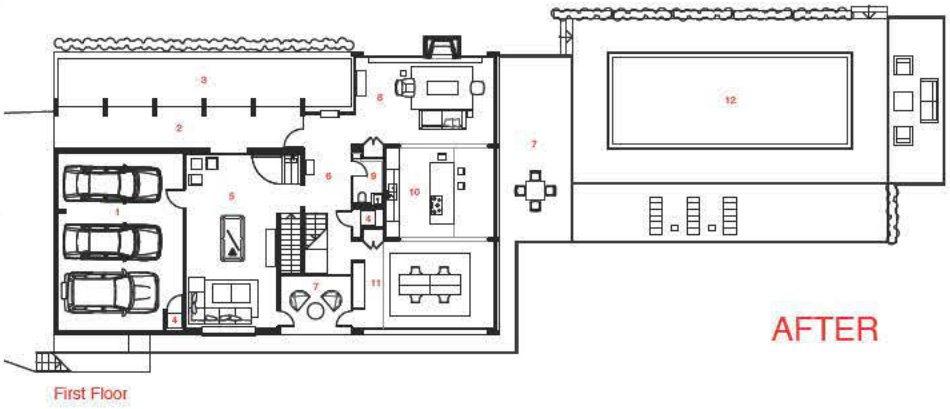
Second Floor



First Floor

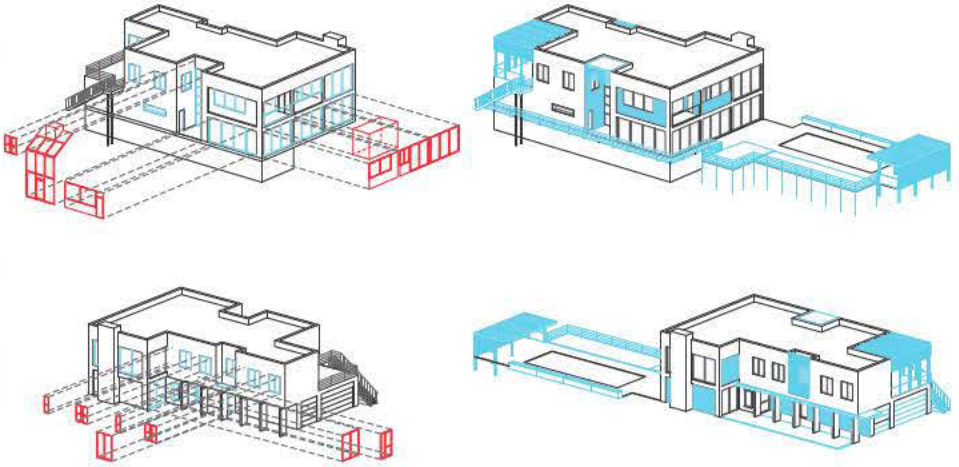
Published Photographs 1982
1 View from East Overlooking Pool Area
2 Kitchen and Breakfast Area
3 Living Room with Swimming Pool Beyond



Post Renovation 2011
1 East Elevation
2 Living Room
3 New Reflecting Pool at Entry

Intervention 1: Addition and Subtraction

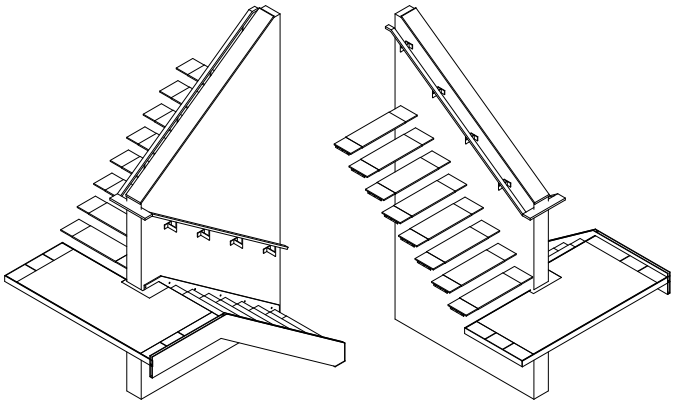
The interior and exterior were stripped back to find greater clarity in the building's organization. The form of the existing building with its seemingly severe yet lenient spatial structure informed the new; form followed form.



1 Roof Terrace Before
2 New Roof Terrace Structure Completes Volume on West Elevation
3 View of Roof Terrace from Media Room
4 Addition/Subtraction of Openings and Addition of Building Elements

Intervention 2: Exterior Connections

Mature trees now shade the site and allow for exterior connections that would have been impractical when the house was built. Inspired by original features, new full-height glazing, a reflecting pool, plantings, and finishes enhance visual continuity from the interior to the exterior.



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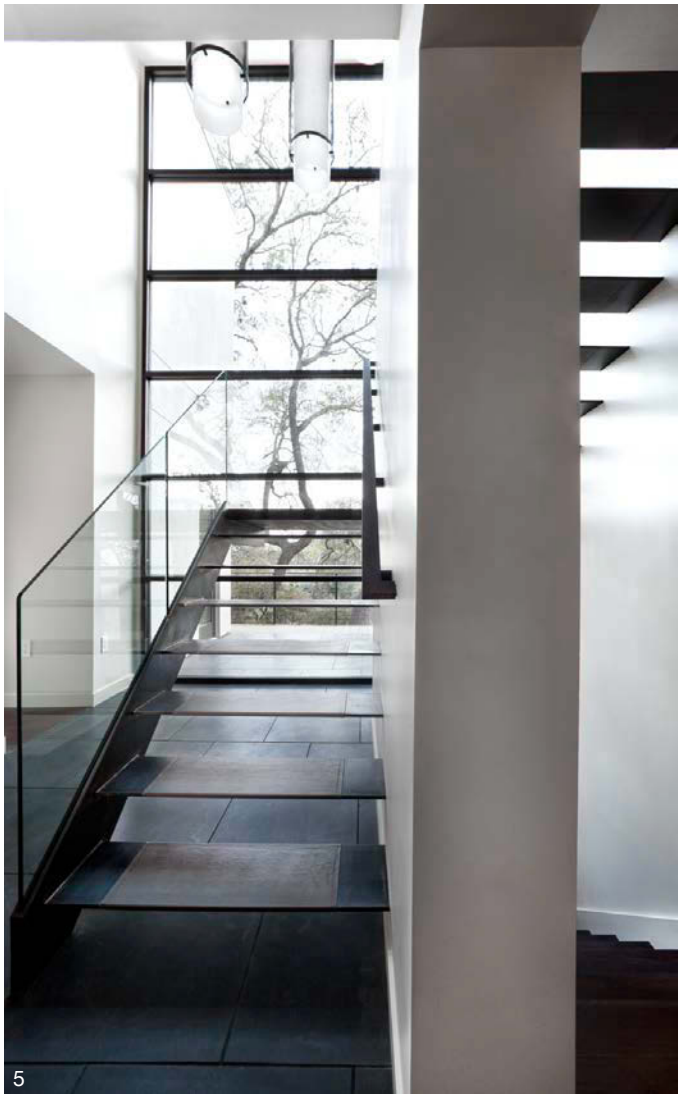


5

1 New Steel Staircase Wraps Existing Loadbearing Wall
2 Dining Room (Former Kitchen/Breakfast)
3 View of Matured Vegetation from Dining Room
4 Stairwell Before
5 Extended Views into Landscape through Steel Staircase

Intervention 3: Open Plan Living

Centralizing the kitchen and removing partition walls creates a continuous space that is more reflective of a contemporary lifestyle. This changes the residence's social dynamic to a live-in kitchen with an open flow for entertaining.

1 View from Kitchen (Former Dining) to Living Room and Pool Area
2 Continuous Kitchen and Living Room
3 Living Room with New Planters Beyond
4 Dining Room Before
5 Kitchen Before

1

1 Concept Sketch Kitchen
2 Kitchen Before
3 Cantilevered Kitchen Island
4 Open-Plan Kitchen and Dining Room

2

3

4

Intervention 4: Embracing Voyeurism

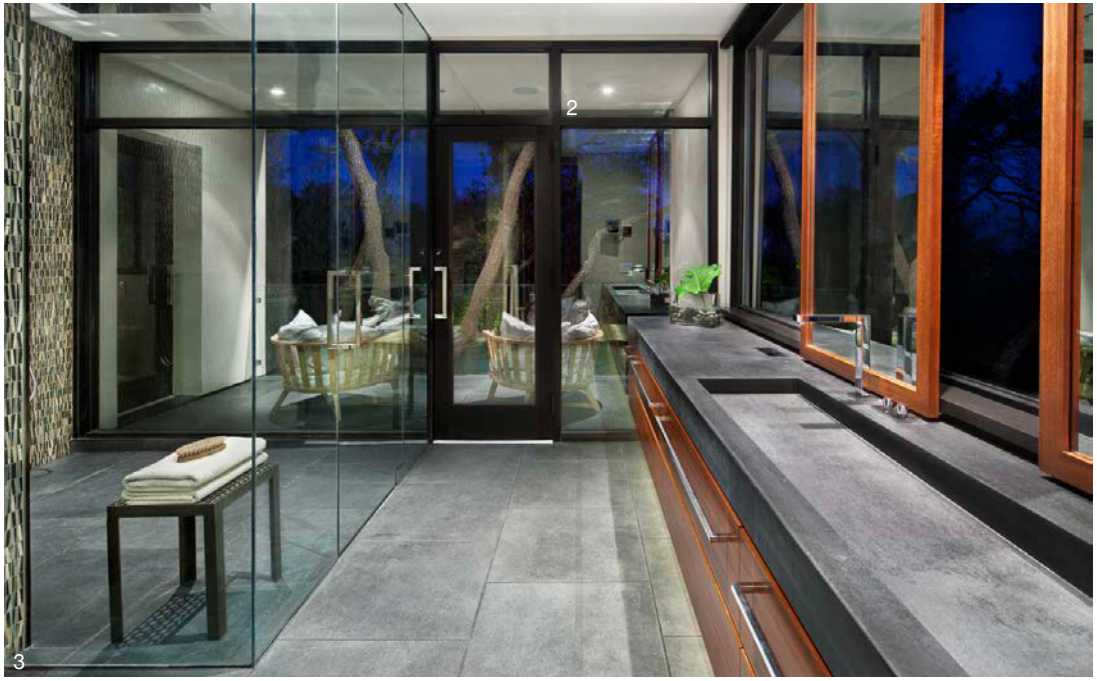
An existing twenty-foot wide glazed overlook from the master bedroom to the living room means that occupants enjoy views and daylight but are also on display from below. Celebrating this bold move, an installation of 29 glass pendants provides a centerpiece from both vantage points, while curtains offer privacy when desired.

1 Concept Sketch Master Bedroom
2 Master Bedroom Overlook to Living
3 Glazed Overlook with Pendant Installation
4 Blown Glass Pendants

1

2

1 Concept Sketch Master Bathroom
2 Master Bathroom Before
3 View to New Master Balcony and Wooded Lot Beyond
4 View of Jatoba-Veneered Vanity with Sliding Mirrors in Front of Existing Window



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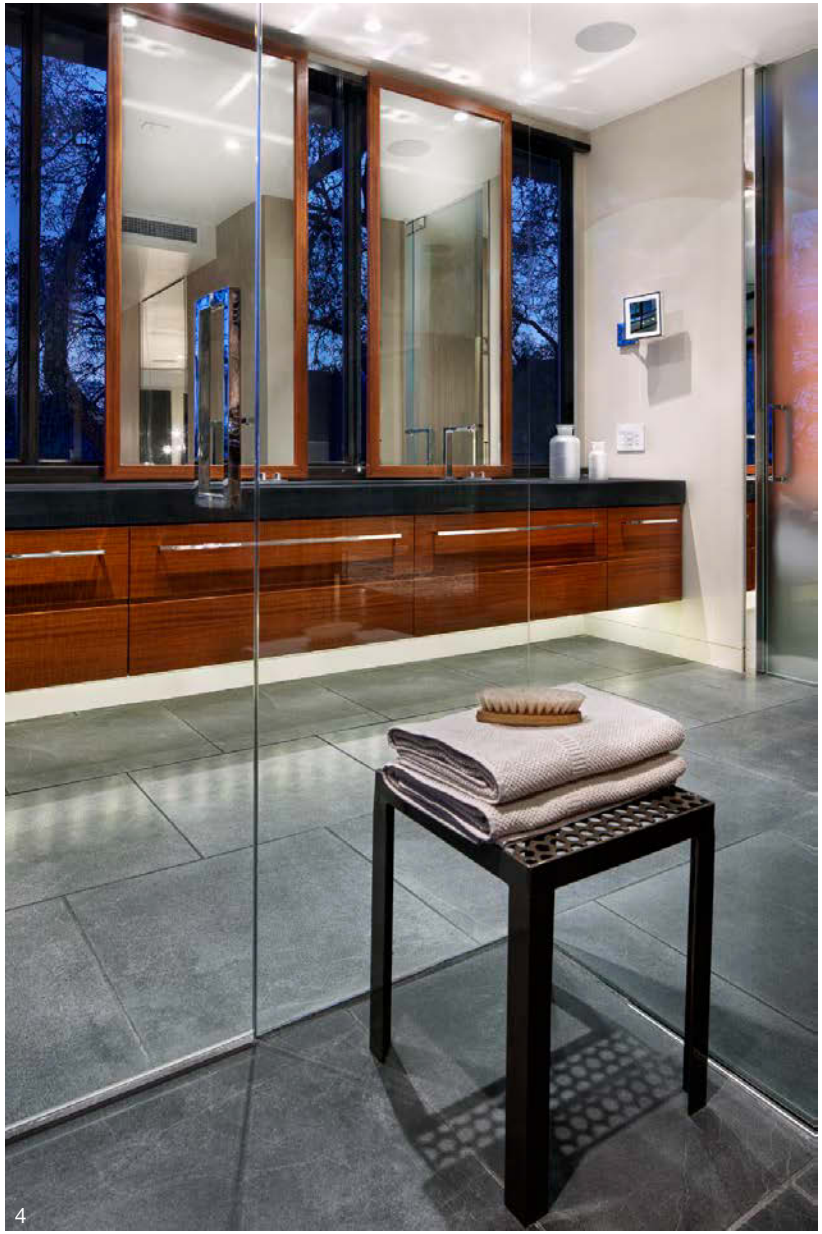


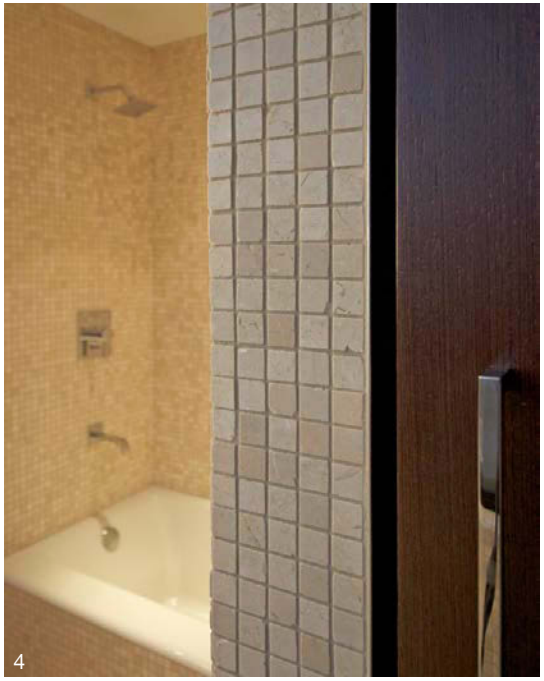
4

Intervention 5: Warm Modernism

Finishes were updated throughout with the intention of adding a sense of warmth and timelessness to the strict formal language of the original architecture.

1 Two-Tone Kitchen Cabinetry with Fireslate Countertop and Glass Backsplash
2 Oak-Veneered Entertainment Bar with Oversized Door
3 Leather-Wrapped Steel Staircase with Gun-Blued Finish
4 Custom Pendant Light Fixtures in Stairwell

1 Wenge Cabinetry in Guest Bathroom
2 Linen Curtains in Master Bedroom and Media Room
3 Leather and Basalt Wall Tiles and Rosewood Cabinetry in Powder Room
4 Wenge Cabinetry and Marble Mosaic Tiles in Guest Bathroom
5 Oak-Veneered Doors with Leather-Wrapped Levers
6 Basalt and Mixed Stone Mosaic Tiles in Master Bathroom



Landscape, Built Form, and Agrarian Spaces in the Midwest

John Humphries

Materials: watercolour and graphite and wood
Completed: 2010-2011

A commission for speculative set designs uses drawings to link the industrialized agrarian landscape, the structure of built spaces, and fantastical spaces.

The artist, an adopted child of first generation immigrants, strives to generate and construct a conceptual and inwardly referencing narrative. The goal is to reconcile a simultaneous search for identity and embrace a peculiar safety found within alienness through the use of conceptual/hybrid drawings which use the syntax of architecture.

Just as the telescope reveals the structure of matter in a way the unaided eye can never see it. So hybrid media and translations between media and language reveal, through slow shifts, the structure of our spaces of habitation, even abrupt changes, and striking contrasts that occur rapidly so they seem a continuous flux are seen slowly, through contemplation, to be full of pulsations and agonies and indecision and repetitions. This fragmented approach reflects a belief in multiplicity that includes qualities of performance, inhabitation, and experiential character in design rather than the hegemony of singular form strategies.

In order to convey a more complete image of complex shifting situations the artist borrows from the Beaux-Arts tradition of analytique drawings which simultaneously included perspectival, orthographic, and conceptual images at various scales within the picture frame. These conceptually framed drawings contain a potential broader than things made to communicate design decisions. It is a mode which can consider intentions and attitudes, literal aspects and abstract thoughts, complexities and contradictions, fantasies and intricate relationships, along with fragmented notions. While the process of drawing can be both tangible and speculative, it is the speculative nature that can provide a significant contribution to the process of making. Without the firmness required of designing a utilitarian object, one can investigate tectonic ideas of space, narrative, texture, order (and disorder), connection, human passage, and material. Through this ambiguity a drawing can transform a notion, idea, or concept and allow for one concept to connect to another. By embracing the conceptual nature of representation the author has begun to slowly develop a body of work which transforms one media into another in an effort to understand the elements which are kept and things lost in translation.

image 1photographs of the edge of the earth: A Midwest landscape with a city block sized structure-making parts for machines larger than buildings. An eroded geology is inscribed by steel lines.

image 2watercolour drawings: A drawing in the throws of shifting from two dimensions to three drags the boundaries of cultivated land and the seeds of build places.

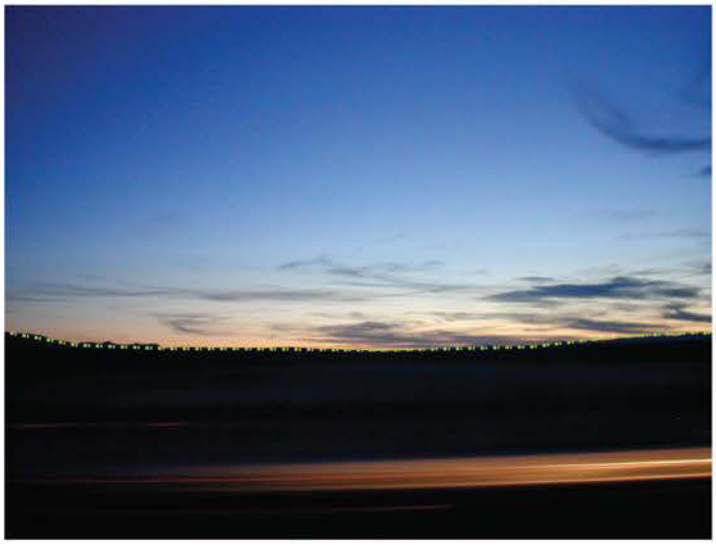
image 3watercolour drawings and photographs of Indiana: An eroded landscape is invaded by barn-like structures. A seasonal edge or wall of zea mays is cut by glacial marks made long ago.

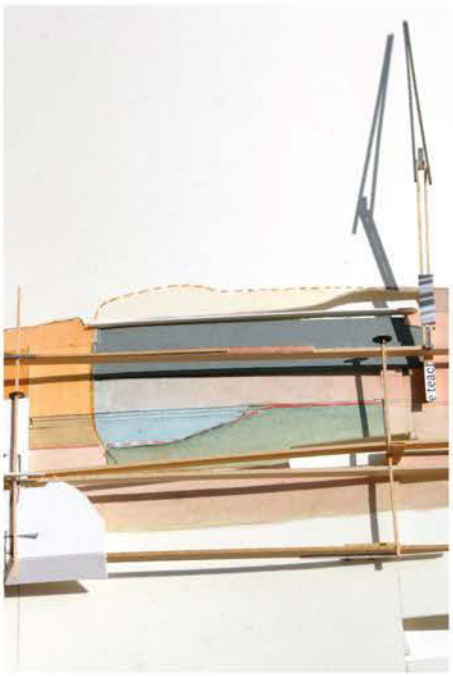
image 4watercolour drawings: Tectonic structures climb from and conceal the landscape. Two places are connected.

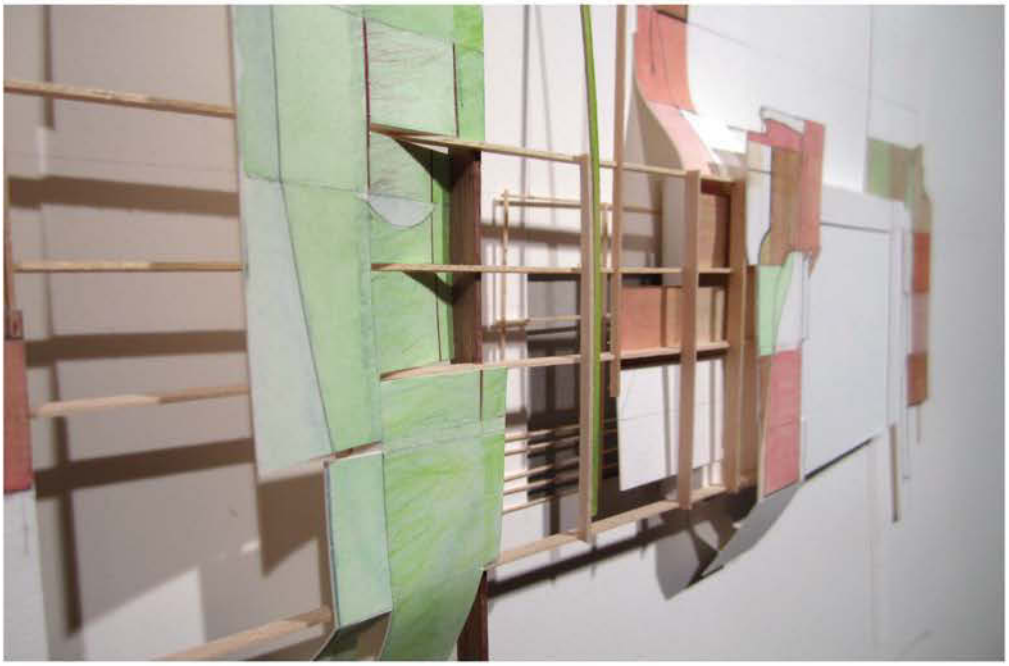
image 5watercolor drawings leaving the page: A drawing plowed and re-marked then folds of land become folds of spaces. A wooden plane frames a view reveling a dissected pavilion.

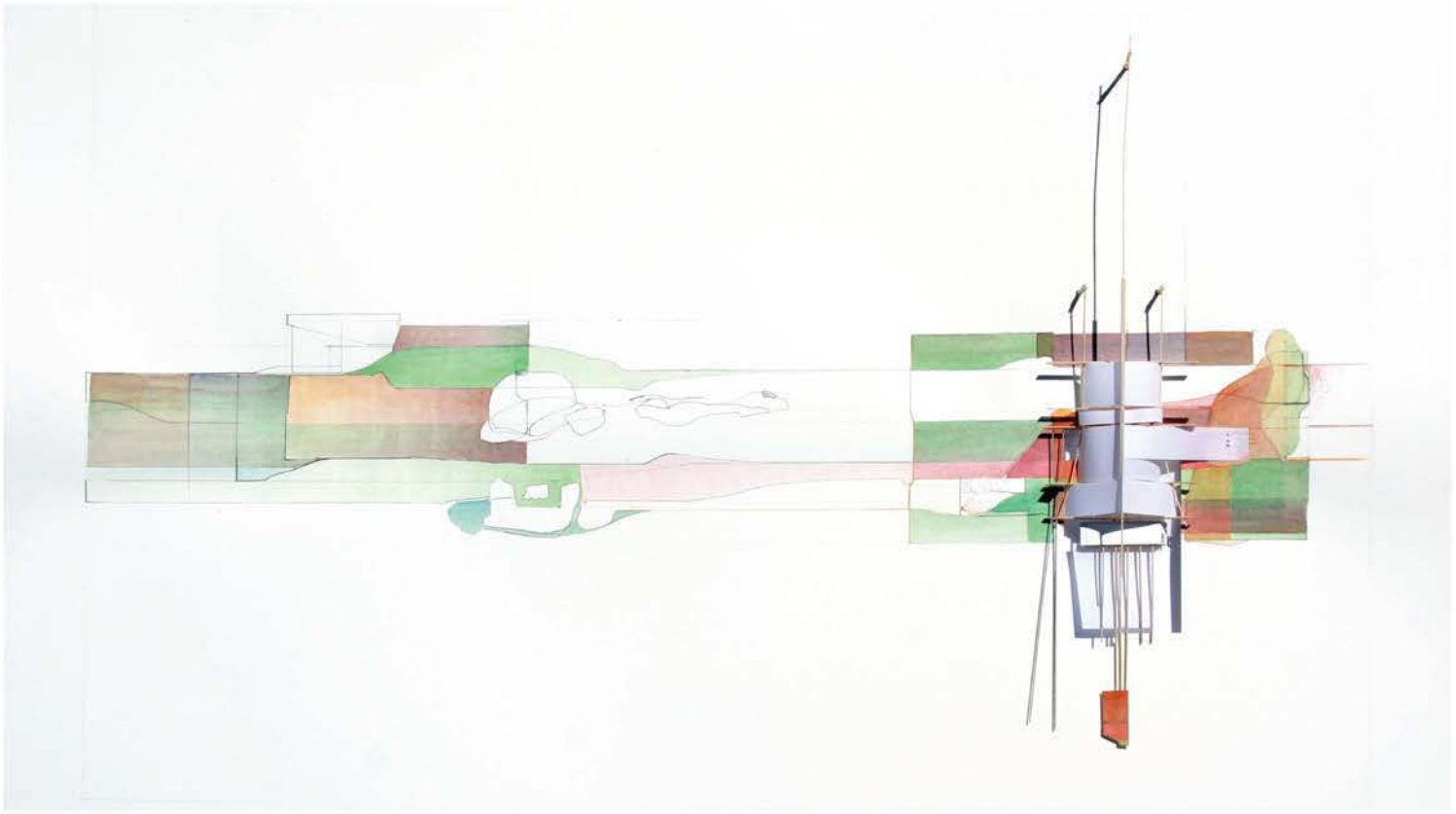
image 6watercolour drawing leaving the page and the debris of machines in the landscape: Details of watercolour landscape forms. Tired iron at one moment marks the land then litters. A rusting palimpsest.

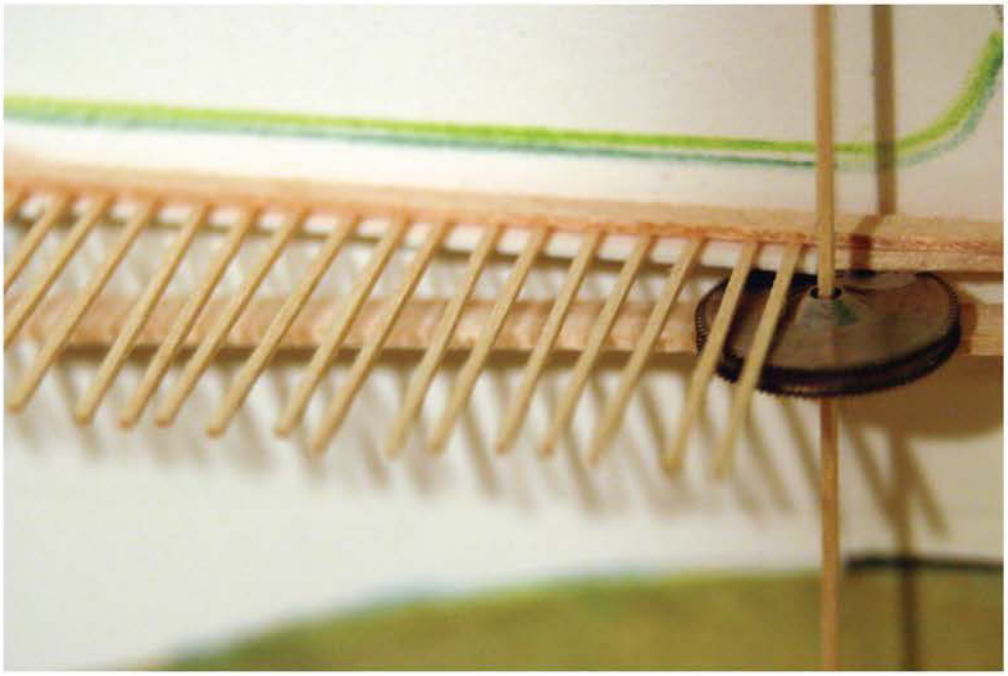
image 7watercolour drawing: Constructed solids form an a place within the page. Tendrils of architecture’s seed stretch.

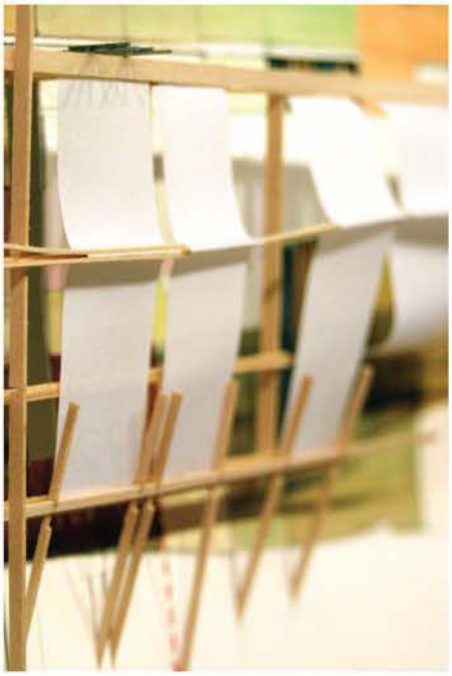


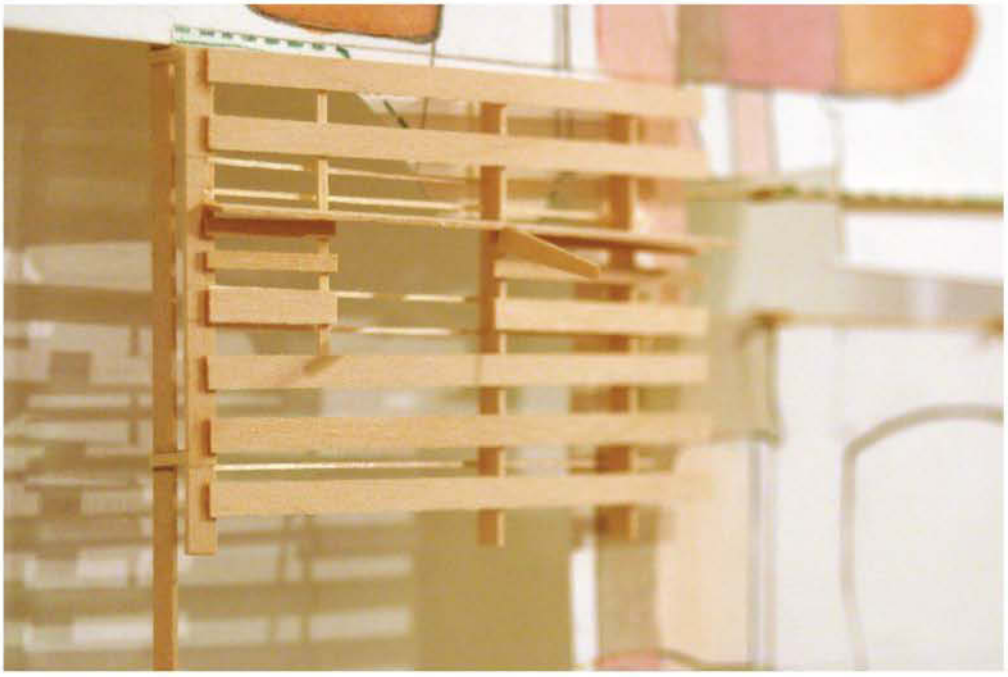


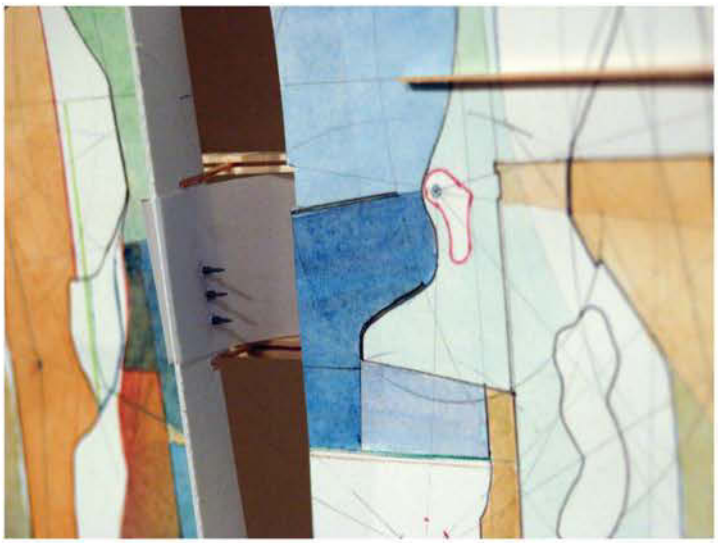


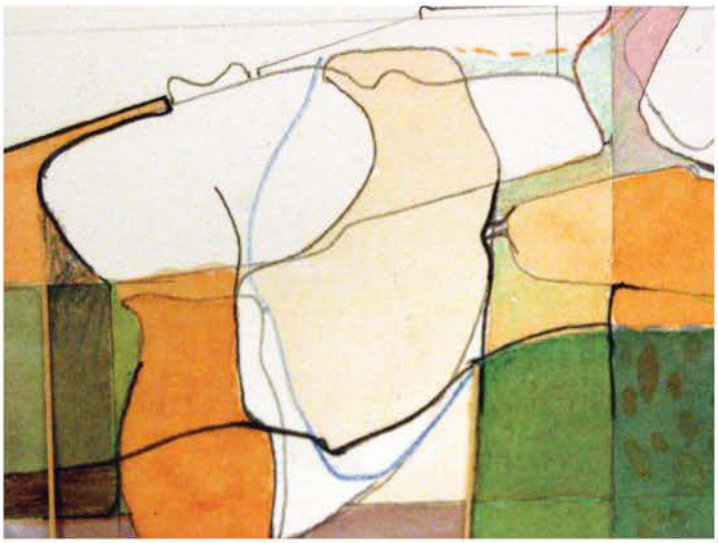


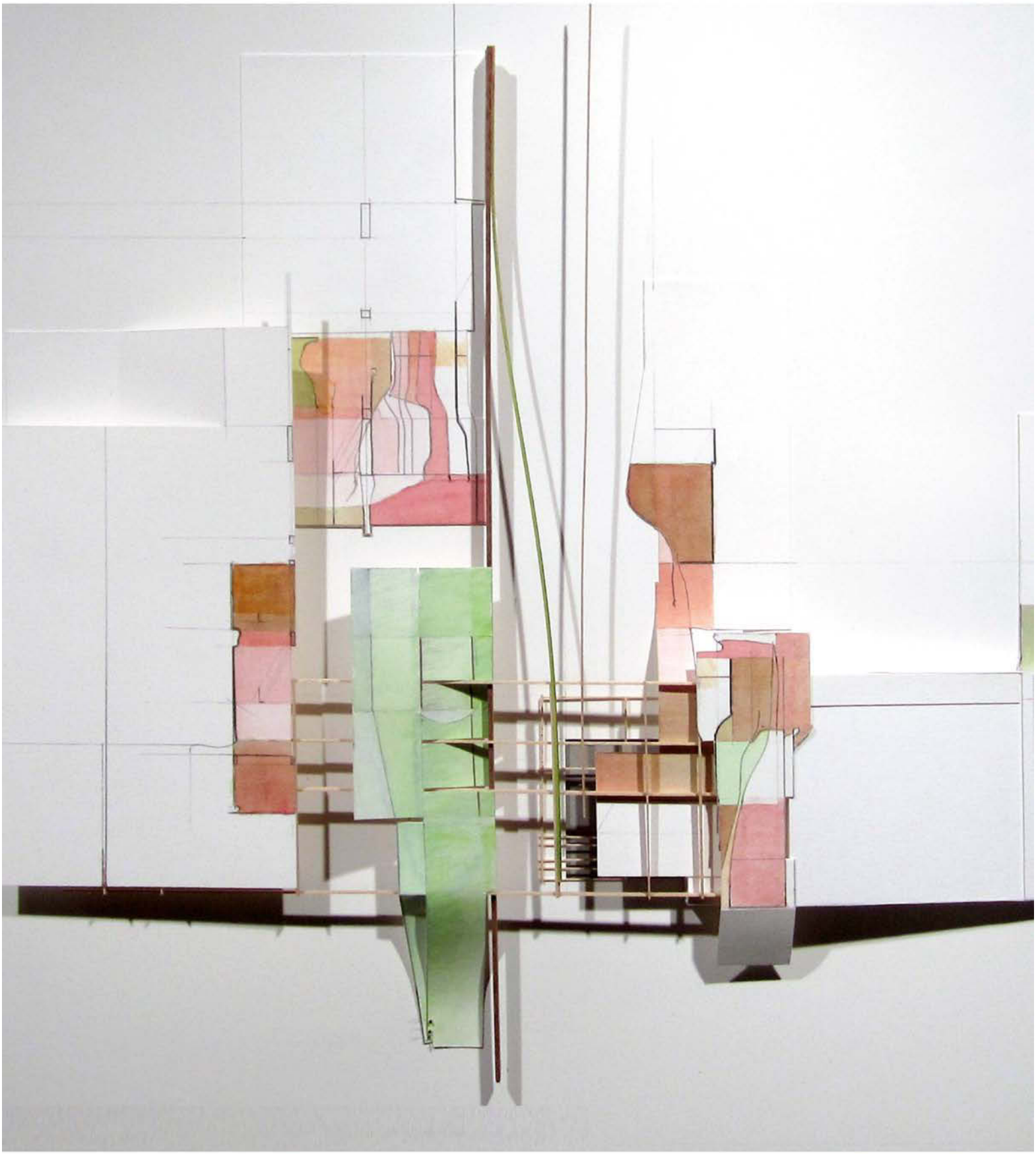












An Explorer's Tool-Pouch for Going Knowhere

by John Humphries and Samantha Perkins
Miami University

A drawing kit was commissioned to help travelers when exploring a new place to be able to document their experiences. The kit was to include several elements, which would facilitate hand drawing and capturing of digital media (video).

During play / testing, a number of design opportunities began to emerge. The first: a realization that those commissioning the product were not the intended users—the clients have a well developed sense of visual literacy, while the users of the product were young people who were new to traveling and looking critically at the world while simultaneously trying to learn about how to capture their experiences using visual media. The second was that there was no plan to design how the kit of supplies were to be carried while traveling abroad.

The solutions to problem one: Instead of designing the equivalent of a fancy pencil case, a full kit to support a teaching course was developed, expanding the product to include elements that would facilitate both teaching and learning. Beyond raw supplies, the kit includes vibrant assignment cards which prompt certain ways of seeing and generating student-specific documents, encouraging the use of multiple media, while allowing students to work in new, yet familiar ways—design prompts structured as writing prompts, stressing what should be looked for, suggesting a media to use, and warning of possible pitfalls. The assignment cards were concise, while the front suggested a stylized successful attempt of the prompt.

New tools are included in the kit for water media, adhering remnants of travel, an airline approved cutter, string for repairs or stitching (possibly supplied by Ariadne), a pocket inkless printer which could capture a scene witnessed moments before then put into the workbook and collaged or cut from, and finally a series of transparencies printed with glyphs to take photographs through.

The solution to problem two: Design a method of assembly and construction which can take a certain amount of abuse and remain functional—a bag. The intention was to not design an armored car for transporting the studio tools, but something more flexible—a sturdy design made of durable materials which last and can be repaired / re-stitched by the traveler. Something nice, unique enough to be original, but not so fancy as to attract thieves.

The final container was designed using 8mm industrial felt, die-cut, stitched, and secured with nickel grommets. In order to facilitate repairs, the design formed from one piece of felt, with the main compartment folding in a manner to make tabs for a strap, a flap for closure, the main inside pocket, and two external storage areas. Industrial felt rarely tears, and the folding suggests high design and chique cleverness, but of a less desirable material. While the kit may show the grime of a city, it will not be destroyed by the dirt or water or wine found on this trip.

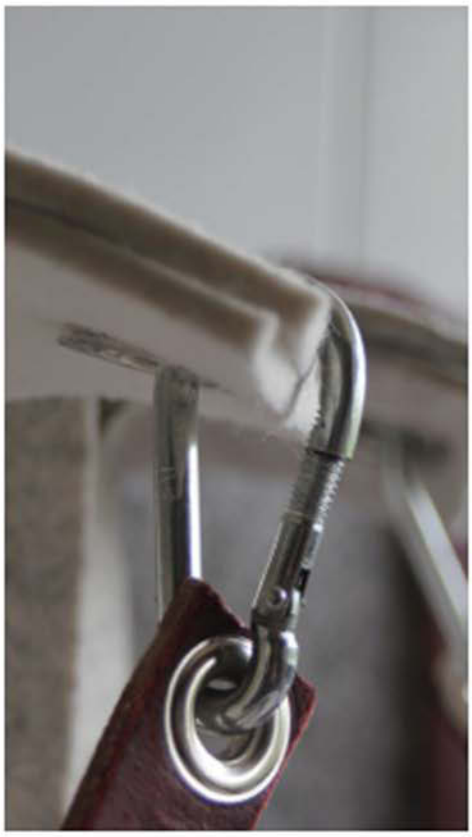
image 1 An Explorers Tool-pouch for going Knowhere.

image 2Folded pouch with leather straps and nickel grommets. Workbook with integral pockets for found objects, pockets for prompts, paper for work, and transparencies with glyphs.

image 3Durable “drawing” kit with adhesive, water color paint, pencils, brushes, pocket inkless printer, and video. Die-cut bag shapes before folding and grommet detail.

image 4Design/ drawing prompts with emphasis on suggestions and pitfalls to avoid whilst focusing the field of observation.

image 5Moquette of tool-pouch, marked by sudden realization the the folding was more like folding a diaper than origami cranes. Branded water bottle, video camera, adhesive and drawing kit. Travelers headed for discovery, taking a break, and using the kit to describe their experience.

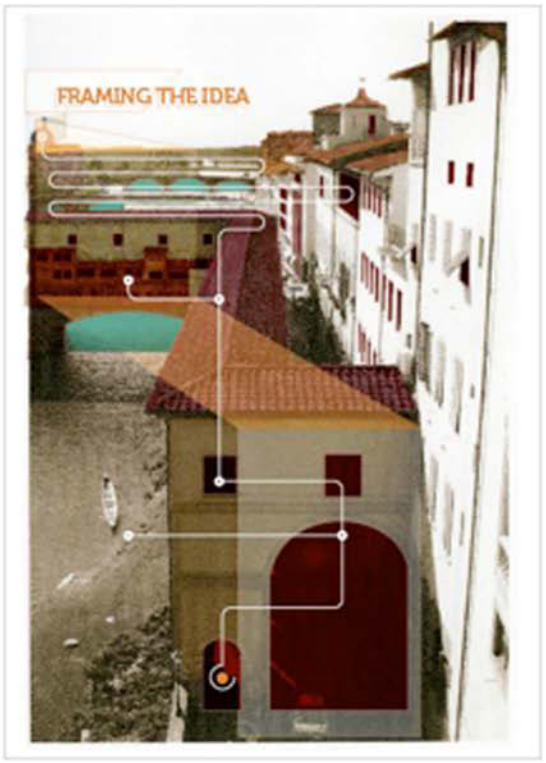


KNOWHERE

KNOWHERE
SKETCHES

KNOWHERE

FRAMING THE IDEA
KNOWHERE
KNOWHERE
KNOWHERE


FRAMING THE IDEA

FRAMING THE IDEA
KNOWHERE
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INCLUDE:
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A SPACE FOR PLACE

A SPACE FOR PLACE
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DEFINITION OF PLACE
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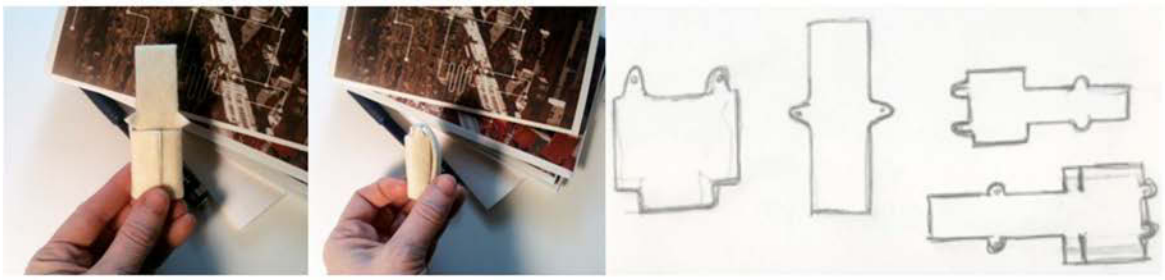

KNOWHERE
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Flip
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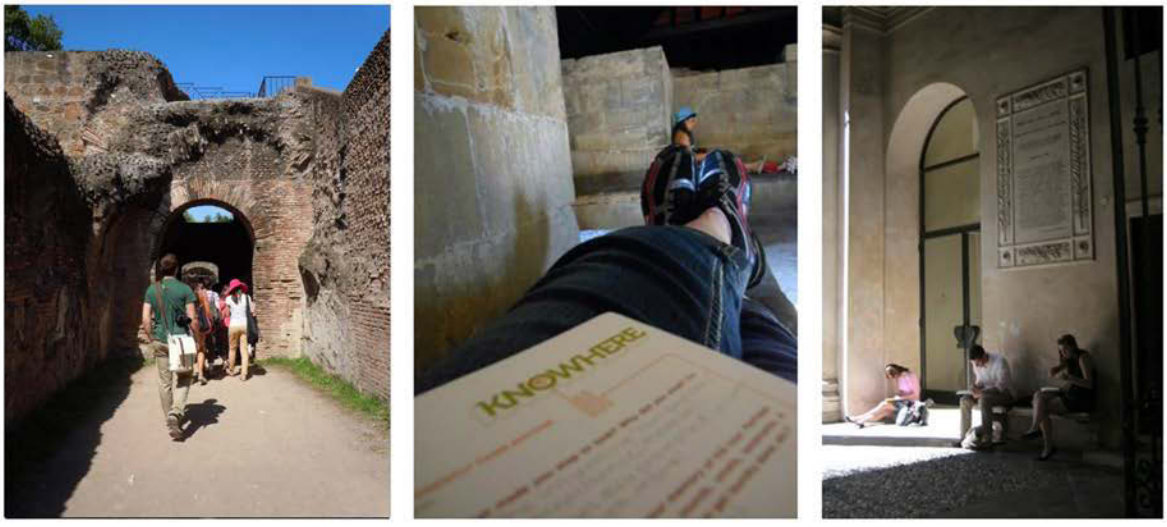

KNOWHERE

Bohdan Townhouse

Thad Reeves, Heath Macdonald, Steven Quevedo

The University of Texas at Arlington

DESIGN STATEMENT:

This modest remodel of a 1962 structure was undertaken as prototype for possibilities in refurbishing the rest of the units in the complex. The re-use of the existing structure is an example of what can be achieved in the face of the teardown mentality pervading many of our neighborhoods.

Existing Conditions

The client purchased the project in poor condition (figure 1) and asked for simple, usable spaces that took advantage of the existing strengths of the site, the existing courtyard and natural light. Many poorly executed remodeling attempts left the space in poor condition and filled with both visual and literal toxic materials.

Design Strategy

During demolition it was decided to remove all interior surface materials and remediate as many of the toxic coverings, mastics, and paints as possible. In doing so the load bearing masonry party walls were revealed. As a way of clarifying the small space and providing some means of continuity, the masonry walls were to be left exposed (figure 2 d). Due to budgetary restraints involving the removal of 50 years and as many layers of paint, the walls were re-painted but still reveal the texture of the brick.

Programmatic Strategy

The kitchen cube on the lower level was removed to engage the space with the living area and allow for the clear reading of the masonry walls (figure 2d). All objects (cabinets, furniture, paintings) were considered as carefully displayed artifacts within the space or on the walls. Continuous steel, hanging rods were the only item added to the masonry walls to allow for maximum flexibility the display of the owner's artwork. The pre-manufactured kitchen cabinets were shrouded in a stainless steel case that becomes the countertop surface.

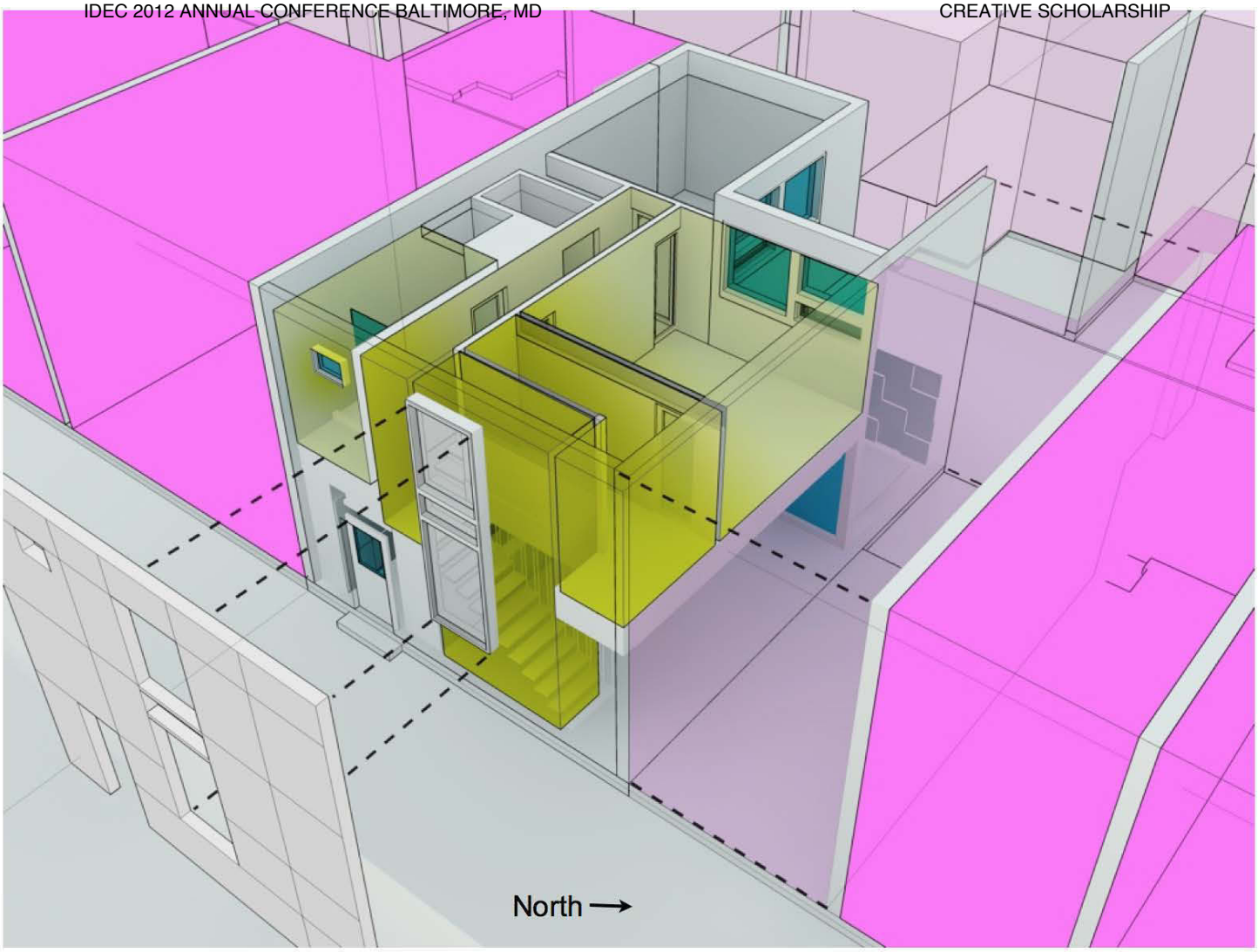
The Second level was unusable for two bedrooms as configured (figure 2b) and too large for efficient use of one bedroom. More storage space and a small laundry room were added to provide a clear strategy for defining bedrooms (figure 2c). The bathroom was re-ordered and enlarged. The simple use of one material was used to make the space feel much larger.

Day lighting Strategy

The northwest-facing courtyard provided ample diffused light in the afternoon. However, in order to provide morning light, thereby reducing the amount of artificial lighting throughout the day, a strategy of borrowing light from the back stairwell was implemented (figure 2a). The Master Bedroom closet walls were covered with translucent panels to diffuse the morning light into the master bedroom.

IMAGES

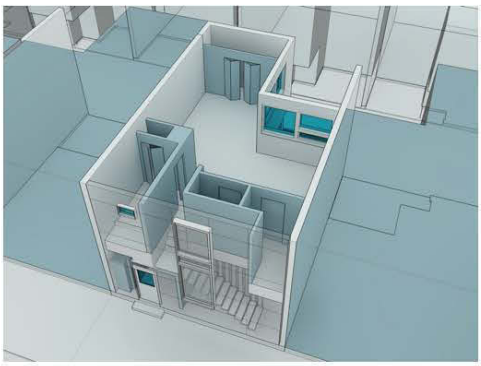
Figure 1: Existing Conditions (Existing_Conditions.tiff)
Figure 2a: Day Lighting Strategy (Diagrams.tiff)
Figure 2b: Existing Conditions: Second Floor (Diagrams.tiff)
Figure 2c: Programmatic Strategy: Second Floor (Diagrams.tiff)
Figure 2d: Ordering Strategy: Existing Masonry Walls (Diagrams.tiff)



Day Lighting Strategy: (Morning Light) Diffusion Through Translucent Interior Walls

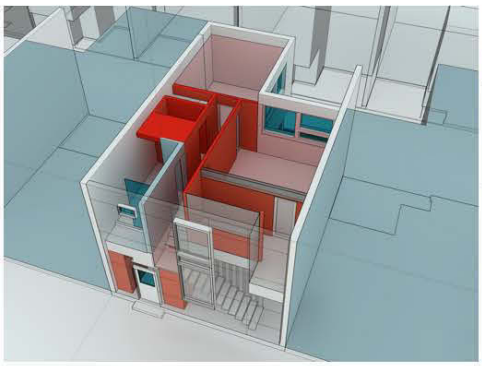
Figure 2a

Figure 2b



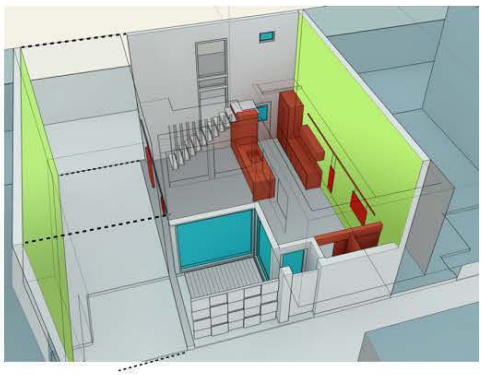
Existing Conditions: Second Floor

Figure 2c



Programmatic Strategy : Second Floor

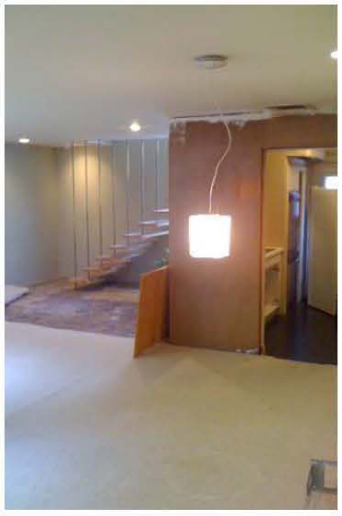
Figure 2d



Ordering Strategy: Existing Masonry Walls

1-Existing Kitchen

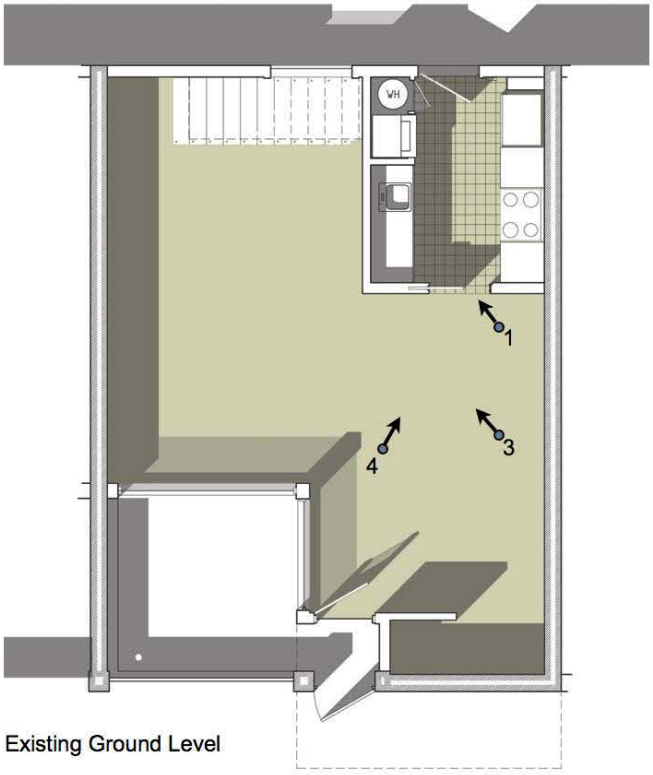
2-Existing Bathroom



3-Existing Living

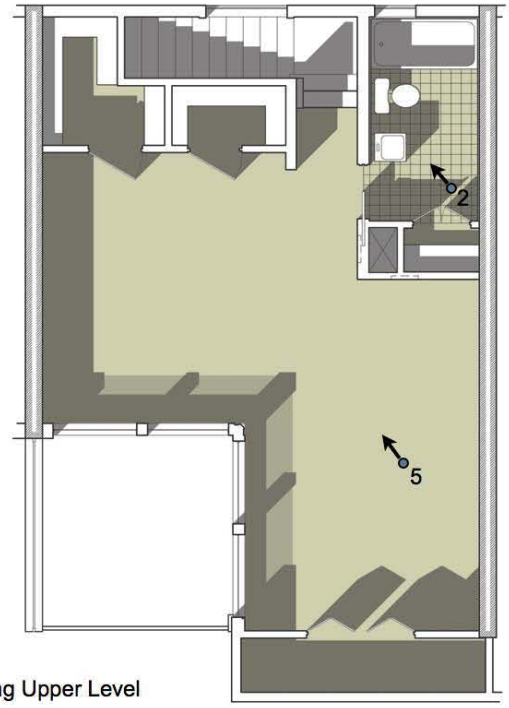
4-Existing Living

5-Existing Bedroom



Existing Ground Level

N



Existing Upper Level

Bohdan Townhouse

The existing structure is a townhouse unit constructed in 1962. The shell is comprised of parallel masonry bearing walls with stick framed exterior walls. The shell was uninsulated and extremely inefficient.

The interior suffered several bad remodels that acted as a visual and literal toxic coating. The materials were cheap, dark, and blocked the potential of a beautiful, efficient, well lit space.

Toxic Environment:

Dirty, Moldy, Musty, Smelly, Tacky, Dark, Dingy, Hot, Cold, Sweaty, Gross, Sticky, Dangerous

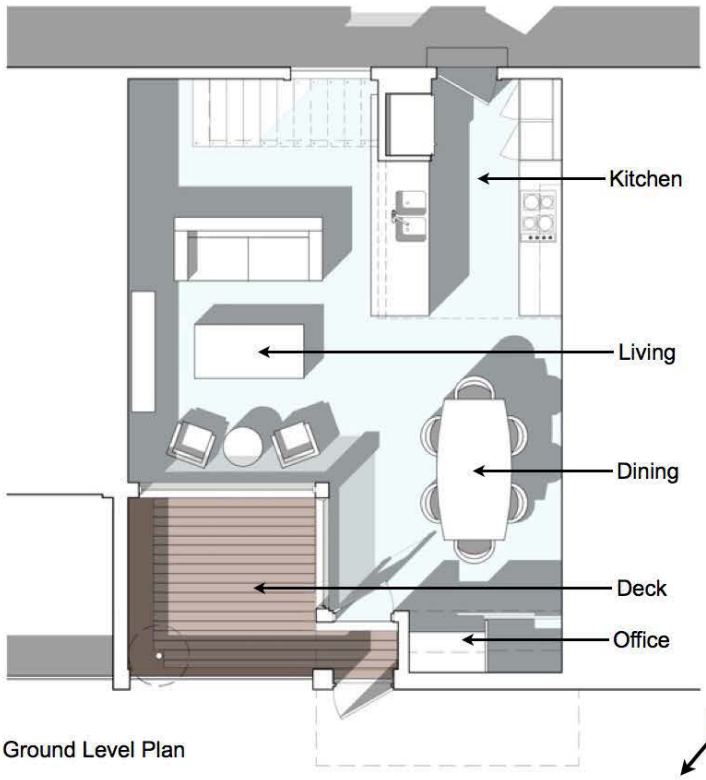
Full of:

Junk, Toxic Materials, Potential

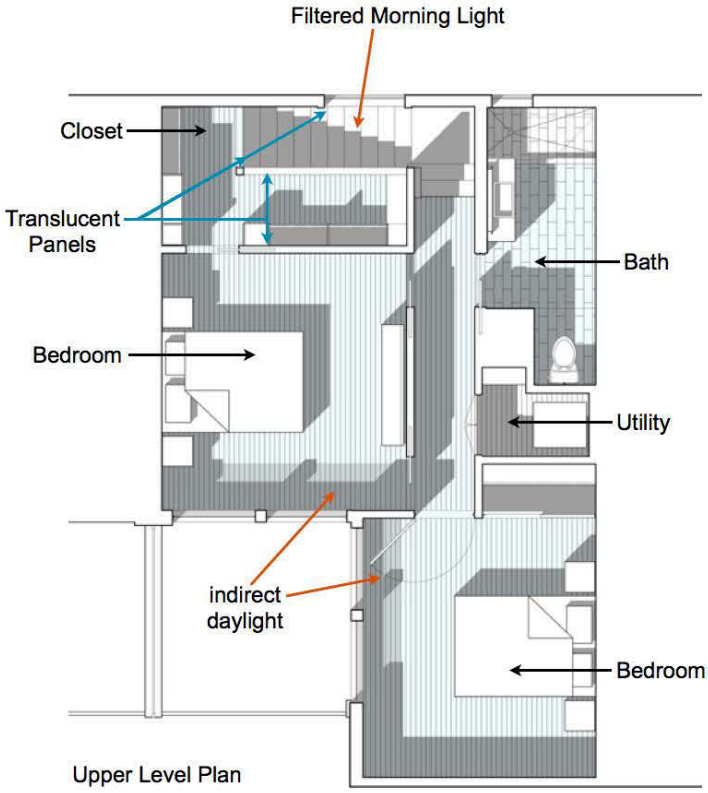
Concerns:

Beauty, Budget, Energy

Bohdan Townhouse under construction



Ground Level Plan



Upper Level Plan

Design Strategy

Within a modest budget, the space needed to be stripped down, re-ordered, and re-built.

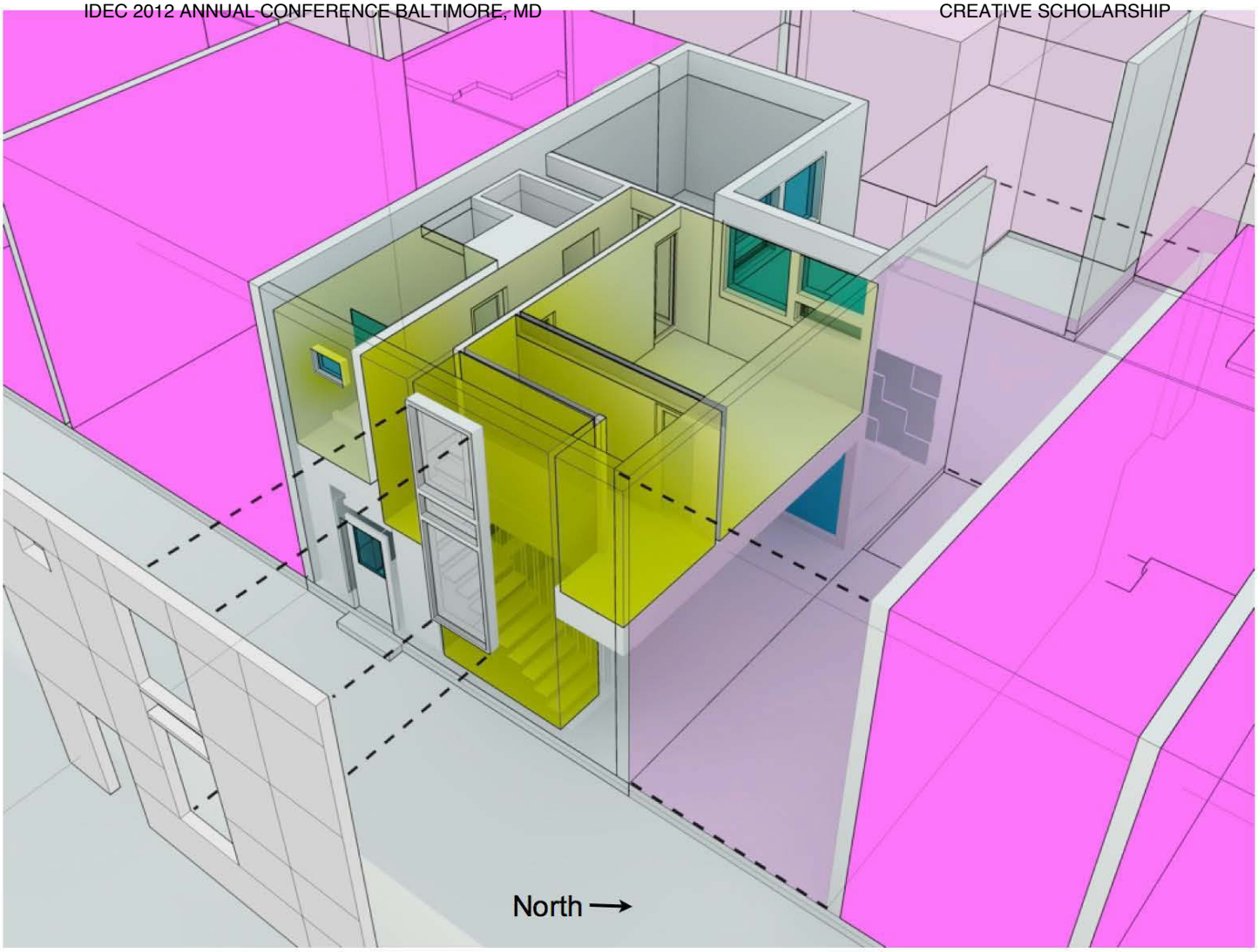
All exterior walls (R19) and ceilings (R30) were insulated and the exterior cladding sealed properly. New, energy efficient mechanical equipment was installed. The small exterior court was cleaned up and a new deck built to provide a useable outdoor space.

The interior was treated sparsely and the capturing of indirect, natural light for each space was carefully considered. As a result almost no artificial lighting is needed throughout the day which significantly reduced the unit's energy consumption.

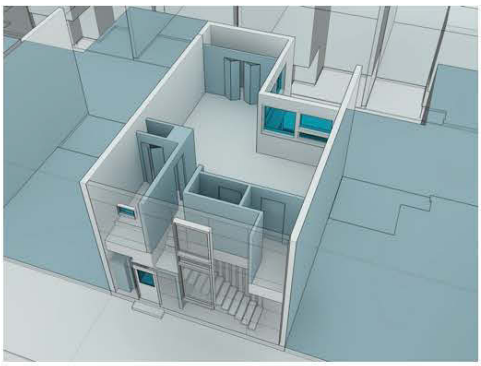
The existing, kitchen "cube" was removed to make the downstairs a flexible living area.

The upstairs was re-organized into two bedrooms and a service core that includes a larger bathroom, new utility room, and more efficient storage.

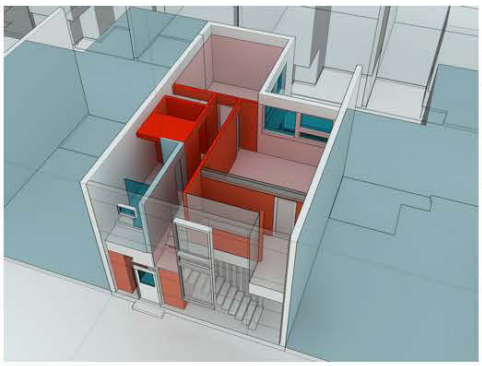
New Environment: Clean, Fresh, Open, LIght, Airy, Elegant, Controlled, Healthy, Efficient,Safe



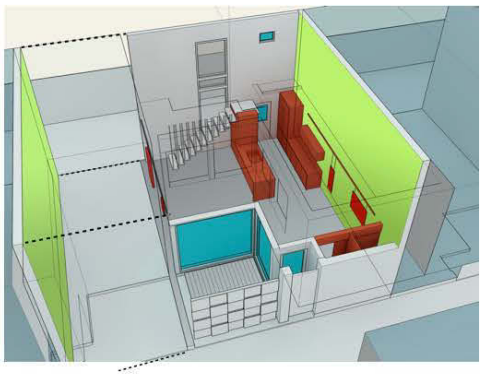
Day Lighting Strategy: (Morning Light) Diffusion Through Translucent Interior Walls



Existing Conditions: Second Floor



Programmatic Strategy : Second Floor



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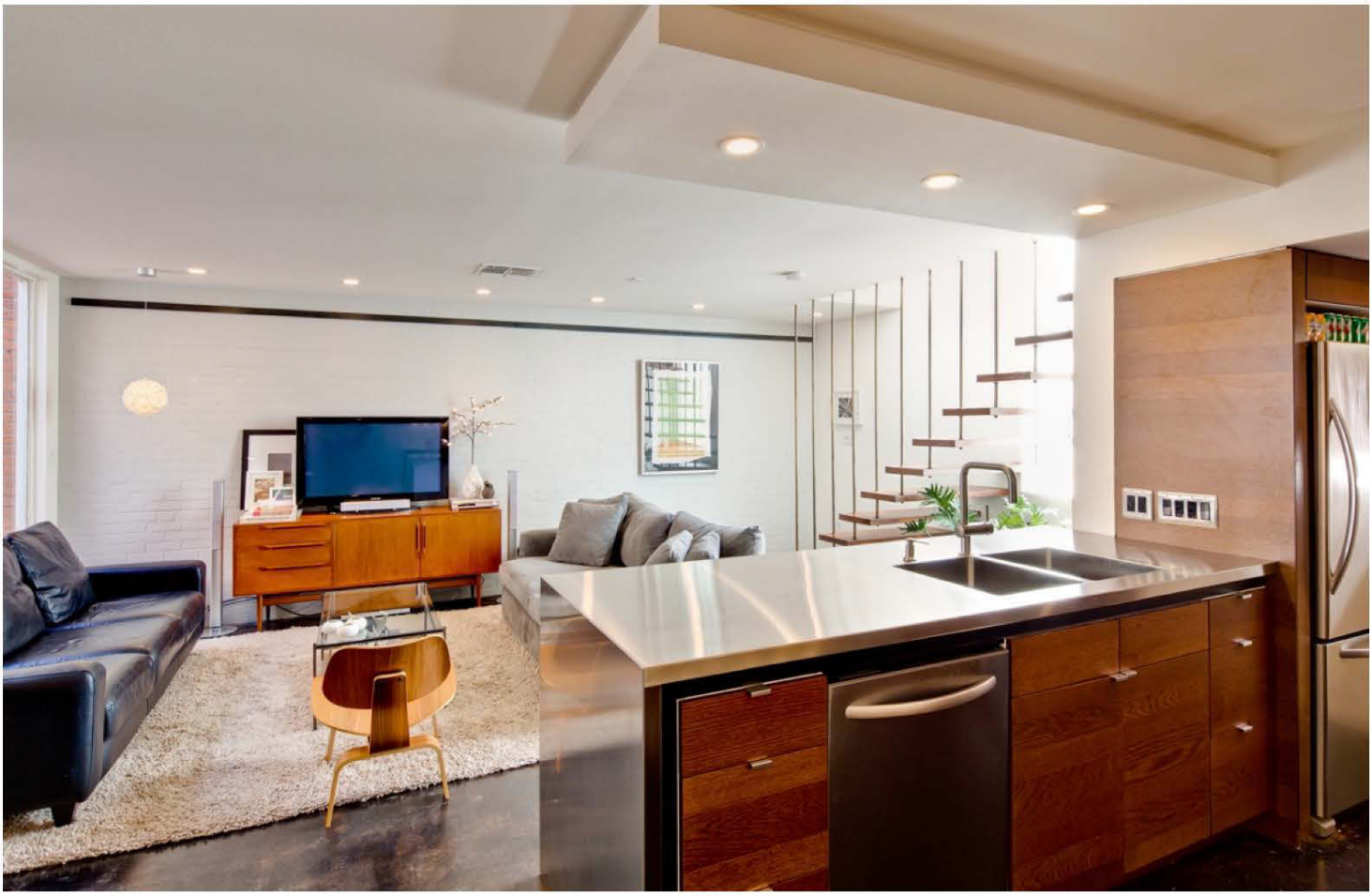
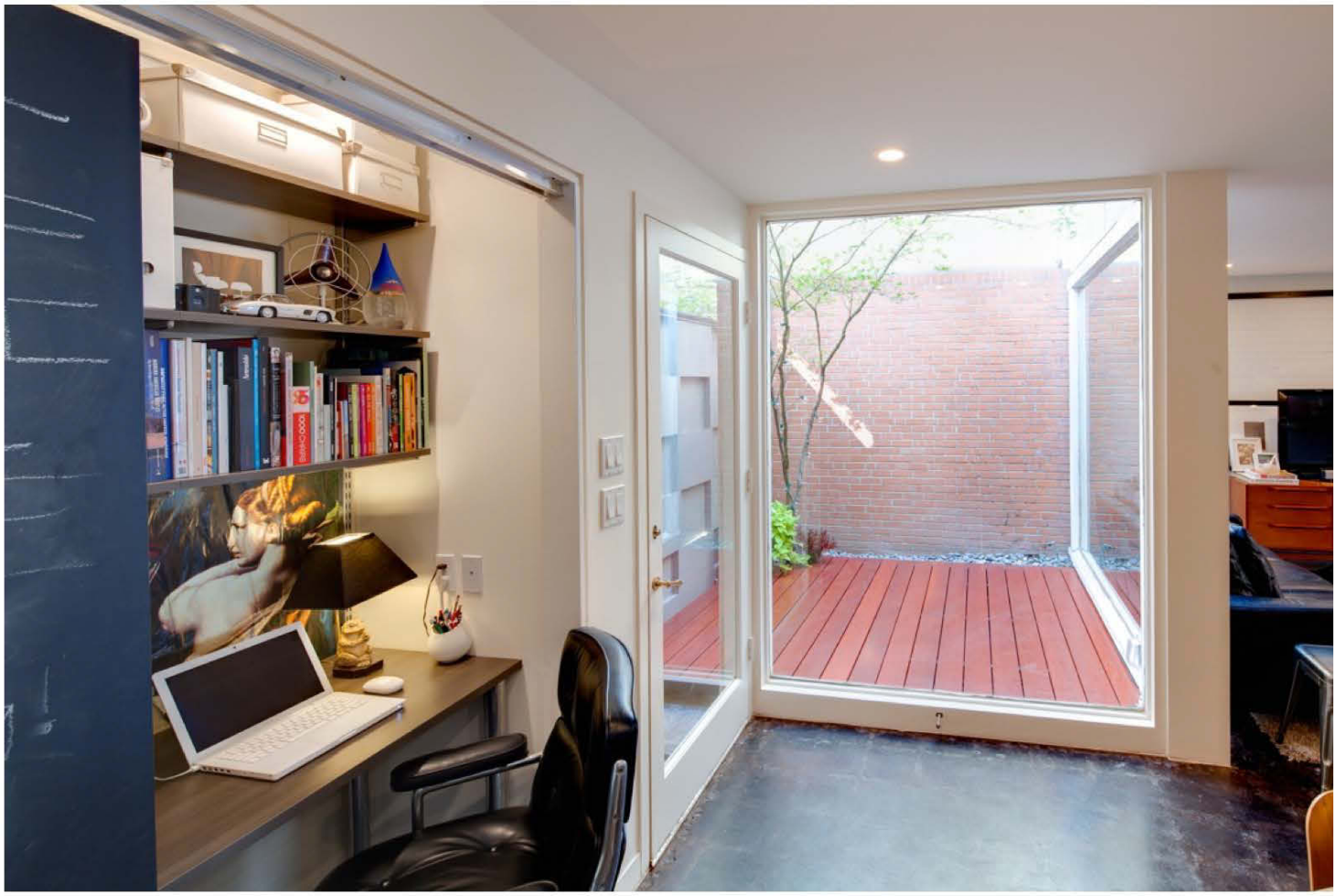
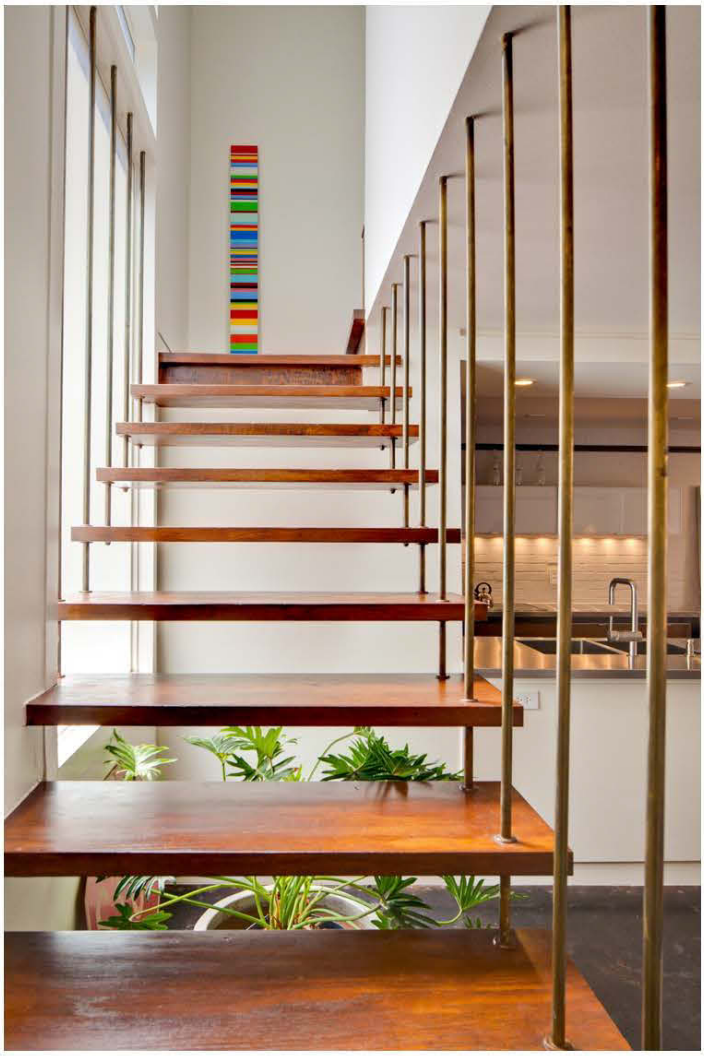


Living Room



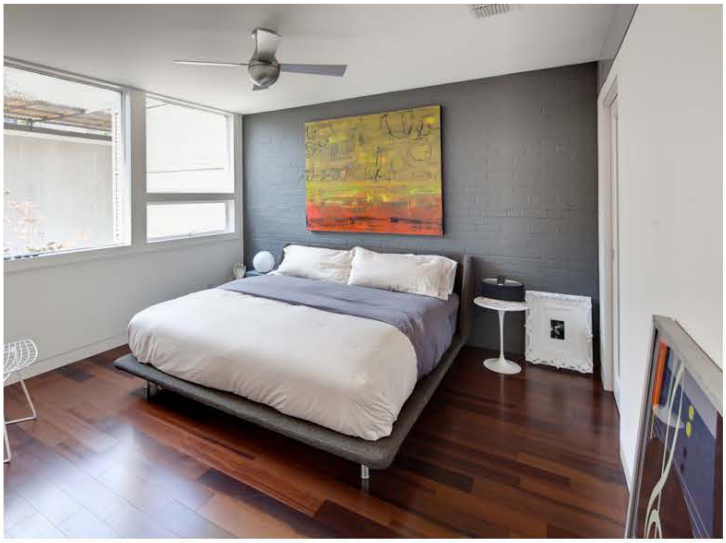
Office and Courtyard

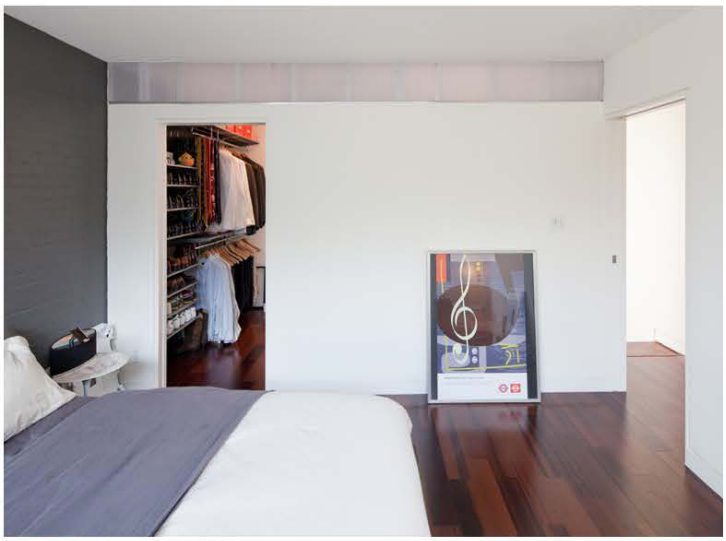
Kitchen



Stairwell

Translucent panels-Diffused Morning Light



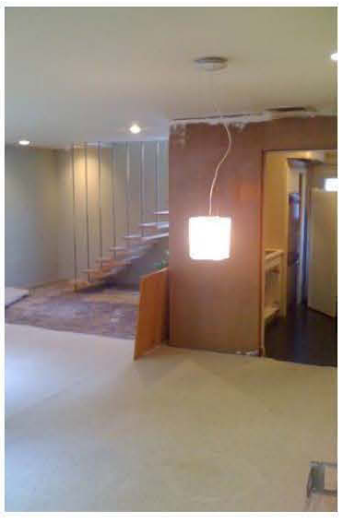


Master Bedroom

Bathroom

1-Existing Kitchen

2-Existing Bathroom



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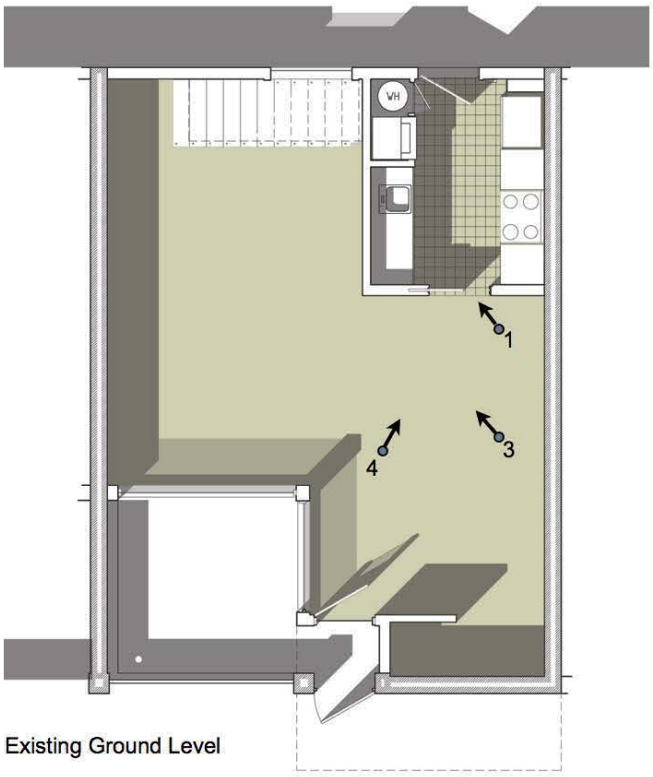
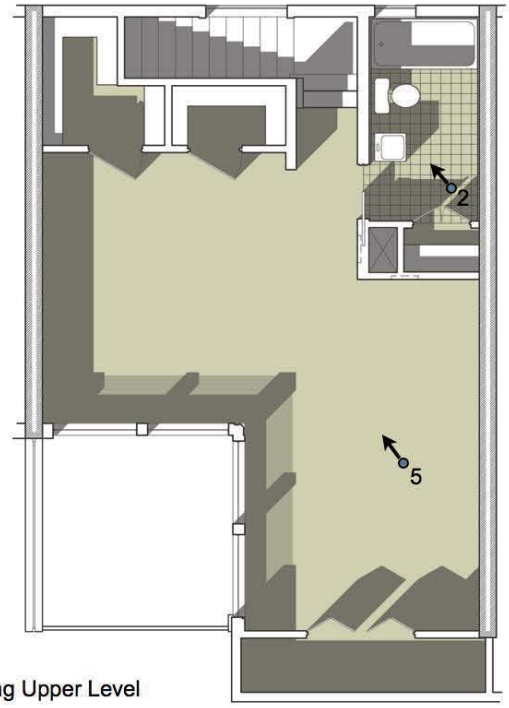
4-Existing Living

5-Existing Bedroom



Existing Ground Level

N



Existing Upper Level

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Full of:

Junk, Toxic Materials, Potential

Concerns:

Beauty, Budget, Energy

Figure 1- (Choose any image or images)

Little Dragons International School

Saral Surakul

University of Georgia

DESIGN STATEMENT

Little Dragons International School is an international kindergarten located in Nonthaburi, just a stone's throw away from the capital city of Bangkok, Thailand. The existing school is a refurbishment of a primary school which had been out of operation for a number of years. The kindergarten has proven to be a big success. Mr. Kwek Loong Cheng, the school's proprietor, has decided to create a new school that reflects his educational philosophy of happy learning which promotes the development of personal and social skills for young learners. I have been asked to create a proposal of the new school which will be located in the nearby neighborhood.

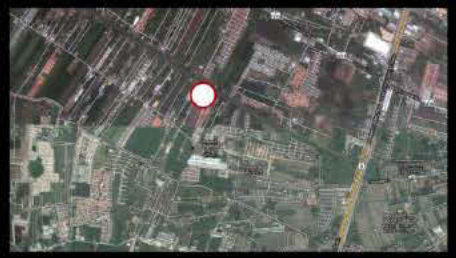
After several considerations, the design concept was derived from the owner's Chinese background as well as the name of the school, the mythical Chinese dragon. The flexible and serpentine-like dragon serves as a framework for the fun geometry of the building that attempts to challenge the norm of rectilinear kindergarten architecture. The design process is created both manually and digitally. The hand sketches are transferred to a three-dimensional software (3DS Max) allowing the applications of various parameters resulting in a unique outcome. The basic structure is fused with the high-pitched roof of Thai architecture for better water drainage and heat ventilation. The self-supporting dragon scale-like steel frame structure is clad with sheet metals and dry walls. The vivid color scheme of the building is inspired by the school's logo. The different levels of classrooms are also indentified by colors as children are more responsive to them. The circular layout of the building is arranged around the outdoor playground where students will mingle before and after school. In addition to the main building, the two buildings behind are the swimming pool facilities and the kitchen/staff quarters.

The offices and teacher's lounge are located on both levels of the building. From the entry, both parents and students have to go through the security point in the administrative office where businesses are discussed and the arrival and departure of the students are recorded.

The six classrooms can be accessed through a single hallway. Each segment of the hallway outside the classroom is designed to be a playable hallway. Different abstract playgrounds are built as a part of the walls to stimulate the children's imaginations. The classrooms are designed to be versatile serving ten to twelve children. The slope on the ceiling mimics the shape of a house to make students feel at home. The built-in shelving units are for books, toys, and art display. They also serve as storage for the bedding as it is common in Thailand for kindergarten students to take a nap in the afternoon. When required, the furniture will be moved to one side of the room for the sleeping activities.

Today's children are tomorrow's future. The design of Little Dragons International School provides an early joyful learning experience which helps to establish a lifelong pursuit of knowledge and wisdom in the future.

โรงเรียนอนุบาลนานาชาติมังกรน้อย
Little Dragons
International School



Location Map

Site Map

โรงเรียนอนุบาลนานาชาติมังกรน้อย

Little Dragons International School

Design Inspiration

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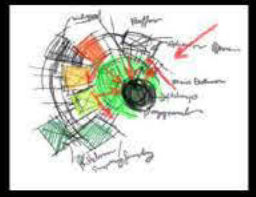
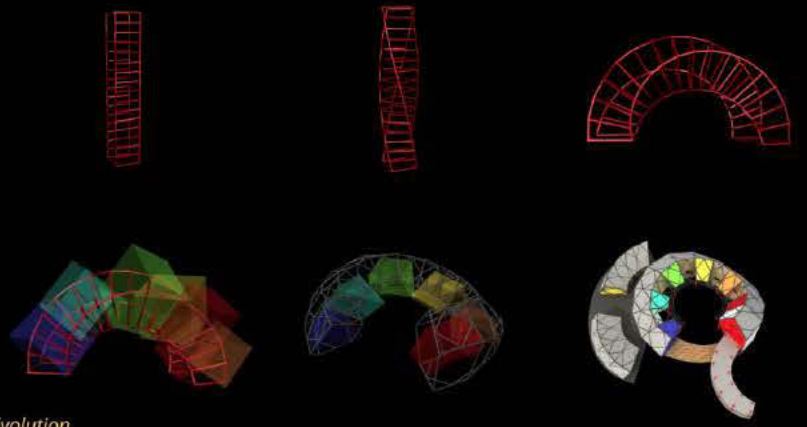
Project Overview

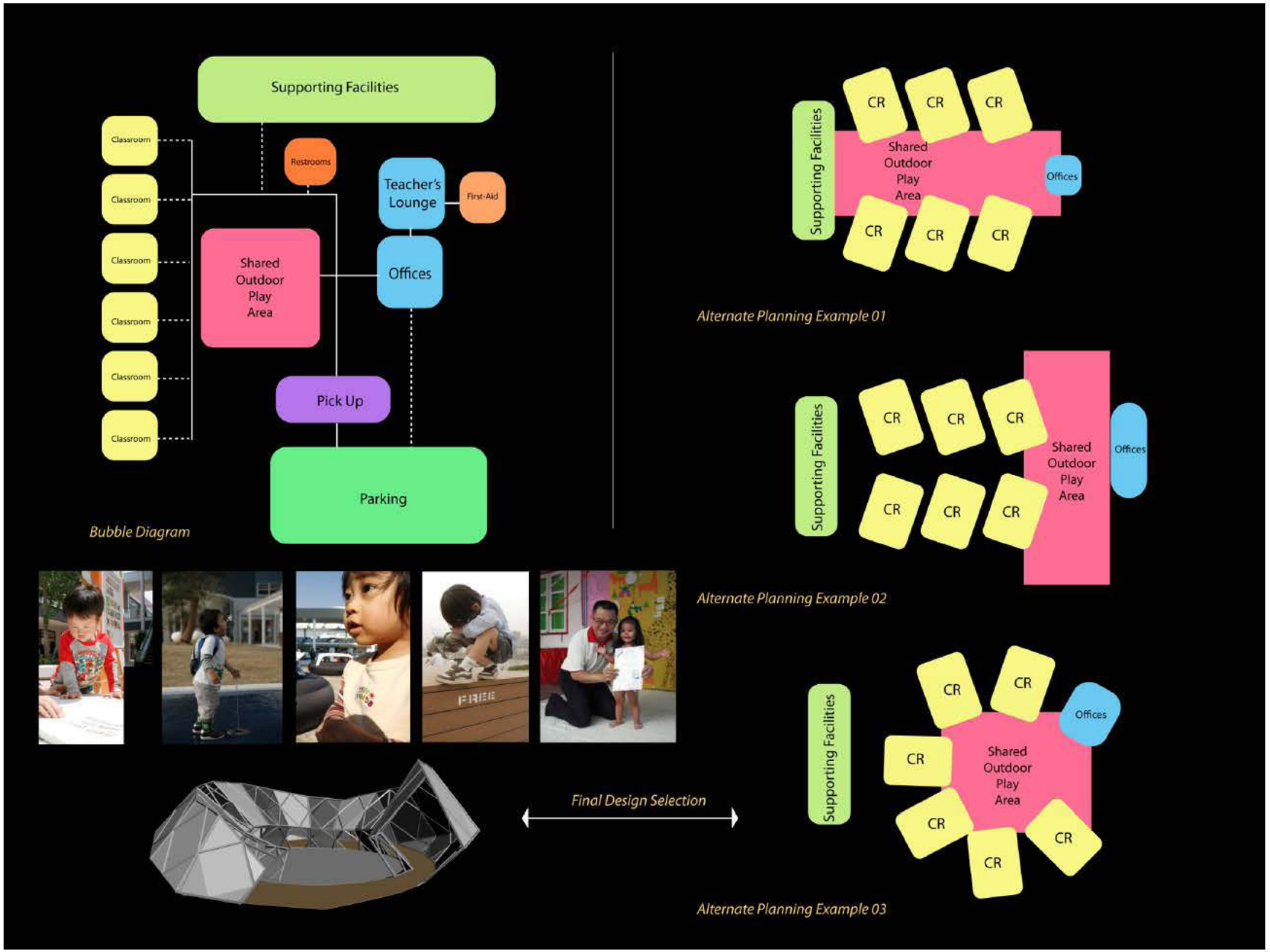


Concept Sketches



Form Evolution

Design Concept


Supporting Facilities
Classroom
Classroom
Classroom
Classroom
Classroom
Classroom
Restrooms
Teacher's Lounge
First-Aid
Shared Outdoor Play Area
Offices
Pick Up
Parking
Bubble Diagram
Supporting Facilities
CR
CR
CR
Shared Outdoor Play Area
Offices
CR
CR
CR
Alternate Planning Example 01
Supporting Facilities
CR
CR
CR
Shared Outdoor Play Area
Offices
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Alternate Planning Example 02
Supporting Facilities
CR
CR
Offices
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Shared Outdoor Play Area
CR
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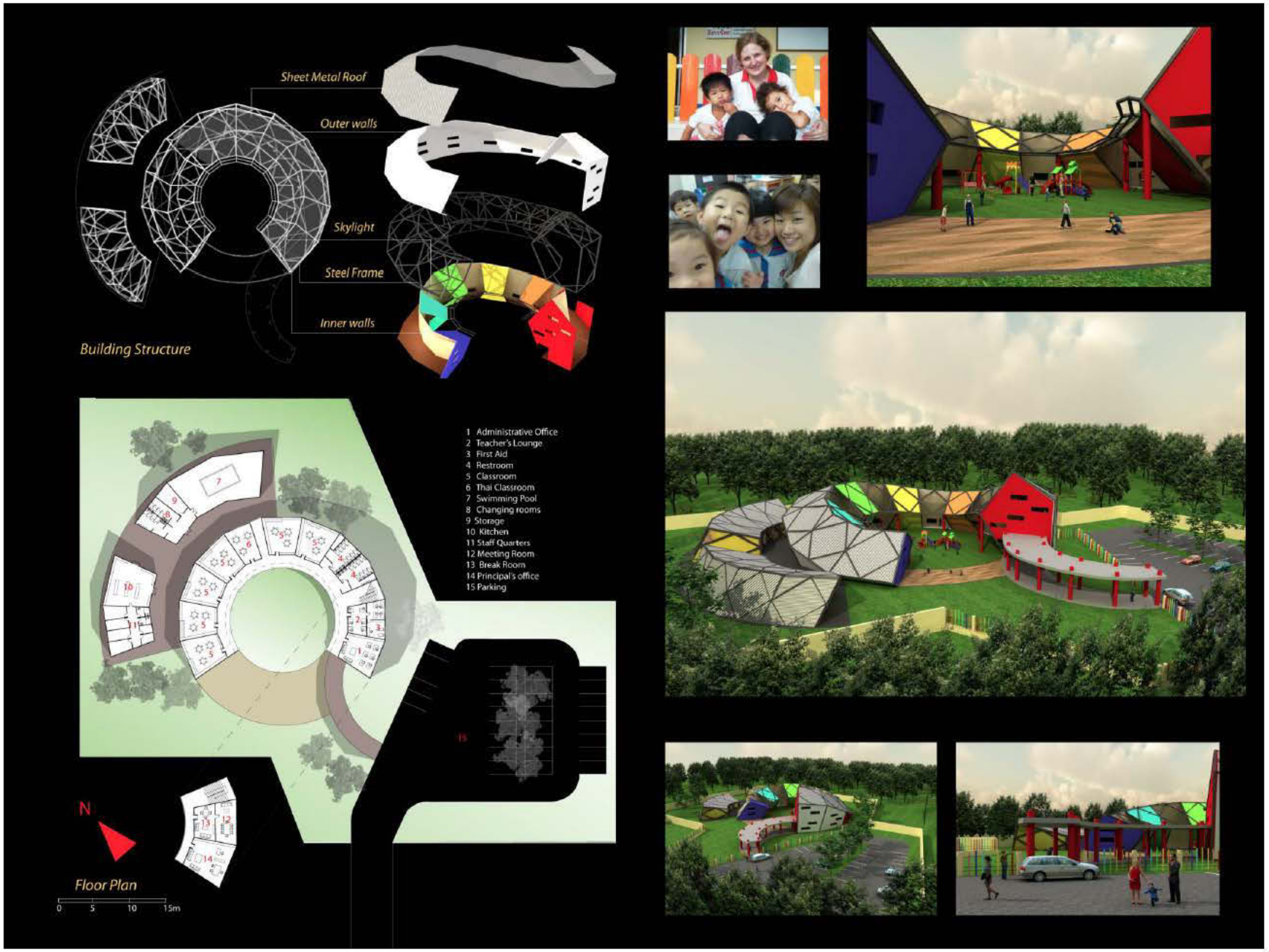
Alternate Planning Example 03
Final Design Selection

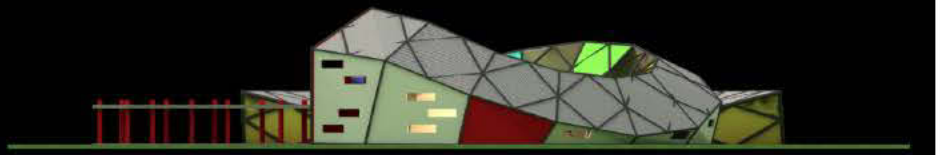

Sheet Metal Roof
Outer walls
Skylight
Steel Frame
Inner walls
Building Structure
1 Administrative Office
2 Teacher's Lounge
3 First Aid
4 Restroom
5 Classroom
6 Thai Classroom
7 Swimming Pool
8 Changing rooms
9 Storage
10 Kitchen
11 Staff Quarters
12 Meeting Room
13 Break Room
14 Principal's office
15 Parking
N
Floor Plan
0 5 10 15m

Architecture

The basic structure is fused with the high-pitched roof of Thai architecture for better water drainage and heat ventilation. The self-supporting dragon scale-like steel frame structure is clad with sheet metals and dry walls. The vivid color scheme of the building is inspired by the school's logo. The different levels of classrooms are also indentified by colors as children are more responsive to them. The circular layout of the building is arranged around the outdoor playground where students will mingle before and after school. In addition to the main building, the two buildings behind are the swimming pool facilities and the kitchen/staff quarters.

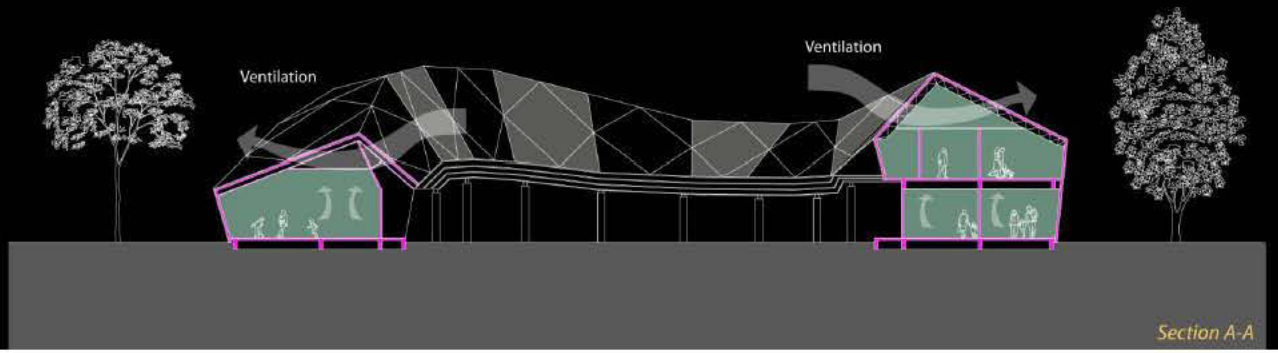
The offices and teacher's lounge are located on both levels of the building. From the entry, both parents and students have to go through the security point in the administrative office where businesses are discussed and the arrival and departure of the students are recorded.

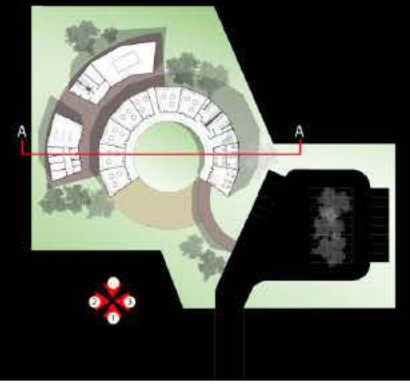
Elevation 1

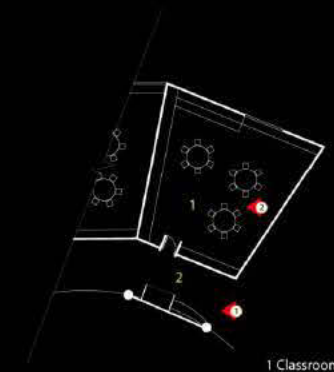


Elevation 2

Elevation 3

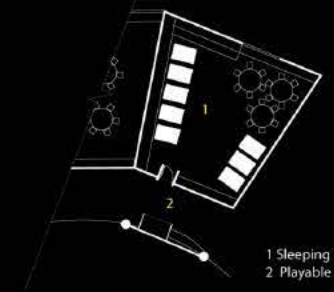






1 Classroom
2 Playable Hallway

Classroom-Situation A



1 Sleeping room
2 Playable Hallway

Classroom-Situation B

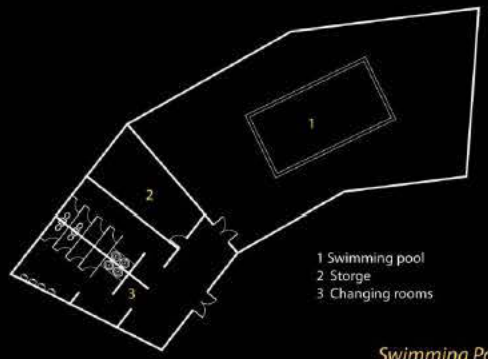
Playable hallway

Classroom

Classroom

The six classrooms can be accessed through a single hallway. Each segment of the hallway outside the classroom is designed to be a playable hallway. Different abstract playgrounds are built as a part of the walls to stimulate the children's imaginations. The classrooms are designed to be versatile serving ten to twelve children. The slope on the ceiling mimics the shape of a house to make students feel at home. The built-in shelving units are for books, toys, and art display. They also serve as storage for the bedding as it is common in Thailand for kindergarten students to take a nap in the afternoon. When required, the furniture will be moved to one side of the room for the sleeping activities.

Today's children are tomorrow's future. The design of Little Dragons International School provides an early joyful learning experience which helps to establish a lifelong pursuit of knowledge and wisdom in the future.



1 Swimming pool
2 Storge
3 Changing rooms

Swimming Pool