CONFERENCE HOSTS
Marsha Cuddeback, Louisiana State University
Matthew Dunn, Louisiana State University
T.L. Ritchie, Louisiana State University
Phillip Tebbutt, Louisiana State University
Jun Zou, Louisiana State University
M. Jean Edwards, University of Louisiana at Lafayette
Brian Powell, University of Louisiana at Lafayette
Micene Fontaine, Design Arts Seminars, Inc.
Buic Harwood, Virginia Commonwealth University
William Riehm, Mississippi State University

ABSTRACT REVIEW COORDINATOR
Pamela K. Evans, Kent State University

CREATIVE SCHOLARSHIP COMPETITION COORDINATORS
Darrin Brooks, Utah State University
Kijeong Jeon, University of California - Chico

PROCEEDINGS COORDINATOR
John C. Turpin, High Point University
2014 IDEC CREATIVE SCHOLARSHIP AWARDS

Best in Category Design as Art
Brian M. Kelly – University of Nebraska-Lincoln
    *Bifurcate*

Best in Category Design as Interior
Clay Odom, Sean O’Neill, Adam Owens & Nick Hennies – University of Texas at Austin
    *Temporary Atmospheres: Installations for Experience of Sound and Light*

Best in Category Design as Idea
Brian M. Kelly – University of Nebraska-Lincoln
    *Perfor(M)ations*

    Kendra Locklear Ordia, Tamie Glass & Igor Siddiqui – Kansas State University and the University of Texas at Austin
    *Mas Moss: A Living Curtain*

2014 IDEC AWARDS OF EXCELLENCE

Best Presentation Scholarship of Teaching and Learning
Candy Carmel-Gilfilen & Margaret Portillo – University of Florida
    *Innovation by Empathetic Design: Narrative of Learning*

Best Presentation Scholarship of Design Research
Lori Stone, Alison Reich, Nora Ladjahasan, Lee Cagley & Abigail Lundquist – Iowa State University
    *Predicting Success of Interior Design Alumni as an Assessment of the Curriculum: Post Graduation Years 1-10*

Best Poster
Shefali Thomas, Judy Theodorson & Dana Vaux – Washington State University
    *A Third Place Plus for Cancer Patients: Social Support in a Restorative Environment + Complementary Healing Techniques*

Members Choice
Virginia San Fratello – San Jose State University
    *3D Printing Wood and Glass Curtains and Screens*
## CONTENTS AT A GLANCE

### Creative Scholarship
- Design as Art .................................................................................................................... 2
- Design as Idea ..................................................................................................................... 72
- Design as Interior ............................................................................................................. 183

### Panels
- Design Practice and Process .......................................................................................... 229
- History and Theory ........................................................................................................ 232
- Teaching and Pedagogy ............................................................................................... 238

### Posters
- Design Practice and Process .......................................................................................... 259
- Globalism and Multiculturalism ................................................................................... xxx
- History and Theory ........................................................................................................ 289
- Teaching and Pedagogy ............................................................................................... 311
- Technology .................................................................................................................. 338

### Presentations
- Design Practice and Process .......................................................................................... 342
- Globalism and Multiculturalism ................................................................................... 406
- History and Theory ........................................................................................................ 437
- Sustainability ................................................................................................................ 456
- Teaching and Pedagogy ............................................................................................... 509
- Technology .................................................................................................................. 683
EXPANDED TABLE of CONTENTS

Creative Scholarship

Design as Art

_Athletes, Artists and Artisans: Bridging the Campus Divide_ – J. Dawkins .............................................................. 2

_Exhibiting the Erased Interior_ – L. Di Cinto .............................................................................................................................. 8

_Contrition: A Metaforic Installation_ – T. Houser .................................................................................................................. 13

_bifurcate_ – B. Kelly ................................................................................................................................................................ 24

_Golden Mean Glass Matrix_ – J. Otis ................................................................................................................................. 36

_Zigzag_ – I. Siddiqui & D. Schneiderman ............................................................................................................................. 48

_Quer Sittings_ – R. Stauffer ....................................................................................................................................................... 60

_An Enjoyable Journey from Digital to Analog: From Digital Sketching to Watercolor Painting_ – S. Yoon .......... 67

Design as Idea

_Redefining the Self-Made_ – R. Aoukar .......................................................................................................................... 72

_Fracture_ – A. Boggs .............................................................................................................................................................. 79

_MADE: The Empathy Tool Kit_ – A. Huber, J. Pable, J. Dawkins & M. Ransdell .............................................................. 88

_Perfor(M)ations_ – B. Kelly ................................................................................................................................................... 100

_Mas Moss: A Living Curtain_ – K. Locklear Ordia ............................................................................................................... 112

_Pension Bertolini: From Page to Plan_ – S. Luken ................................................................................................................ 123

_The Vanity and Entombment of Marie Antoinette_ – H. Peterson .................................................................................. 134

_Stitched_ – S. Surakul ......................................................................................................................................................... 142

_ATL: Guide to the Dirty South_ – L. Teston ...................................................................................................................... 150

_Side Table 31_ – J. Tucci ...................................................................................................................................................... 162

_Passage_ – B. Whitney ......................................................................................................................................................... 172

Design as Interior

_A. Quincy Jones: Design for Better Living Exhibition_ – A. Chu................................................................. 183

_Six Degrees of Separation_ – J. Freeman ........................................................................................................................ 210

_Reserved but Not Quiet: a Considerate Intervention_ – T. Glass & U. Dangel ...................................................... 222
Inform + Function – A. McKillip, J. Hazard & S. McMahan ................................................................. 231

The LOFTS: Transformation of an Iconic Industrial Plant into a Chic Urban Dwelling – L. Miller .............. 243


Seats of Learning: A Library of Chairs – R. Otero ................................................................................ 266

Café FRAME – J. Park .................................................................................................................................. 277

Verrazzano – J. Park ..................................................................................................................................... 288

Panels
Design Practice and Process

Action Plan: Grad Education and the MID – B. Harwood & J. Weigand ....................................................... 300

Connecting Dots: Collaborative Research and Sustaining Integrated Programs with Industry and the Academy – H. Hildebrandt, C. Auffr, S. Doehle & C. Vo ......................................................... 307

Feast or Famine: A Report from the Trenches – M. Perritt, L. Bridwell, S. Swearingen & R. Darville .......... 310

History and Theory

Publish or Perish: The Interior Design Predicament – S. Meggs, M. Portillo, J. Webb, & M. Zusky .......... 312

Teaching and Pedagogy

Avenues for Engaged Scholarship: Opportunities for Community Impact in Interior Design Pedagogy
A. Boersma, A. Gale, T. Hicks, R. Radtke, & S. Sickler .............................................................................. 314

“Flipping” the Classroom: A Popular Pedagogy for Improving Lecture-Style Courses – S. Clemons .......... 322

Current Lighting Design Issues: What should interior design students know? – T. Sarawgi ....................... 327


Posters
Design Practice and Process


Investigating the Success of Four Year Interior Design Graduates as Sales and Design Associates in The Multi-million Dollar International Home Furnishings & Accessory Industry – C. Hillenbrand-Nowicki ........................................................................................................ 341
Environmental Preferences of Adolescent Patients in Healthcare Settings:
Natural View and Privacy – E. Kim  ................................................................. 343

Wayfinding Experience of University Library Users – S. Lee & S. Dazkir  ................................................ 348

NO KNOWN CURE: Researching Alzheimer’s Disease Quality of Life Issues – N. Miller  .................................. 352

The Importance of Integrating Complex Programs into the Classroom: A Focus on Translational Medicine
In an Interior Design Healthcare Studio – L. Panarelli & J. Keilman ................................................................. 354

Bibliotheca: A Paradigm for Translating Student Preferences into the Design of a Library – N. Peterson,
L. Stone & L. Cagley ................................................................................................................................. 361

"Don’t Speak about Us without Us": Design Considerations and Recommendations for Inpatient
Mental Health Environment for Children and Adolescents – A. Tapak ........................................................ 366

Lifelogging as Data Collection – J. Webb ........................................................................................................ 369

Globalism and Multiculturalism

Place Attachment and Cultural Identity in a Middle Eastern Restaurant in the United States:
A Case Study – A. Alansari & K. Gaines ......................................................................................................... 372

Culturally Competent Design for Elderly Asian Indian Immigrants – C. Bertoia ........................................ 374

Collaboration between Interior Design and Nutrition Professionals to Enhance Food Consumption
in Dementia Residents – L. Burleson & V. Browning-Keen ....................................................................... 377

History and Theory

Beyond the Pane of Historic Preservation: Valuing Interiors for Daylighting
Strategies – M. Cool & J. Theodorson ......................................................................................................... 380

Interviews with Turkish Women: Rise of Consumerism and Its Influence on Home
Interiors – S. Dazkir & M. Read ................................................................................................................ 387


A Third Place Plus for Cancer Patients: Social Support in a Restorative Environment + Complementary
Healing Techniques – J. Theodorson, S. Thomas & D. Vaux ................................................................. 396

Teaching and Pedagogy

The Exploration of Cross-Disciplinary Scholarship: A Notion Fit for the ‘Big Screen’ – E. Adams ........ 403

Measuring Out My Own Learning: Formative Pedagogy Used to Educate Millennial Interior
Design Students’ Hand Drafting and Model Building Skills – T. Crane & K. Park .................................... 405

Digital Fabrication & Rendering Pedagogies for Interior Design: Merging the Abstract and Corporal
through Precision and Intuition [Or, the Improper Use of Digital Media: A Primer – J. Healey & S. Luken ...412

Reflections Made Visual: Analyzing Student Triumph and Tragedies – A. Huber .................................... 420
### Technology

*Hybrid Spaces: Wireless Users’ Perceptions of Indoor Public Space* – A. Gale & M. Duffey ..................................... 428

### Presentations

#### Design Practice and Process


*Display Layout and Perceived Crowding: Examining the Effects of Interior Design on Customers’ Perception of Crowding in a Retail Environment* – A. Alawadhi & S. Yoon ............................................................. 435

*Using Design Thinking to Identify Issues with Special Education Classroom Environments* – L. Anthony, H. Cline & C. Good .............................................................................................................................................................. 437

*Design Lessons in Craftsmanship and Mass Production from the Furniture Industry* – T. Batchvarova .......... 440

*The Digital Portfolio as an Assessment Tool in Interior Design Job Interviews* – D. Bender ................................... 442


*Building the Knowledge Base: Transforming Hypotheses into Usable Outcomes* – L. Guinther & A. Carll-White ........................................................................................................................................................................ 448

*Maker Space: Promoting Multidisciplinary Participation through Design* – W. Hynes & M. Hynes .................. 450


*Healing Design Elements for Adolescent Patients: Promoting Holistic Quality of Life* – E. Kim & A. Carll-White ........................................................................................................................................................................ 459


*Design as Social Prosthetic: Exploring Emerging Housing Communities for LGBT Elders* – C. Matthews, D. Fredericksen & C. Hill .................................................................................................................................................... 473

*Placemaking: Enhancing Purpose and Character through Six Parallel Walls* – A. McKillip ........................................ 476

*How Ergonomics Contributes to the Health and Wellbeing of Corporate Employees* – K. Nigus & V. Jani ...... 484

*From Shape to Form: Bridging the 2D to 3D Spatial Gap in Design Thinking* – K. Ryan & D. Vaux .......... 486

*Fight Fire with Fire: Identifying Cases of Harm* – K. Setser .......................................................................................... 489

*Misalignment of Public Protection: A Tale of Two Cities* – K. Setser ........................................................................... 497

*Interior Design in the Event-City* – I. Siddiqui ............................................................................................................... 499
Preparing for Practice: CIDA Program Graduates Perceptions of Their Career Readiness – E. Tarver & L. Waxman .......................................................... 506

Interior Skins – L. Weinthal .............................................................................................................................................................................. 512

Globalism and Multiculturalism


Psychological Constructs of Homeless Shelter Living Spaces and Their Implications for Shelter Design – J. Pable & K. Fishburne................................................................. 521


History and Theory

Residences of East Coast American Elites and Architectural Theories of the French Academie: Elucidating Precedents of Late-Gilded Age Beaux-Arts Capitols – D. Al Shihabi .......................................................................................................................... 533

Third Place Characteristics: Predictors of How Well Social Spaces Are Like and Used – N. Campbell ........ 536

Exploring the Role of Interior Design as a Support for Intimacy and Human Wellbeing in Long-term Care – M. Kaup & G. Doll........................................................................................................ 538

Too Recent for the Books: Teaching Contemporary Design History in a Multidisciplinary Format – M. Nelson ......................................................................................................................... 540

Transformations through Time: Teaching the Past, Present and Future of Furniture History – D. Richter-O’Connell & N. Hubble .................................................................................................................. 548

The Way We See the Slave Quarter Interior – W. Riehm................................................................................................. 555

Philip Johnson’s Design for an Art Collector: House for Art or Museum for Living? – S. Travis............... 563


Sustainability

How Satisfied Are Occupants with the Indoor Environmental Quality in LEED-Certified Higher Education Buildings – P. Driza & N. Park ..................................................................................................................... 569

Audio-visual Experience in Green Church Buildings: Objective and Subjective Assessments – J. Shin........ 572

Leading with LEED: Making Sustainability Real in a Studio Environment – L. Waxman ......................... 579

Teaching and Pedagogy

Utilitarian Aesthetics: An Interdisciplinary Inclusive Design Graduate Seminar – K. Ahn & M. Rogers ........... 588

Connecting Academia with Industry: Pedagogical Experiences from a Collaborative Lighting Design Project – A. Asojo ................................................................................................................................................................. 594

Weaving a Common Community Partner throughout the ID Student Experience – J. Belk ................................... 602


Innovation by Empathetic Design: Narratives of Learning – C. Carmel-Gilfelen & M. Portillo ..................... 612

Game-Based Learning Used in Redesign of Lighting Design Course: Effective, Engaging + Fun – S. Clemons & J. MacKenzie .............................................................................................................................................. 618

Students Come and Students Go: Results of a Multi-year Study of Attracting and Retaining Interior Design Students – A. Crumpton & D. Moody ................................................................................................................................................ 625

Whole Systems Designing: A Card Deck for Developing Complex Problem-Solving Skills – S. Danko & P. Gupta .............................................................................................................................................. 628

What’s love got to do with it? The Positive Returns of Emotional Investments in Student Sketching Competency – J. Dawkins ................................................................................................................................... 634

Engaging with History: Students Perceptions of Team-Based Service Learning in the History Class – A. Huber ...................................................................................................................................................... 641

Co-Design Methodologies in Design Studios – R. Krikac & K. Ryan ............................................................................ 649


A Paradigm Shift in the AEC Industry and the Implications on Design Pedagogy: The Effects of IPD Processes in a Collaborative Studio Project – L. Miller, B. Miller, A. Gregory, M. Herrmann & J. Moss ... 660

Student Perceptions of Studio Based Learning Effectiveness – A. Moore ................................................................. 668

Interior Thinking at the Edges of Contemporary Public – K. Moore .................................................................................. 674

Patterning (and) the Interior Design Studio – C. Odom ............................................................................................... 678

Establishing Inter-rater Reliability in the Assessment of Design – L. Phillips ................................................................. 685

Developing Collaborative Work Methods and Communication in an Interdisciplinary Design Build Studio – P. Probstner ..................................................................................................................................... 691


The Relationship of the New NCIDQ Examination Format and Interior Design Curriculum – T. Ritchie & W. Riehm ......................................................................................................................................... 707
Stories Construct Designs: A Cross-Disciplinary, Person-Centered Approach to Aging in Place –
M. Siegel, T. Abramson & L. Heisler-Varriale ................................................................................................................ 711

Predicting Success of Interior Design Alumni as an Assessment of the Curriculum:
Post Graduation Years 1 - 10 – L. Stone, A. Reich, N. Ladjahasan, L. Cagley & A. Lundquist ......................... 718

The Substance of Light: Revealed through Scientific Methods – J. Theodorson ......................................................... 721

The Market Third Place: Using Research as an Initiator, Template and Springboard for Design
Education – D. Vaux & J. Theodorson ....................................................................................................................... 727

Influencing Construction Systems Pedagogy by Determining Patterns in Learning Styles – S. Webber ............. 734

Technology

75 Million Daily Hits: How are design firms leveraging online video marketing? – A. Huber ......................... 740

Design-led Research: Work from the Design Futures Lab – N. Koltick ..................................................................... 743

Products OnDemand: What can rapid prototyping offer creative thinking? – M. Ransdell ................................. 751

3D Printing Wood and Glass Curtains and Screens – V. San Fratello ................................................................. 753

Prototype – I. Siddiqui ............................................................................................................................................... 755
CREATIVE SCHOLARSHIP
Athletes, Artists and Artisans: Bridging the Campus Divide

Jim Dawkins
Florida State University

ABSTRACT
On a university campus, the opportunity to link athletes with artists and artisans can be a rare occurrence. The perceived distance between academics and athletics resulting from regulatory oversight can deter and perhaps widen the gap sports programs often feel compelled to maintain even on the most collegial of campuses. However, when occasions arise where each group’s goals, objectives, and missions intersect, the creative energies of all involved can find a voice in one of the most open of all expressions: art.

This work was commissioned by a women’s collegiate basketball program for their team’s lounge space. The team’s coach intended to create a piece that spoke to her team’s strength, unity, and diversity. The glass artisan was adept at glass fabrication and installation but decided to look for artistic design expertise outside of their shop. They were also keenly interested in expanding their glass forming by creating larger, more complex sculptures involving deeper kilns and overlapping glass joinery. The author/artist, having worked with the artisan’s studio in the past, joined the team early on spending several weeks sketching and brainstorming ideas with the coach. The author/artist’s earliest sketches centered on representing the explosive nature of the team’s athletic energy and the coach’s notion of the team as family – individually unique but group strong. Additionally, the author wanted to explore the notion of femininity against an athletic background through glass that, although perceived as delicate or fragile, could be shaped, formed and ordered to evidence the grace and beauty of a woman while providing the strength and versatility of athletic prowess. Over the span of several months, sketch drawings progressed in concert with scale mock-ups in the artisan’s studio and paper mock-ups in the lounge space until the entire scene was accepted for final fabrication and installation.
The central portion, five deep-red horizontal bands moving both left and right across a proportionally correct basketball court represents the five players that compose the on-court team at any given time. Two loosely draped white glass sheets formed over an official-sized women’s college basketball emits a low glow extending the length and width of the court. This is the heart of the team, its coach, behind the scene but glowing with a much-needed measure of clarity amid the court chaos. Dichroic glass pieces individually located on either side of the piece represent individual explosions of energy provided by other team members as they are called in and out of the game. Each glass piece, with light frequently shining from one piece, speaks to the idea that when selected to get in the game, each player will add their own degree of contribution to the team’s efforts. As a complete piece of art, the sculpture’s individual pieces are only successful when folded into the whole, mirroring the notion that a basketball team is composed of many different players and coaches performing a variety of roles all in support of one common aspiration.
Early sketch ideas.
Final sketches and mock-up of first glass casting.
Exhibiting the Erased Interior

Lorella Di Cintio
Ryerson University

ABSTRACT

Exhibiting the Erased Interior

A series of images and artefacts (transformed and found) reflect a process of examination on an abandoned domestic interior in East Detroit. The concept of erasing domesticity and questioning what remains drove our investigation of a house in the highly politicized, shrinking American city, Detroit.

On the corner of Concord and Warren streets, near the defunct Packard Automobile Plant, a modest century-old duplex was stripped of all its useable parts. The front door was gone and its infrastructure was cleverly recycled amongst the surrounding neighbourhood. The interior structure and foundation had started to crumble. The walls were cracking and peeling. The decay process had begun, nature was beginning to take over and we began to form an unusual deep-seated empathy for this object referred to as ‘The House’.

The methodology we developed at the house was similar to that of a medical student or an archaeologist. Acting as apprentices, questioning and observing began with the dissection process. The results were visual, material and spatial responses. After clearing the debris of former inhabitants, the empty spaces came alive. Two questions became clear. Why try to preserve this decaying interior? Was this an exploration in domesticity or was it an exploration in erasing domesticity to prepare for something new?

The act of resuscitating dormant spaces creates intrigue and possibility yet our project was guided by inquiry - questions of domesticity, issues of gendered and safe spaces, public perception of abandon houses and impositions of the outside practitioner. In the end, our
pursuit was not towards a particular programmatic goal or a project in adaptive reuse. A ritual of examination revealed multiple histories, propelled our curiosity and our ongoing research.
Contrition:  
A Metaphoric Installation

Thom Houser  
University of Georgia

ABSTRACT

Contrition:  “The state of feeling remorseful and penitent.”  
“... a sorrow and detestation of past sin, with a purpose of sinning no more.”

synonyms: regret, rue, pangs of conscience, shame, guilt.

Metaphoric: “One thing conceived as representing another; a symbol.”

Contrition is one in a series of site-specific installations inspired by a landfill near the Murano glassworks in Venice, Italy. Everywhere slag glass rocks and broken art objects resurfaced amid newly-planted groundcover.

The series symbolically addresses the after-life through metaphors closely related to more temporal concerns of recycling, sustaining, and protecting the environment.

- Images from the landfill are reminiscent of rising bones witnessed by the prophet, Ezekiel. Positive prints depict Earth’s surface; negative ones suggest an intense underworld.

- Abstract calibers reference the measuring of souls, inevitable by-products of contrition. Embossed images on larger calibers depict autobiographical losses: ex-votos” representing hope while rising upwards.
Illustration 1: Exterior view from hotel lobby entrance during daytime.
Illustration 2: View into installation from south side at night.
Illustration 3 Installation Plan: Most viewers approach the installation by walking across the covered drive from the hotel lobby, standing at number 4. Many designers might find the view from number 5 to be the natural front of the installation. Note that columns hinder the SW and SE views.
Illustration 4 South Street View (top): This image catalogs many of the installation components – partially encased concrete column (left); backlit landfill photos (center) seemingly float over discarded bottles (center bottom); shafts with calibers rising through them (right); spiral column (center); two photomurals (back wall); and inverse clerestory panorama appears (top left). Daylight View (bottom): The character of the installation changes dramatically throughout the day and night.
Illustration 5 “Underworld View:” Nearly empty bottles cover canvas floor mat (foreground), which is an inverse print of the backlit photos in the angled MDF frames representing the surface of the landfill (left and center). Hardware on the frames is assembled in a Fibonacci sequence. Backlit eyes peering through the column base (center left) represent trapped souls. Two acrylic shafts proportioned with the Golden mean and etched with Fibonacci spirals provide a conduit for souls to escape the implied underworld.
Illustration 6 View into Shaft: Below the "ground level" of these forms layers of scrap acrylic from laser cutting the calibers reference the below grade layering of any landfill.
Illustration 7 Column Details: Stacking intentionally slightly askew (top); spiral sequence showing depleting Fibonacci sequence (middle); Slag glass rock from Murano landfill.
Illustration 8 Column and Clerestory Windows: Night view of inverse image of temple of Zeus looking upwards towards east wall (top); similar view of Poseidon’s temple looking towards west wall and lobby beyond (bottom).
Illustration 9 Panoramas: These panoramas were photographed by the artist during a visit to Greece in 2013. Temple of Zeus with Acropolis beyond, Athens (top); Temple of Poseidon, Sonio (second from top); Inverse of Poseidon image (third from top); and Temple of Apollo, Delphi (bottom).

The positive panoramas faced outward through the glass cubes clerestory windows. Inverse prints face inward (see Illustrations 1, 8, and 10). The combination of positive and negative are metaphors for Hope and Loss.
Illustration 10 Calibers Rising: View towards gallery door during daylight hours creates silhouettes.
bifurcATE

Brian M. Kelly
University of Nebraska-Lincoln

ABSTRACT

The Eisenhower Interstate System, a collection of nearly 50,000 miles of infrastructural roadwork, forever changed the surface of the land we call home. The ability to transport goods and people within a networked system is unprecedented, allowing relatively free movement and incredible flexibility. In the words of President Eisenhower, the interstate system creates a “ceaseless flow of information throughout the Republic” uniting communities and markets for the betterment of this country. Interstate 80, the second longest route in the interstate system stretching nearly 2,900 miles from coast to coast, serves as an ideal backdrop to a dinner event discussing the topics of food and transportation.

While it can be argued that this system created multiple beneficial conditions for economy and transportation, the context in which we live is vastly different from the time in which it was built. Small towns bypassed, neighborhoods divided, and increased noise and air pollution are among the list of side effects from carving an arterial route of high-speed traffic through a collection of existing urban fabrics.

Bifurcation, a device of separation and a tool of transportation system design, was appropriated to create a means for grafting a connection and conversation regarding these paramount issues. Using interstate construction vernacular, we designed a prep and serving table containing custom-fabricated food vessels that presented a separable surface as well as a separation of dining space. It is over this surface and in this space where the combination of culinary deconstruction and reconstruction occurred. When fully assembled at the beginning of the course, the table and food was read as a continuous “food condition” existing within a bifurcated space. This is where the interaction of the diners occurred, encouraging them to take a plate while at the same time deconstructing the table surface. The original serving surface
broke down as a series of parts in the hands of the guests who begin to reconstruct the experience through conversations at various gathering points in the allotted space. Simultaneously, the chef reconstructed the table surface and assembled the portions for the next course right before their eyes – a performance that left them talking.

The meal itself was a celebration of the multiple overlaps between the culinary and design arts and maintains the deconstructed theme of this elevATE station from start to finish. The chef and designer created an experience that heightened certain tastes and textures through food combinations in a 35 step process deconstructing gazpacho, while using the best parts of summer’s bounty – from plant to flower to vegetable. The chef was quoted stating “It will be unrecognizable...but will be exactly what one would expect” of this all-vegetable soup. Unfamiliar to the eye yet familiar to the tongue.
“elevATE” was a one-day celebration with a focus on public awareness in regards to the issues of food, transportation, and land use. This project took shape in two forms, a large scale print graphic (concre(A)te synergies) and a food station (bifurcATE) to serve 120 people, both of which were designed by this group. The event took place adjacent to an interstate connecting the East and West coasts.

The Eisenhower Interstate System, a collection of nearly 50,000 miles of infrastructural roadwork, forever changed the surface of the land we call home. The ability to transport goods and people within a networked system was unprecedented, allowing relatively free movement and incredible flexibility. In the words of President Eisenhower, the interstate system created a “ceaseless flow of information throughout the Republic” uniting communities and markets for the betterment of this country. This particular interstate, the second longest route in the interstate system stretching nearly 2,900 miles from coast to coast, serves as an ideal backdrop to a dinner event discussing the topics of food and transportation. This project questions Eisenhower’s implications of connectivity at the neighborhood scale.
While it can be argued that this infrastructural system created multiple beneficial conditions for economy and transportation, the context in which we live is vastly different from the time in which it was built. Small towns bypassed, neighborhoods divided, and increased noise and air pollution are among the list of side effects from carving an arterial route of high-speed traffic through a collection of existing urban fabrics. Increases in the costs of transportation, numbers of vehicles, and resultant air pollution have begged us to re-conceive the ways in which we might make a new future which may not be as dependent on fossil-fueled, individualized transportation systems.
The concept was manifest in two ways, a deconstructed table top and deconstructed dish. The dining surface broke down to smaller hand-held plates while the food itself, a deconstructed gazpacho, delayed immediate identification and its expected taste sensation.
The insertion of a large piece of ‘infrastructure’ into the site separated the diners and altered potential conversations. Simultaneously the table, with its deconstructed surface, encouraged new connections as smaller groupings made the space more intimate.
The technique of contouring took a familiar shape of the transportation network, the jersey barrier, and reconfigured it as a systemic operation of geometrical manipulation. This allowed the shape to be programmed to accommodate various use and anthropometric conditions.
The design of bifurcate was conceived of in three pieces, two benches and a table top. Because of its temporary use, this digitally-fabricated assembly accelerated both the construction and tear-down processes.
The entire design, outside of two structural steel pipes, was digitally fabricated and friction-fit on site without fasteners or adhesives.
Custom laser cut acrylic plates incorporated an abstracted map which also served as a mechanism for locating the plated food. Each diner took this memento with them.
Golden Mean Glass Matrix

Jon Otis
Pratt Institute

ABSTRACT

Concept Analysis

The concept utilizes contrasting natural materials and explores the joining and results of merging these materials to create a singular object.

The formalization of the object is based on the Golden Mean. This idea utilizes a modular approach to in-effect create a ‘field’ of pieces that are similar in scale and proportion, and are all based on the Golden Mean mathematical calculations with intentional proportional applications.

The idea began as the fusion of two materials to create a type of ‘still life’. Inspired by looking at Giorgio Morandi and then Donald Judd’s repetitive pieces and the idea that if the design was based on a module, then an endless field of objects (‘vessels’) could be made to create an installation infinitum.

The next iteration and thinking led to exploring Sol Lewitt’s concept of creating exact instructions for the work to be made by others, that would provide more or less the same result, save for variations of the natural materials, and the artisan’s hand, rendering each nearly identical, yet always unique.

It is this merging of materials, processes, craft and proportion based on a mathematical formula existing in nature that makes this concept both interesting and compelling.
Thus, all wood components are the same dimension or a variation but equal in proportion to the Golden Mean. All pieces combined in multiples (as diagrammed) also form a Golden Mean rectangle.

The result is the deliberate rigor of a system that is altered by the natural materials fusing together and forming new patterns and textures, thus ‘coding’ them, along with the artisan’s hand making each piece a unique element. The ‘conditional experience’ of the work will occur depending on light & shadow, and the composed ‘array’ has no intrinsic meaning; rather it is an organized, yet natural occurrence to be experienced as a series of objects or as a total object. Leaving the choice to be made by the viewer.
Golden Mean Glass Matrix
Initial Process Sketches and Notes

1.2.4 am

1. Mobangi still life
   - Community
   - Collection
   - Movement
     - Light
     - Color
     - Reflection
     - Shadow
   - Grouping
   - Layering

2. Glass vessels fused to wood create a still life
3. Determine level of minimal form versus organic form → which direction?
4. How much color?
   - Simple geometry (collection - organization)
   - Complex geometry (community/grouping)
Golden Mean Glass Matrix
Sketch: Initial exploration illustrating the clusters
Golden Mean Glass Matrix
Sketch: Conceptual Development of the Matrix
Golden Mean Glass Matrix
Diagrams: Scale, Proportion and Clusters
Golden Mean Glass Matrix
Diagrams: Section and Scale
Golden Mean Glass Matrix
Concept Rendering
Golden Mean Glass Matrix
Process Photo: Blown glass vessel
Golden Mean Glass Matrix
Process Photo: Fusion of blown glass vessel and cherry wood base
Golden Mean Glass Matrix
Process Photo: Prototype in progress
Golden Mean Glass Matrix
Process Photo: Completed prototype
Zigzag

Igor Siddiqui & Deborah Schneiderman
University of Texas at Austin, Pratt Institute

ABSTRACT

The project creatively explores the legacy and evolution of decoration in the contemporary interior. Reflecting the “Design as Art” category of IDEC’s annual juried competition of creative scholarship, the project is firmly situated in the context of art while also serving as functional, spatially driven interior design. Titled Zigzag, the project is a temporary installation commissioned for a New York art fair. The installation was prominently sited at the fair’s entrance, providing an extended threshold into the event and a powerful first impression. The main conceptual intent for the installation was to create a dialog between tradition and innovation, a value that is also central to the art fair itself.

As a point of departure, we took on the traditional element of wallpaper as a device that is graphic and potentially spatial. Using innovative digital means, we produced a custom graphic surface nearly 1,000 square feet in coverage, organized in four interrelated layers. To receive this graphic content, we designed a continuous wall that, as the installation’s title suggests, zigzags through the space in both plan and elevation. By doing so, the wall’s geometry purposefully defines various programmatic areas (the entry sequence, a VIP lounge, and storage), while influencing the nature of the graphic content itself. On the floor, matte-black vinyl is cut in the shape of the shadow that the wall would cast if sunlit, referencing interior decoration’s tradition of simulating outside conditions indoors. The interior face of the angular panels, which line the VIP lounge, are constructed from stretched canvas and hand-painted in a luxurious red hue associated with the art fair’s brand.

The four layers of graphic content are developed to maximize the spatial potential of the surface, directly engage the visitors, and interpretively relate to the specific subject matter of the fair. The base layer is a set of alternating gradient colors that accentuates the depth created by
the zigzagging panels. Overlaid onto this field is a pair of also alternating patterns – the damask and the floral. The main motif in the damask is an abstracted map of New York City, referencing the event’s location. The motif is distributed using the straightforward logic of repetition found in traditional wallpaper. The floral pattern, on the other hand, is produced through a digital script resulting in a highly customizable non-repeating field. The third layer is a lace-like white mesh custom-fitted to the geometry of the panels. The final layer features a series of representational figures, directly sampled from the fair’s content and abstracted through a dot pattern that also references the brand. The figures are projected on the surfaces using the logic of anamorphic projection, privileging as such the visitors’ specific positions in space. Together, these four layers create an immersive experience not only reflective of the art fair’s identity, but also open to the visitors’ point of view and interaction.

Overall, we designed a temporary interior environment where elements that are conventionally thought of as static and flat are perceived as dynamic and spatial.
Clockwise, from top left: a digital study model; a photograph of the installation; floor plan with programmatic elements and ‘shadow’ flooring.

Next page: a photograph of the installation at the entrance to the fair.
Left: a detail photograph of the folded paneling.

Below, right: a diagram of figures projected from specific points of view.

Next page: a photograph of the installation with ‘shadow’ flooring.
Below, left: a diagram showing panel geometries dependent on hinging.

Right: a detail photograph of the panels concealing the VIP lounge.
Graphic content organized by layers, and seen as a final composite design.
This page: process drawings describing the development of the anamorphically projected figures.

Previous page: digitally scripted pattern (underlay) used to generate the non-repeating floral wallpaper (overlay).

Next page: the installation as seen from the exhibition hall.
Queer Sitings

Randall Stauffer
Woodbury University

ABSTRACT

The analysis process of design requires insightful documentation and understanding of any given place. The ways of viewing and representing the world that inform our interventions include mapping, an abstract form of analytical observation, and photo-documentation, a form of capturing the experiential qualities of space. These two ways of sparking the imagination comprise two dominant forms of architectural representation. In the melding of these two ways of seeing lie the potential for a queer analysis and siting.

Queer space is where we camouflage our artifacts that make up our repertoire of difference; where we house our half-remembered expectations and experiments of identity. It is this overlooked space of in-betweenness that transformation and becoming resides. Queerness is found somewhere between the artifact and the space that holds the artifact. It is found between representation of the real and the abstraction of the real that binds the representation. It is found in between the longing to be seen and marking of culture that makes us forget and hide that longing. In those hidden longings we find the tools necessary for exploring an imagined urban coppice where the queer sites mark their ever-changing boundaries.

The presented work forages among the leftover space of both the urban and domestic interior. Somewhere between these disparate space typologies, the analytical realm of the site analysis, and the subjective realm of a site’s becoming exist queer space. The site and scale of the artifacts, the breadth and depth of the site reveals possible ways of seeing and revealing our longed-for environs. Through a collection of digitally manipulated photographs paired with imagined maps of actual places that pinpoint the hidden spaces of difference, overlooked observations of desire are revealed.
Works:

<table>
<thead>
<tr>
<th>Completed Works</th>
<th>Dimensions</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rampart Frame</td>
<td>24w x 38h</td>
<td>digital print</td>
</tr>
<tr>
<td>Flow</td>
<td>24w x 38h</td>
<td>digital print</td>
</tr>
<tr>
<td>Chandler’s End</td>
<td>24w x 38h</td>
<td>digital print</td>
</tr>
<tr>
<td>Sofitel Porch</td>
<td>24w x 38h</td>
<td>digital print</td>
</tr>
<tr>
<td>Poche</td>
<td>24w x 38h</td>
<td>digital print</td>
</tr>
</tbody>
</table>
An Enjoyable Journey From Digital to Analog: From Digital Sketching to Watercolor Painting

So-Yeon Yoon
Cornell University

ABSTRACT

My work is inspired by today’s popular mobile tablets and the opportunity for teaching digital sketching and rendering techniques to interior design students. Freehand sketching and travel notes have had important roles in design education and practice. Although advancing digital media have become dominant design tools for new-generation students, sketching continues to bring vital skills to designers in the field of interior design and allied fields. Design educators share concerns about the way new-generation students who grew up with computers tend to do as much as they can on computer during the design process. However, most children have fun drawing and painting when not afraid of making mistakes or less-satisfying quality.

Taking a photo has never been this convenient. Using a phone or tablet, a camera is available anywhere, anytime nowadays. Le Corbusier said that “cameras get in the way of seeing” because they do not record concepts and impressions of the moments or anything beneath the surface. Ching referred to freehand drawing as “the most intuitive means we have for graphically recording observations, thoughts and experiences.” Regardless of how smart the CAD software becomes, freehand sketching provides a critical foundation and irreplaceable modality for creative design. Although students often lack confidence in their drawing ability, advanced interfaces for tablets and digital pens allow them to feel more comfortable to draw, undo and edit until satisfied over the layer of a photo.

Because deleting and editing photos are as easy as a click of a button with today’s digital cameras, it is easy to pay less attention to details that develop a sense of composition and balance. With digital site sketching, the artist becomes more conscious of taking photos with good composition. When editing the photos for the next step, the artist has another chance to
review the composition and balance, an important exercise for designers. Sketching over a photo should not be simple tracing. In order to deliver a unique message—observations, thoughts, and experiences (Ching)—with the sketch, the artist needs to interpret, omit, and emphasize the visual information of the scene in the photo. Watercolor painting over a print of a digital sketch is another good exercise to experiment with the world of continuous color shades and permits peace of mind in that sketches can be reprinted indefinitely. The process is fun yet an effective hands-on coloring exercise.

My work explores digital-traditional mixed media techniques students can easily adopt and thus learn and enjoy the virtues of both for design. Two paintings entitled 'Waiting -Yellow bike' and 'Yellow house' demonstrate a series of exercises from digital sketching using an iPad, a stylus pen and traditional watercolor painting. Digital freehand sketching alone took about 10-20 minutes, and colors were changed from those of the original scenes after testing different color combinations.
Redefining the Self-Made

Ryann Aoukar
University of Tennessee - Knoxville

ABSTRACT

In today’s kitchens, the use of old-fashioned workhorses is increasingly rare. Fruit juice comes pre-squeezed. Vegetables are prewashed and sterilized. Given the need for meals freshly made, I started investigating new ways to modernize the old manual tools to celebrate the homemade meals.

The choice to investigate these bygone tools comes from the intelligence of their geometrical shape which allows them to resolve problems without the need for a greater power source than the human body. Thus, the constraint I was facing was to extend the function of those tools without losing their essential qualities.

The first product I researched was the lemon juicer, usually used to generate juice for salads. My objective was to find a way to extend its function. I started by deconstructing the structure by extending the material of the base to create a larger recipient that could serve the multiple purposes of: dressing preparation, mixing bowl, and serving dish. Whereas previously a juicer stayed in the kitchen, it becomes an integrated part of a salad bowl, retaining its practicality with seed catcher and a grip for holding created by the concave back of the juicer.

The second object is a funnel. Using a process similar to that employed with the juicer, I stretched the form to break its symmetrical structure, which allowed me to have a larger recipient where fruits or vegetables could be held, washed, and drainer. Initially, the produce can be submerged in water as a bowl. Then, the integrated strainer in the neck of a funnel holds the produce inside the bowl when it is tilted, releasing the water in a simple gesture.
To understand the history of the production process and thereby become aware of potential imperfections generated by the required procedures, I started fabrication using kick wheel and clay.

My approach was then to investigate the newest technology available to create the designs in a way that leaves a path for future generations which reveals both the constraints and modern technology. Thus I investigated 3D-printing technology as the most precise and up-to-date fabrication method.

Conclusion

The process illustrated the extent of modern fabrication efficiency and pushed me to examine how far I could take the digital process to reduce steps.

Generating the drawings by hand and using a traditional fabrication method (pottery), ended up with a lot of imperfections, and uneven results. On the other hand creating the 3D drawings, 3D print the prototype, create a video explaining the use of the product in less time needed to generate the first prototype with the traditional methods. Furthermore, the 3D printer, worked with unparalleled efficiency. Suddenly I realized that I don’t need other craftsman, factories, marketing and distribution network.

While my first motivation was to encourage people to prepare fresh food, reinvent some lost tools. I quickly realized that creating homemade meals was also a catalyst to create self-made products and being more conscious about what individuals capabilities with today’s technology and the ways in which it is used.
Illustration 1: White Polypropylene
Illustration 2: Recycled Glass

Laura Salad Bowl

L A U R A
S A L A D
B O W L _
Illustration 1: Juicing the lemon
Illustration 2: Grip created by the concave back of the Juicer

L A U R A S A L A D B O W L _

Illustration 1: White Polypropylene
Illustration 2: Recycled Glass

L A U R A S A L A D B O W L _
Illustration 1: Mixing the dressing
Illustration 2: Adding vegetables

“LAURA”
SALAD
BOWL

Illustration 1: Mixing the salad
Illustration 2: Laura salad bowl

LAURA
SALAD
BOWL
Illustration 1: White Polypropylene
Illustration 2: Recycled Glass

“ANTON” STRAINER

Illustration 1: Cleaning the strainer
Illustration 2: Strainer in place

“ANTON” STRAINER
Illustration 1: Produce washed
Illustration 2: Water drained

"ANTON"
STRAINER

"ANTON"
STRAINER
Fracture

Adrian Boggs
High Point University

ABSTRACT

CONCEPT:
This project served as a base of exploration for the anomaly of “fracture” as it occurs in a given material and as such, the concept for the lamp was two-fold: the first was to utilize the visual perception of “fracture” as an opportunity to illuminate a contrast of both materiality and spatial qualities within a single cubic form. To do so, the form is altered by the fracture to create two distinct and autonomous spatial volumes that maintain alignment and congruity while allowing for the exploration of contrast between the two. The second was to explore new aesthetic venues for the application of reclaimed materials in the design and production of interior products and furnishings. To satisfy both criteria, a section of a reclaimed timber beam was used as the starting point for the design process, as its rectilinear form is an excellent host for the propagation of a fracture.

DESIGN PROCESS:
In the exploration of the idea of “fracture”, the process relied heavily upon traditional design sketching methods to experiment with the multiple iterations of a fracture moving across a surface. Using this method allowed the designer to record each and every permutation drawn and experienced, thus allowing for reflective examination throughout the design process. Additionally, and without disdain for digital technologies, this more traditional method of “feeling” the fracture through the contact of pen to paper cultivated a very visceral and authentic connection to the fracture’s evolution as a visual form. This capacity for connection allowed the fracture to morph, developing its own sense of proportion in relation to the cubic form through which it propagated. The process of letting the fracture grow and explore its nascent environment first in the two dimensions of a sketchbook ultimately created the best...
opportunity for the concept of fracture to be clearly and effectively communicated in three dimensions.

CONSTRAINTS AND CONSIDERATIONS FOR FABRICATION AND MANUFACTURING:
The goal of designing an adaptable product suitable for short-run manufacturing was kept in clear focus throughout the design process. Utilizing standardized jigs for the metal armature and developing a simple yet specific 5-cut sequence for shaping the face of the beam, a reduction in complexity was achieved while simultaneously allowing for a subtle randomization in each piece. As in nature, the lines of fracture between these dissimilar materials are specifically not parallel. This organically occurring aspect of fracture propagation in nature also simplifies the manufacturing process by allowing for variable tolerances between the materials along the line while still maintaining a convincing fracture event.

CONCEPT MEETS MATERIALITY
The concept and resulting object explore the use of the anomaly of “fracture” to create a moment of contrast within a cubic form. Through the use of dissimilar materials and disparate spatial qualities within the form, there exists an enhanced visual dichotomy that engages the viewer and speaks to the divergent relationship between traditional and contemporary within the forum of materiality.
fracture

an exploration of anomaly
3/19

Is there precedent in tree/storm damage?
The tearing, twisting, shearing, violent force?
These drawings are like fractals/broken glass.
1. If you can ALWAYS get BA to be the EXACT same size, then design a TA that is not equilateral and use it for both sides as the template for creating the facets.

- What happens if you use the TA on both sides, in the same orientation (left to right)?
MADE:
The Empathy Tool Kit

Amy Huber, Jill Pable, Jim Dawkins & Marlo Ransdell
Florida State University

ABSTRACT

No one is as unique, troubled, and triumphant as you.........
Or are they?

Questions such as above can prompt students to transcend their own experience to better understand the lives and difficulties of “Others”. Inspiration for the Empathy Tool Kit came from a desire to help students acknowledge the plight of aging “Others” through active simulations and reflection. The tool kit is designed to be an inexpensive and reusable resource for instructors while providing graphic and pedagogical stimulation to students.

Initial Inspiration
Often, students come to their studies with little exposure to “Others” and have difficulty acknowledging varied backgrounds and needs. Research tells us a student’s prior knowledge can help or hinder their learning (Ambrose et al., 2010, p. 14). Students can assume, stereotype, or marginalize information based on their own experiences. Experiential learning has been useful in previous interior design disability simulation exercises (Cline, 2007). This kit provides instructors with an assembled, cohesive, active-learning style package designed to eliminate potential disconnects between students and their future end-users. The kit presents a broad spectrum of impairments (cognitive, sensory, and mobility) to students via: nine graphic task cards, necessary equipment, and packaging to neatly house all associated items.

Design Goals:
• Design engaging learning activities based on empirical research and precedent simulations
• Create stimulating graphics that clearly describe simulations
• Provide integrated opportunities for student reflection within the kit
• Provide the instructor with a logistically sound setup for the exercise (introduction, graphic icons, numeric values, and resources)
• Provide storage and containment of objects for instructors such that it can be reused without breakage

Development
Following research of previous simulations (AgeLab 2012; Byron, 2009; Cline, 2007; Texas A&M Agrilife Extension, n.d.), tasks were developed using equipment that could be used in 8-10 minutes. Simulations were tested by students for two semesters. In pairs, students perform tasks at designated stations upon completion circulate to subsequent simulations. Individual graphic task cards were designed for every simulation; each containing facts about those affected by the condition, a written and visual instruction about the simulation, and a question prompting reflection. Cards make use of negative space and few saturated colors to be stimulating yet, targeted. Subsequent task cards include a coating for students to write short responses on the card then are cleaned and reused. Based on student feedback tasks that did not initiate added difficulty or illicit a connection between the activity and spatial navigation were modified or eliminated. Group ideation led to package designs housing all necessary equipment. Several packaging prototypes were constructed testing storage and classroom delivery methods; the strongest prototype is submitted as Creative Scholarship. If selected for presentation advanced prototypes will be demonstrated.

The Empathy Tool Kit is designed to help students transcend their own life experiences to better understand end-users that will inhabit their designs. Future iterations may be developed for non-design related populations including patient-care organizations and non-profit groups. It is hoped that with the kit’s usage, users can better understand the process of aging when making important decisions.
Empathy Toolkit
understanding through experience

Designing an engaging, approachable kit to encourage empathy for the affects of aging on spatial navigation
Activities were developed based upon literature and preceding simulations. Simulation activities were tested by students for two semesters. Simulations that did not elicit a student connection to decreased spatial navigation were modified or eliminated.

**Project Goals**
To increase awareness across breadth of impairments affecting spatial navigation including......

**Early Testing**
Activities were developed based upon literature and preceding simulations. Simulation activities were tested by students for two semesters. Simulations that did not elicit a student connection to decreased spatial navigation were modified or eliminated.
Intended cycle of use for the kit

Classroom usage
Teams of two travel in stations; first, reading task card and then performing the actions.

Ease of... Storage for reuse
Prompt for... Reflection + Discussion
Ellicit... Student engagement

8-10 mins
activity #1
8-10 mins
activity #2
8-10 mins
activity #3
Packaging

After selection of items packaging concepts were developed.

early packaging ideas

case
equipment
simulation task cards

final concept
Spatial navigation is greatly altered by changes to vision. For every person totally blind, there are an additional 3.4 people who have a visual impairment which leave some degree of functional vision (World Health Organization, 2012). Vision impairments can range from cataracts, to glaucoma and macular degeneration; these can progressively worsen to a state of complete blindness.

Try on each of these glasses and walk from one corner of the room to the opposite.

How would this affect your ability to navigate space?

Spatial navigation is greatly altered by changes to vision. Experts predict by 2030, rates of vision loss will double (Prevent Blindness America, 2008). Causes of blindness can include accidents, injuries, and diabetes.

Try on each of the blindfold and walk from one corner of the room to the opposite.

How would this affect your ability to navigate space?

Arthritis is the leading cause of disability in the US. and can affect small extremities as well as larger joints. There are 3 types:

Osteoarthritis; characterized by a breakdown of joint cartilage.

Rheumatoid arthritis; an autoimmune condition can cause numbness and tingling in extremities.

Juvenile arthritis; characterized by an early onset (16 or under) of either Osteoarthritis or Rheumatoid arthritis.

Try on this glove and try opening a door next, write your name.

How would this affect your ability to navigate space?
In the US, 9% of those 50 and older have osteoporosis, and nearly half of adults have low bone mass in the neck and spine. (Centers of Disease Control and Prevention, 2012). Symptoms include easily broken bones, spinal pain and stooping.

Place one end of the cord around your shoe; hold the other end and walk down the line.

How would this affect your ability to reach high objects?

6.4 million Americans use some type of mobility aid - cane, crutches, or walker (McNeil, 2007). Mobility impairments can greatly diminish one’s ability to freely move in interior environments.

Put your shoes on the wrong feet and walk around the room.

How would this affect your ability to navigate space?

Mobility impairment affect millions of Americans each day. Temporary impairments such as sprains, strains, and breaks, as well as permanent mobility issues can require the use of an aid such as a cane or walker.

Place a handful of popcorn seeds in your shoe and walk around the room.

Now place just 1 seed in your shoe and walk around the room.

How would this affect your ability to navigate space?
Simulation Task Cards

**wrist wrap**

Mobility impairment affects millions of Americans each day. For those aged 65 to 69 years old, the likelihood of having a disability is 44.9% (McNeil, 2007). Temporary and permanent impairments can affect the upper and lower body.

Put on the wrist wrap and try to turn the door handle. Next, try to open a storage cabinet door without moving your thumb.

*How would this affect your ability to navigate space?*

**remember**

Memory loss and slower processing speeds are often associated with aging (Glisky, 2007). Neurodegenerative diseases include Alzheimer's disease, which is the sixth leading cause of death in America; affecting nearly 5.1 million Americans (Alliance for Aging Research, n.d.).

Perform this memory task... as quickly as you can, say the ABC's backward. Imagine you had the same level of difficulty recalling room names/numbers or turning off appliances.

*How would this affect your ability to function?*

**anxiety**

Because of an increase in impairments (sight, balance, memory), older adults can also experience a significant amount of anxiety or fears.

How many mobility exercises did you perform? What was #9 like? Did you notice it was gone?

Next, view the image on the following page. Is it easier to read, or read the coloring?

Imagine this sensation in everyday activities.

*How would this affect your ability to navigate space?*

Note omission of #9 to elicit anxiety.
Empathy Tool Kit Open
Empathy Tool Kit Closed
**ABSTRACT**

Although the partition is often a passive element, it performs a crucial and powerful role in the division of architectural space. Walls are created as an act of spatial demarcation in the same way that a line delineates the surface of a drawing, denoting a division between two areas that once were one. Many designers see these serving only the function of the building. While many times it may be true that their existence is dictated by specific client needs requiring a division of space, the partition itself is not questioned enough.

What are walls made of? Why do we typically poche between the parallel lines delineating a wall in an architectural drawing? Building efficiency calculations are used to quantify the usable space of a building, and typically have a built in percentage factor referring to structure and services. These numbers are then used to determine how much of the building is being ‘wasted’ by the space where the walls are placed or where structural conditions are rendering spaces unusable. This phenomenon of a wall being unusable and seen as a mute participant in the space and life of architecture was the point of departure.

If walls perform a function of separation and connection, could they not perform other functions simultaneously? Can walls become participants in the spaces we inhabit? Can the poche of walls be activated to accommodate program and occupation as well as become contributors to the functions adjacent to them? Can they also serve as an opportunity to allow for the reconnection where a wall has made a division? Do the systems that make up a wall have to be concealed in the wall, covered as if they are unattractive and displeasing to the eye?
perfor(M)ations is a hybrid of the terms form, perform, and perforation. The design of perfor(M)ations was explored though a question: How might a collection of perforations on a simple surface allow for adaptation and modification based on a specific performance agenda?

Through the design and testing phase, it quickly became evident that two entities must be present: the affected surface and at least two divergent force vectors. With this in place, a simple surface could be affected in predictable ways for specific programmed agendas.

The folded structure, a necessary component to exert the force vectors creating the skin effects, was planned to not only alter the skin but also to assist in the programming of the partition. The design intentionally downplays the materiality of the structure, manifesting it as a void through the partition as well as an edge condition to the skin. A series of flat, layered components, its presence is hybridized with the skin allowing this void through the partition to manifest a structural and organizational agenda through spatial volume rather than mass. The partition is programmed to exist within a clean room environment where the structural voids act as air intakes within the design.
perfor(M)ations

TECHNOLOGY INTEGRATION
- HINS Sanitary Light Technology
- Data Access Through Touch Surface
- Air Intake with Ionizers
- Actuated Surfaces with Sensors

PERFORMATIVE ORNAMENT
- Use of Pattern to Manifest Structure + Forces
- Articulation of Surface Stresses
- Varying Levels of Manifestation Based on Use
- Purposefully Sacrifice Surface Qualities to Achieve Varying Formal Outputs

ACTIVATION OF THE SKIN OF A PARTITION
- Use of the Wall Surface as More Than Covering for Interior Systems
- Repair and Cleansing Through Dynamic Techniques
- Skin Manifesting the Systems Contained Within

'CLEAN' ENVIRONMENT
- Programmed to Exist in a 'Clean' Environment
- Positive Participant in the Space and Its Use

USE OF FABRICS IN ARCHITECTURE
- Potential of the Partition to 'Breathe'
- Easy Removal and Replacement in Clean Environment
- Integration of Electrical + Data Systems into Fabric
- Testing Structural Abilities of New Fabric Technologies
OPERATIONS ON A SURFACE

BY INTERVENING INTO THE SURFACE, TWO THINGS HAPPEN: THE SURFACE INTEGRITY IS SACRIFICED WHILE IT GAINS THE ABILITY TO ADAPT TO NEW FORMAL CONDITIONS. THIS WAS USED TO CAPITALIZE ON THE SURFACE'S NEW SHAPE AND STRENGTH.
LASER CUT STRESS PATTERNS
VARIOUS PATTERNS WERE CUT TO TEST POTENTIAL SURFACE DEFORMATION
SEVERAL MATERIALS WERE USED TO TEST VARIATION

SURFACE CURVATURE ANALYSIS
SURFACE DEFORMATION + STRESS LEVEL EVALUATED
DIGITAL TESTING OF MAKING TECHNIQUES

INTERACTIVE SURFACE STRESS TESTS
MATERIAL PATTERNS TESTED TO POINT OF FAILURE
RELATIONS BETWEEN PATTERN + SURFACE CONTOUR

ANALOG MODEL
PHYSICAL MODEL TO DETERMINE THE SUCCESS OF CURVATURE CREATION
TESTING OF MATERIAL CUT SHEET + ASSEMBLY PRECISION

PARAMETRIC PATTERN DEFINITION
PARAMETRIC INTERFACE EXTENDED ITERATIVE PROCESS
DEFINITION OF THE PATTERNS THROUGH CONTROLLED PROPERTIES WITHIN THE SOFTWARE
INSTANT FEEDBACK OF FORMAL MODIFICATIONS
BREATHABLE PARTITION

OFFSET CUTS INTO THE SKIN OF THE PARTITION ALLOW THE SURFACE TO BREATHE IN A SIMILAR FASHION TO THE MANTA RAY. THESE OPENINGS ARE OPERATED THROUGH SERVO MOTORS, CONTROLLING THE MOVEMENT OF AIR BASED UPON AIR QUALITY SENSOR READINGS. INTERIOR VOIDS, OR “LUNGS”, CONTAIN LOW-VELOCITY FANS WHICH MOVE AIR THROUGH HINS LIGHT AND IONIZERS, RELEASING CLEAN AIR.
CLEAN LIGHT

STRUCTURAL Voids containing perforations within the partition are programmed to contain Hins Light technology which can sanitize any surface with narrow spectrum light. These voids could be used to clean hands or equipment without having to resort to autoclaves or cleansing chemicals.
IDENTIFICATION GRAPHIC
OVERHEAD SUPPORT
POWER SUPPLY
SANITIZING VOID
SKIN VENTS
INFORMATION TOUCH PANELS
REMOVAL FROM GROUND FOR SANITARY ISOLATION

FRONT ELEVATION

SIDE ELEVATION
**DIAGRID STRUCTURAL BRACING**

*AN INTERIOR DIAGRID BRACING SYSTEM MAINTAINS THE PARTITION’S FORM THROUGH A THREE-DIMENSIONAL STRUCTURE. THE STRUCTURAL MODULE EXPANDS AND CONTRACTS TO TRANSFER LOAD THROUGH THE PARTITION.*
STRETCHED SURFACE THROUGH ROTATION

A SIMPLE 6 DEGREE ROTATION OF THE STRUCTURAL PLATES PROVIDES PRIVACY ZONES ON EACH SIDE AND STRETCHES THE SKIN TO CREATE A VENTILATED CONDITION. PERFORATION OPENNESS VARIES BASED ON LEVEL OF STRESS AND PROGRAMMED USE.
1. MOBILE SYSTEM FOR MAXIMUM FLEXIBILITY

2. ACTUATED EXHALE VENTS FOR AIR PURIFICATION

3. INTERACTIVE DIGITAL TOUCH PANEL

4. HINS LIGHT FOR SANITARY NO-TOUCH CLEANING

5. STRUCTURAL VOIDS FOR AIR INTAKE

6. REMOVAL FROM GROUND PLANE TO INCREASE SANITARY ISOLATION

perfor(M)ations
Mas Moss:
A Living Curtain

Kendra Locklear Ordia, Igor Siddiqui & Tamie Glass
Kansas State University, University of Texas at Austin

ABSTRACT

Mas moss seeks to unify natural systems and materials through structured formalism producing a living curtain, dynamic in performance and evolving in verdant organization.

Mas moss offers an architectural and spatial solution for the introduction of plant material into an interior environment – one that is ultimately shaped by the ebb and flow of light and air, shifting shadows and intensities of color, and variations of patterns and textures. Unrestrained by the net-like structural system of the synthetic, the organization of Tillandsia recurvata’s natural propagation patterns within and around the curtain formalize, over time, the serendipitous beauty of the seemingly ordinary epiphytes producing an evolution of natural texture and form as the plants slowly take over the biodegradable cables and connectors. In this way, mas moss organizes a synergistic microcosm by hosting exposed-root Tillandsia recurvata (commonly known as ballmoss) at varying densities transforming the curtain into a macrocosm biofiltration structure. Installation of mas moss allows for Tillandsia recurvata to be simultaneously light-seeking and shade-providing as propagation occurs within the organization of the host material.

This merger of interior and landscape at the point of architecture creates a visual pattern, editing views to the exterior with growing densities of Tillandsia recurvata. The epiphytic bromeliads stimulate haptic biofiltration while reducing and eliminating VOCs and toxins commonly found in indoor air. The transformative character of mas moss embodies the beauty of the natural through the use of materials, colors, spatial structures, patterns, and textures. It is activated by light, air, movement, and openings that filter the interior environment into the exterior landscape.
“The genus Tillandsia, which belongs to the Bromeliaceae, includes almost 400 species distributed from the south of the United States of America to the northern part of Patagonia in Argentina. The population of these epiphytic species such as Tillandsia Recurvata [or ballmoss]…on trees and shrubs in the southernmost, western, and eastern regions of the United States has increased dramatically to epidemic proportions, causing severe deleterious effects on their hosts.”
Mas moss seeks to unify natural systems and materials through structured formalism producing a living curtain, dynamic in performance and evolving in verdant organization.

The merger of interior and landscape at the point of architecture creates a visual pattern, editing views to the exterior with growing densities of Tillandsia recurvata. The epiphytic bromeliads stimulate haptic biofiltration while reducing and eliminating VOCs and toxins commonly found in indoor air.

The transformative character of mas moss embodies the beauty of the natural through the use of materials, colors, spatial structures, patterns, and textures. It is activated by light, air, movement, and openings that filter the interior environment into the exterior landscape.

“…open the window and the garden comes in, the curtain comes out.” --- Petra Blaise, Inside Outside
1. TYPICAL METHODS: NEW SYSTEM

Conventional interior plantscaping attempts to increase one’s connection to nature by installing and maintaining common household plants in standard potting medium, while more recent plantscaping trends have shifted potted plant material to vertical green-wall installations as part of larger hydroponic living wall solutions. Both are ultimately restricted by the container housing the roots, soil, or solution sustaining its growth. Green-walls and potted plants can serve to shape an interior environment, but they cannot be shaped by the interior environment.

Mas moss offers an architectural and spatial solution for introduction of plant material into an interior environment – one that is ultimately shaped by the ebb and flow of light and air, shifting shadows and intensities of color, variations of patterns and textures, and the contrast of prospect and refuge. Unrestrained by the structural system of the synthetic, the organization of Tillandsia recurvatas’ natural propagation patterns within and around the curtain formalize, over time, the serendipitous beauty of the seemingly ordinary epiphytes.
Reports show that humans spend around eighty percent of their time indoors where exposure to pollutants, chemicals, and microorganism in the air can result in poor indoor air quality (IAQ) leading to discomfort and serious health risks such as sick building syndrome, asthma, and multiple chemical sensitivities.\textsuperscript{5,9} Plants are often included in interior environments for their aesthetic value or to provide access to elements from nature, but a growing number of studies support the use of plants as natural filters in indoor environments.\textsuperscript{2,6,7,8,9,10} Research shows absorption rates of many common house plants produce remarkably lower levels of benzene, trichloroethylene (TCE), and formaldehyde during various phases of photosynthesis and metabolic activity as part of “a true biological response...[suggesting] different relationships between the plant and the microorganisms associated with the root systems...producing a symbiotic microcosm of activity.”\textsuperscript{8}

In this way, mas moss organizes this synergistic microcosm by hosting exposed-root Tillandsia recurvata at varying densities transforming the curtain into a macrocosm biofiltration structure.
3. PERFORMANCE

Because of allergic reactions, immune-sensitivities, and infection control concerns that naturally arise from introducing plants, soil, flowers, water, and accompanying microorganisms into interior environments, Tillandsia recurvata is being proposed for mas moss primarily for its epiphytic characteristics and the lack of soil needed to sustain growth.

The exposed root systems serve as an anchoring device and the scale-like trichomes of the leaves allow moisture to be pulled from the air and trace minerals to be gained from dust, all while reflecting solar radiation “reducing heat loads and photo damage.”

Crassulacean acid metabolism (CAM) allows for the plant to tolerate large amounts of water loss with minimal amounts being required for germination. Installation of mas moss allows for Tillandsia recurvata to be simultaneously light-seeking and shade-providing as propagation occurs within the organization of the host material.
4. PROPAGATION

Tillandsia recurvata has a wide temperature range where fast germination is able to occur resulting in the mass distribution of this species. Regardless of habitat, it needs moisture, light, and good air circulation for survival. After periods of partial hydration and contact with liquid water (as opposed to vapor) to initiate imbibition, the plant sends out shoots containing seed capsules. After reaching full germination, the capsules split open and the hair-like structures of the developed seeds allow it to be dispersed by wind transferring the seed to colonize the material of the next microsite containing little to no soil and limited nutrients and water. The seedlings may grow very slowly for the first several years, but growth rates speed up dramatically when the plant reaches approximately an inch in height.

The net-like structure and connectors of mas moss allow for propagation to take place within and around the voids created as part of the three dimensional form of the curtain creating an evolution of natural texture and pattern as Tillandsia recurvata grows to slowly take over the biodegradable cables and connectors.
EXISTING STEEL BEAM

MAGNETIC BAR, TYP. TO CONNECT TO EXISTING STEEL STRUCTURE 45LBS CAPACITY PER MAGNET

LASERCUT WOOD CONNECTOR, TYP. RIBBED FOR MOSS GROWTH WITH MILK-PAINT FINISH

3/32 THICK BIODEGRADABLE BIOPOLYMER PLA YARN, TYP. SOLUTION-DYED

STAINLESS STEEL BEAD, TYP. FOR DRAPING
CITATIONS

Pension Bertolini: From Page to Plan

Sydney Luken
Corcoran College of Art and Design

ABSTRACT

Architecture and interiors often play a central role in works of literature, but what happens when the roles are reversed? Interiors inspired by literature often tend toward the superficial or fantastic. A true translation of a literary work to architectural form is not merely aesthetic in scope, but experiential. Underlying literary themes can be constructed as architectural metaphors, resulting in a space that evokes an emotional response similar to those inspired by reading the work in question.[1] Using E. M. Forster’s A Room with a View as a guide, a design is proposed that captures the essence of the novel while simultaneously retaining the fashionably artistic aesthetic expected of a boutique hotel. The design is framed by the premise that Penguin Books owns and operates a global chain of boutique hotels—each based on a different book.

In the course of her design research, the author devised five categories of content to guide the translation: authorial style, narrative structure, underlying themes (primarily evident through character analysis and development), significant moments, and supplementary details. The following images document the author’s thesis process, from precedent review to methodological exploration and speculative representation.

REFERENCES

experiential translation of literature

Architecture and interiors often play a central role in works of literature, but what happens when the roles are reversed? Interiors inspired by literature often tend toward the superficial or fantastic. A true translation of a literary work to architectural form is not merely aesthetic in scope, but experiential. Underlying literary themes can be constructed as architectural metaphors, resulting in a space that evokes an emotional response similar to those inspired by reading the work in question. Using E. M. Forster’s A Room with a View as a guide, a design is proposed that captures the essence of the novel while simultaneously retaining the fashionably artistic aesthetic expected of a boutique hotel. The design is framed by the premise that Penguin Books owns and operates a global chain of boutique hotels—each based on a different book.
[ Penguin books = penguin hotels ]

Penguin by Design
A Cover Story 1935–2005
Phil Baines

Penguin Hotels

Pioneers of Design

Dignified but flippant

“Too Cool to Die” — Harland Miller; "Brideshead Remortgaged" — Standard Designs
a room with a view — e. m. forster

charlotte  lucy  mr. emerson

cecil  george

artificial  ascetic  gothic  victorian  england  room  shadow  sociality  propriety  art

natural  passionate  greek  modern  italy  view  light  intimacy  truth  life

“a brilliant study of contrasts”
methodology... or madness?

rationalizing muddle

1. Muddle
2. Awakening
3. Denial
4. Clarity

OPUS 111: foresmen

SELECT

“in santa croce with no buscader”
(“so, how to force muddle”)

STEP 1: CREATE AN EXPECTATION.
(THE LINE WILL LEAD ME.)

STEP 2: CONFUSE IT.
(THE LINE HAS STOPPED!)

translational goals

STYLE | STRUCTURE | STATEMENTS | SIGNIFICANT MOMENTS | SUPPLEMENTARY DETAILS

- 1 -
Know thyself.

- 2 -
Only connect...

- 3 -
Beauty is chaos.

- 1 -
Conceal

- 2 -
Confused

- 3 -
Connect

- 1 -
Reception

- 2 -
Guest Rooms

- 3 -
Public Space

“make it work!”
pension bertolini: from page to plan

PENSION
Bertolini

florence, italy

palazzo gianfigliazzi

overlooking the arno

mezzanines... mezzanines everywhere
check-in: (this is an adaptation)

title page

introduction

PRIMARY ENTRY CORRIDOR — NOT TO SCALE
guest rooms: good views for people who love bad views

Do you know that you’re right? Yes, I must be a poet after all. When I think of you it’s always on in a room. How funny!

To his surprise, he seemed annoyed.

‘A drawing-room, pray? With the view?’

‘Yes, with no view, I fancy. Why not?’

‘I’d rather,’ he said reproachfully,

‘that you connected me with the open air!’

Amateur, Avise, Full-dress room, Open air, Recall yon, Symbolism, ‘Ella’, Parqueted mirror, Fumigole, Run Inglese Italiano e un diavolo incantato. #anny, #throwthysel, #anny

#
My father says that there is only one perfect view — the view of the sky straight over our heads, and that all these views on earth are but bungled copies of it.

He whispered:

Do it this? Is this possible? I'll put a marvel to you. That your cousin has always hoped. That from the very first moment we met, she hoped, far down in her mind, that we should be like this, of course, very far down. That she fought us on the surface and yet she hoped.

Before she could speak, almost before she could feel, a voice called "Lucy! Lucy! Lucy!" The silence of life had been broken by Mrs. Bartlett, who stood brown against the view.
She stopped and leant her elbows against the parapet of the embankment. He did likewise. There is at times a magic in identity of position; it is one of the things that have suggested to us eternal comradeship.

magic in identity of position
and now for something completely different

From her feet the ground sloped sharply into the snow, and violets ran down in rivulets and streams and creeks, irrigating the hillside with blue, eddying round the tree stems, collecting into pools in the hollows, covering the grass with spots of azure foam...
The Vanity and Entombment of Marie Antoinette

Heather Peterson
Woodbury University

ABSTRACT

In his 15th century treatise on building, De Re Aedificatoria, Leon Battista Alberti argued for the expansion of architectural purview through the inclusion of objects such as sundials and dovecotes on the grounds that the former marks and fundamentally registers human beings in time and space, while the later acknowledges the possibility of constructed environments for other species.

The long march of coincidence that denoted the inimitable life of Marie Antoinette has provided cover for leveraging subjects that have not yet been mined as architecture; much less as possibilities for critical exploration. The Vanity and Entombment of Marie Antoinette attempts to goad the limits of critical spatial inquiry by examining a series of salient artifacts from the queen’s monarchical life: the guillotine as incontrovertible threshold, cleaving life from death, mind from body, thought from matter; the carriage, which widened the experience of the world past the limits of human physiology, and placed architecture on the move; curtains and crinolines, those soft precincts between body and berth, which beg the question, ‘is there architecture in the occupation of a material condition, however tight the stays of the corset may be.’

The Vanity is a conceptual project imagined for the Hall of Mirrors; an object that is indeterminately a diminutive architecture, an occupiable furniture, and a sculptural deviation made to house the remains of Marie Antoinette and her lost wedding trousseau.
On November 2, 1955, a figment appeared in the Hall of Mirrors at Versailles. It was late in the evening. The room had long since closed to the public, and was now inhabited by three guards overseeing the work of a doctoral candidate from the Sorbonne who was carefully sampling each of the hall’s three-hundred and fifty-seven mirrors for chemical analysis, in order to shore up his theories on mercury poisoning at the Royal Glass Works of Saint Gobain during the reign of Louis XIV.

The candidate was the first to notice. He was standing on the third rung of a ladder with his back turned to the room, when he sensed the emergence of a shadowy form come into focus against the silvering of piece number three-hundred and three. In distrust of reflections, he lifted his chin over his left shoulder, lost his balance, and fell to the floor, bringing the eyes of the guards first to him and then to the bewilderment standing at attention before them.

By all accounts, the candidate returned to his feet and approached the figment, cautiously, as if it were a wild animal. He reached out to touch its broad, soft flank, embossed with Cartesian lines – half-expecting it to dematerialize like a sheet of gold leaf under the weight and heat of his fingers. But the form endured, as he began to estimate that the scores in its surface were, in fact, the embellished edges of a vast set of drawers. The candidate pulled at the surface, enlisting the guards to do the same. One after another, they found the drawers to be empty – sitting idle like raided tombs – uncertain as to whether they had once held something of import, or if the contents had simply never arrived. As the candidate pulled at the last unopened drawer, a small sheaf of papers was revealed. They appeared to have been ripped from a book of unknown origin; the text describing a closely observed set of episodes in the life of Marie Antoinette.

The incident waned through the earliest plunges of night; chasing the candidate toward a grave desire to produce substantiating evidence; a feeling made all the more urgent by the uncertainty of how long the figment might remain lodged in the hall. With a meager set of tools, the candidate and his three conscripted aids set about the careful measuring and recording of the solid apparition. They worked tirelessly through the night, logging metrics, sitting relationships, and inferring the potential roots of the geometries bound up in the mysterious origins of the form. When they were assured that the figment had been secured in all manner and medium, the candidate carefully removed a small reflex camera from his satchel and raised the twin lens toward his subject; fearful that the dilation of the aperture or the sound of the shutter might cause the figment to retract like a superstitious tribal elder on the occasion of having his image committed to paper.

Dawn advanced. Shill light, which had travelled ninety-three million miles from the surface of the sun, rolled over Poland, West Germany, and the region of Champagne, pouring down the Avenue de Paris toward the Place d’Armes. It reached the Hall of Mirrors through a sprawling reflection that rebounded from the standing water in the drained ornamental lakes, penetrating each of the three-hundred and fifty-seven panes of glass on the western façade of the palace. At 7:36 ante meridiem, the figment dissolved into the air of the hall with the measured leaving of humidity burning off of a pond.

What follows are remnants of the candidate’s field notes, his drawings and photographs, and the last remaining pages of the book discovered in the small bottom drawer; whose author has never been ascertained.

References:
It is often the case when we travel, that we are transformed by the journey, made different by the sights and sonatas of the unfamiliar, but it is exceptional to be totally transformed, to be changed both literally and metaphorically by immense external forces. On the 21st of April 1770, a cortege of fifty-seven horse-drawn carriages pulled out of Vienna, conveying the young archduchess of Austria across the Holy Roman Empire and toward her future as the Dauphine of France.

The carriage would have listed and lurched under the displeasures of an unproved road meeting the technological limits of a leaf spring. It would take another sixty-eight years for the first road in Europe to see asphalt, and another hundred years for independent suspension to be invented.

The thin corrugated windows of the carriage would have warped the Barrier masks of linden, basswood, olive, and oak establishing their sheets and blisters against the azure sky as the intense traced its way through leafy stretches of the Black Forest. At the end of her journey, the Dauphine would come to look upon the comparatively groomed landscape at the Palace of Versailles, stretching out to prospected vistas — to tame army of pruned myrtle, yew, chamberlin, and pine, and recall that the time spent staring out of the thin wire mesh of her carriage, during her three and a half week passage towards the tectonic basin of Paris, had been nothing short of a frenetic march into vanity. The pace of the carriage, a mere pretext to the tyranny of reflection and public exposure that she would have to endure for the next twenty-four years of her life.

Among the four of us, our characterizations of this thing are colloquial at best. Guillaume and Jean-Pierre think that it might be existential; Louis suspects collective hallucination, and has asked a lot of questions about the prospect of mercury poisoning. I'm utterly bewildered, and mostly at a loss for words, but in our slow-wounding attempt to triangulate the exact nature of this thing before us, we've taken to calling it "the family."

Perhaps the reason why we're having such a difficult time understanding its breadth, is due to the method of its arrival, and that it seems quite certain that a new form of interiority had been made through the intervention of this disturbance.

In consideration of its presenting characteristics — the collision of a carriage and a Dube a la Francaise — a bridal veil held in suspended animation — charred, vitrified, iridescent — a leather dressing trunk or wardrobe turned inside out and dyed the color of a blushing cheek — the bucket of a mask, a Finnish sligh painted against an encrusted, gilt decoration —
Based on the readings that we’ve taken with the surveying transit, the vanity appears to align the distant interiors of the Hall of Mirrors and the boudoir of the Petit Trianon (which I later discovered was given to Marie Antoinette by Louis XVI on an exclusive retreat from the intrigues of the French court). This causes us to wonder if these spaces stand in for the polarities that defined the life of the queen; on the one hand, the leisureed and irrational acres of the aristocracy which expected their queen to be extravagant and then ridiculed her for being so, and her interest in a pared-down agenda in phase with the emerging philosophical ideas of Rousseau that were fueling the oncoming revolution.

On the 16th day of the archduches’ bridal journey to Versailles, the carriage stopped on an island in the Rhine River near Kehl. The horses were brought to rest so the front wheels of the carriage were stranded in France, while the back wheels remained in Germany. The careful positioning of the royal carriage over the finite and imagined border, ensured that the body of the Dauphine was left to inhabit the imprecision of the line itself, however brief the transaction may have been.

Geology proves that these forms of abstraction are absurd; that the division of Germany and France drawn along the fiber of a map, or walled across the soul of a small wet island causes to be true below the surface and in the certainty of air. But these abstractions do sometimes manage to ceremoniously and psychologically perform the clearing of personal land, and to extract any last remaining trace of privacy that a Bourbon child might have preserved. The handful of this 14-year-old girl required the literal obliteration of all clothing and possessions, including her undergarments and a Chinese pig named Maps, as well as the distrustful flight of her mock-wedding troupeau.

Little exists: literal translation from the French, window-diker; contemporary usage, in window shop.

One has to wonder among the small acts of deviance that have led to lesser acts of misprision; if the pious Dauphine had dared to purse her tongue against the rippled glass of her carriage window as her entourage arrived in formation, at the courtyard of Versailles, might the history of France have gone down rather differently.

Over the course of the life bracketed by the read-in, and the road out of Versailles, there were many indiscretions, accusations involving diamonds, cake, lobsters, sussolitude and naive simplicity, youthsaints, and incest. For those who live in the hairpin turns of history there is hardly ever refuge from a violent denunciation.
The posterior looks like the blossom of a full dress arrested in charred wood, which bleeds onto the parquet floor and turns into a patterned inlay of black mother of pearl and labradorite. I thought that it might be lifted by some colossal and unseen panther, and the thin lace windows suggest that the doll may have an underside.

I counted the two small carriage steps to investigate the possibility of an interior, and discovered that the back of this skirt conceals a double-height space pin-pricked with votive light viokev at the darkness like ancient descriptions of the stars wedded to the porous vault of the heavens.
I'm now inclined to think that this must be a tomb. Upon entering the interior, one senses a thickness between where you are and where you came from; a tight, almost constrictive space not entirely accepted into the lithe tessellations of the era.

There is something here, something lowered into place from a deep aperture in the ceiling, lined with brass and laying open to the sky. This something—a sarcophagus, perhaps—is suspended over a shallow cascade of steps, which pulsate like the stages so often found at the entrances to bureaucratic buildings.

This sarcophagus seems to suggest many simultaneous allusions: the symmetry of a gondola, the elegiac backcloth of Jean-Paul Marat, vestiges of carpets, etc... maybe the intricate linen patterns of a mummy’s wrappings shrunk tight around a classical text from centuries of pressed, breathless air. But this buoyant coffin is girdled in leather and pitches back and forth on a large brass bridge, echoing inside this hollow volume.
Twelve miles from Versailles, in the markets of Fontevrault Saint-Avit, famished women began to organize their discontent. They took up arms, and 방법을 demanded as they marched west through thick fog in the detentions of their covers. The hem of their petticoat layed to the pillars of a narrow street, which in sixty years time would be widened to the proportions of an army regiment. It was the morning of October 3rd, 1789. As dawn began to bluish in the dark eastern sky, the portentous beheaded the palace. The assault rumbled in no less than the beholding of two royal guardsmen, the leaving of the queen’s apartments, which revealed the symbolic shaming of her manner, the deposition of Louis XVI, and the repudiation of the monarch on the balcony off of the king’s bedchambers.

By midafternoon the sky was washed in grey mists and shrouded in thin cloud cover. Under blest terms, the royal family is compelled back to Paris and displayed to the throneless apartments of the Tuileries. During their first night of captivity, minus all impediments to physics and the human mind under duress, the king might have imagined that the air of his bedchambers could not bear him to the Alps, a realm that would be signed into sovereignty twenty-six years in the future, near the site of his wife’s birth. On the second night, he might have weighed and resisted the probabilities of earlier flights that had been ruled out for reasons of uncertainty and was. Eventually, the exhaustion of all other plans would lead him to an overboarded accomplice.

At Versailles, a royal bed with the curtain drawn had been the only place where the eyes of the court could not go. On the night of their planned escape, the king and queen pulled the shroud of their bed closed and requested that they be allowed to sleep for an additional hour. While the guards took their wants to be asleep behind the opacity of their bed curtains, the royal couple managed to slip out of a ground-floor apartment with their children and a small group of attendants, facing in plain dress toward the Austrian border.

They made it as far as Varennes, one hundred and fifty miles from the approach of the mob before the plan unraveled. While stopping briefly to replenish the stock of horseriding them east toward immunity, the king was seen leaning from the carriage, his unmistakable now in silhouette against the prospect of their asylum just thirty-three miles off to the north.
We have all felt a sense of awe when facing the thin steel blade mounted over an inscrutable depression in the floor; a leading edge that had literally cleaved the front end of the vanity case, and appears to be held in place by two thin rivets that pierce through it near the top edge and are held in position by collars bolted to the floor. That blade has a destabilizing effect, it disturbs the choreography of the room; turns it into a kind of dry dock, displacing an ocean of weight, poised to return at the first sight of any weakness or outward vulnerability.

We rarely think of historical events as having occurred for instance, on a particular day of the week. Nevertheless, on a bleak Wednesday morning, as a bouquet of murrey and yew was piled up by the wind, the deposed queen of France was carted to the Place de la Concorde and summarily executed.

When her head was rendered from her body, the blade of the guillotine, which had been used to section through the neck of her husband two hundred and sixty-eight days before, summoned the irremovable threshold that she had been subjected to on her import to France, as the body of her carriage lay poised over that abstract and fatal boundary drawn by an unwrung cartographer; and as she took the blade, so passed through the last station of an inevitable list.
Stitched

Saral Surakul
University of Georgia

ABSTRACT

The political crisis in Thailand had begun since Prime Minister Taksin Shinawatra was unexpectedly ousted from office in a military coup and the riot caused by the opposition party supporters known as the “Yellow Shirts”. In December 2008, Democrat Party leader was chosen as prime minister without calling elections. The incident lead the anti-government formed by the urban intelligentsia and pro- Taksin group to set off the second protest against the new government in April 2010. The group was known as “the Red Shirts.” The protest lasted for two months and finally ended with violent eviction by the army in downtown Bangkok. The incident left at least 50 dead and many injured. Such violence had never before happened in history of modern Thailand. As the situation subsides, the government proposes a memorial project to honor the past incidents. The news gave me an inspiration to create a design proposal for the memorial.

How can the memorial heal a big gash among the Thais? The thinking process began with three keywords: wounded, stitched, and healed. My design focuses on the strong political conflict between the Red and Yellow Shirts (wounded). Regardless of the political differences, everyone still belongs to the same nation and the way to reunite the nation is to find a conciliation point where everyone peacefully lives together (stitched). Once combined, the important mission is not to forget the past and look into the future for the better and stronger Thailand (healed).

The statement above creates the primary ground for the memorial. The emphasis is placed on metaphorical, referential, and iconic aspects of the design. I intend to create a memorial space that is simple, memorable, and meaningful. The two political groups are implicated as curve bridges that come from separate directions and beliefs crossing each other to form an elliptical shape before merging into one. The bridges alter the visual experiences until one approaches the
top where the spectacular view of the river begins to reveal. Each bridge also serves as the memorial entry representing the past incidents. The concrete floors bear lines from patriotic songs. As the memorial is a part of the Memorial Park on the bank of the bloodline river of Thailand, the Chaopraya, water is an important element. The waterfall pillar in the elliptical space suggests the present peaceful stage allowing visitors to interact with water which brings it to life. The hill is created to conceal the structure and house the pool for the waterfall. The merging bridges, the implication of the future, form an observation deck over the river where the stitched wound has been cured. The iconic steel and bamboo roof structure is a tapered extrusion of the floor plan. Bamboo is selected for its own conceptual and structural weaknesses and strengths. It is weak by itself but strong when bundled together.

The Stitched memorial is a reminder of the unfortunate events with the hopes and dreams that the country will be healed and history will never repeat itself again.
The political crisis in Thailand had begun since Prime Minister Thaksin Shinawatra was unexpectedly ousted from office in a military coup and the riot caused by the opposition party supporters known as the “Yellow Shirts.” In December 2008, Democrat Party leader was chosen as prime minister without calling elections. The incident led the anti-government formed by the urban intelligentsia and pro-Thaksin group to set off the second protest against the new government in April 2010. The group was known as “the Red Shirts.” The protest lasted for two months and finally ended with violent eviction by the army in downtown Bangkok. The incident left at least 50 dead and many injured. Such violence had never before happened in history of modern Thailand. As the situation subsides, the government proposes a memorial project to honor the past incidents. The news gave me an inspiration to create a design proposal for the memorial.

STITCHED
BANGKOK RALLY MEMORIAL
Size: 1,125sq. m. (12,110 sq. ft.)
How can the memorial heal a big gash among the Thais? The thinking process began with three keywords: wounded, stitched, and healed. My design focuses on the strong political conflict between the Red and Yellow Shirts (wounded). Regardless of the political differences, everyone still belongs to the same nation and the way to reunite the nation is to find a conciliation point where everyone peacefully lives together (stitched). Once combined, the important mission is not to forget the past and look into the future for the better and stronger Thailand (healed). The statement above creates the primary ground for the memorial. The emphasis is placed on metaphorical, referential, and iconic aspects of the design. I intend to create a memorial space that is simple, memorable, and meaningful. The two political groups are implicated as curve bridges that come from separate directions and beliefs crossing each other to form an elliptical shape before merging into one. The bridges alter the visual experiences until one approaches the top where the spectacular view of the river begins to reveal.
The two political groups are implicated as curve bridges that come from separate directions and beliefs crossing each other to form an elliptical shape before merging into one. The waterfall pillar in the elliptical space suggests the present peaceful stage allowing visitors to interact with water which brings it to life.
Each bridge also serves as the memorial entry representing the past incidents. The concrete floors bear lines from patriotic songs. As the memorial is a part of the Memorial Park on the bank of the bloodline river of Thailand, the Chaopraya, water is an important element. The waterfall pillar in the elliptical space suggests the present peaceful stage allowing visitors to interact with water which brings it to life. The hill is created to conceal the structure and house the pool for the waterfall. The merging bridges, the implication of the future, form an observation deck over the river where the stitched wound has been cured. The iconic steel and bamboo roof structure is a tapered extrusion of the floor plan. Bamboo is selected for its own conceptual and structural weaknesses and strengths. It is weak by itself but strong when bundled together.

The Stitched memorial is a reminder of the unfortunate events with the hopes and dreams that the country will be healed and history will never repeat itself again.
ATL:
Guide to the Dirty South

Liz Teston
University of Tennessee - Knoxville

ABSTRACT

This conceptual project is steeped in both community engagement and storytelling as an investigative tool. Like the rivalry between east coast and west coast rap, there is a rivalry in east coast and west coast design. The Dirty South music genre separated itself from the rivalry by creating a unique Southern sound. I examined the impact of hip-hop on Atlanta. In an effort to determine if there was a geographic and demographic shift over time, I mapped the locations mentioned in Atlanta songs published over two decades. I read the lyrics in all of these albums, identified locations in the songs and cross referenced them with their addresses.

Then, I overlaid them on maps of metro Atlanta, because one album describes everyday places along Campbellton Roads. The map informs my claim that locations along Campbellton Road were given as much significance as other rappers gave upscale areas of Atlanta. Each ordinary location in the song situates the listener in the cultural identity of this Atlanta neighborhood. Referencing these ordinary places on their album says, “This is my neighborhood.”

Architectural historian Ada Louise Huxtable called Aldo Rossi “a poet who happens to be an architect.” He said, “In order to be significant, architecture must be forgotten, or must present only an image for reverence, which subsequently becomes confounded with memories.” Architecture is memory; memory and cultural identity are inextricably linked. The architecture of the city is an artifact, a part of our collective memory, whether it is iconic or mundane. So, that gives ordinary buildings like a Texaco gas station a status that not always noticeable.

When considering the dramatic nature of this dichotomy, theatrical illusion in design became very relevant. Rossi’s Teatro del Mondo at the Venice Biennale spoke of ephemeral drama. This
work activated the Grand Canal in the way I hoped to treat Campbellton Road and its landmarks. To do so, I endeavored to bring Rossi’s sketches of the Cabine d’Elba to life. These drawings were metaphors for cultural identity, symbolic of the beach cabins that lined shores in his childhood vacation spot that were imbedded in his subconscious. The first location of the installation was at JJ’s Rib Shack. The owner was gracious enough to allow me to leave it there for a few days. He was proud of his restaurant’s connection to Goodie Mob’s Soul Food song.

So, based on the lack of seating in the restaurant, his personal connection to the music from his neighborhood, I designed this addition to JJ’s Rib Shack. The design takes into consideration the backyard condition where residents cut through to get to the bus stop. The massive pile of ash from the BBQ smoke house serves as a backdrop for performances and the eating area. This hidden condition relates to the theatre and an idea of deception. Don’t judge a book by its cover, there is another world back there, hiding in this design for suburban Atlanta.
Side Table 31

Jacob Tucci
Philadelphia University

ABSTRACT

This piece is inspired by my previous investigation into the idea of “the despecialization of objects”. The despecialization of objects addresses the undervaluing of objects due to poor human-object relationships, which is caused by post-industrial overabundance and over-consumption. Despecialization is the process to revert an object’s function to a more generic state so that it no longer answers an ultra-specific need, but instead satisfies a broader spectrum of needs.

The purpose of despecializing an object is to embrace functional possibilities, freeing an object from the limitations of a specific task, chosen by the designer. Despecialization seeks to make objects more useful to people by disassociating a specific function from an object, thereby allowing the user to define the object’s use as they see fit. In order to make an interior object potentially more useful than a typical specialized object, despecialization involves suspending the intent of incorporating function criteria until later in the generative design process.

This approach has the potential to remove all familiar clues to its function and thus render the object without denotation and consequently without use. Therefore, the despecialization of objects must seek creating a well-balanced object that has versatility, instilled by a generic form, while still offering clues to its possible functions, familiar but not familiar.

Even though this small side table resembles familiar forms, it sill connotes its philosophical roots. The creative process was driven by four goals: allow for different experiences through different orientations; embrace the material connections; develop a product with flat-pack design efficiency and the aesthetic quality of hand-built; and use tone and color to enhance form.
The laminate and veneer edges are intentionally exposed. Screws are strategically placed and displayed. The interior surfaces are darker than the outer surfaces. The two splayed legs twist lock into the narrow slit and then secured with a single screw. The silhouette transforms as the piece is rotated. One angle projects a solid mass, a second an asymmetrical table and a third reveals thin delicate lines.
side table 31
process
production
measurements & assembly
Passage

Brad Whitney

Virginia Tech

ABSTRACT

This series arose from a discussion with interior design students on how to express a design concept through thumbnail sketches, in this case thumbnail sections. Fundamentally, these works explore the meaning of section as the measured architectural form of space that one passes through. More importantly, these works explore the concepts of passage as a progression from one state to another. It is my hope that these drawings will evoke a sense of wonder and curiosity.

Each image began as a rough sketch on graph paper, in pen, approximately 2”x3”. As each thumbnail was drawn, studio conversation focused on developing interior design concepts as well as illustrating principles of proportion and scale. It was imperative to the process to keep the flow between drawing and discussion as elastic as possible. At the end of studio, the thumbnails were scanned into the computer and a few weeks later, the scanned thumbnails were brought back into class to become the underlying structural form for demonstrating principles of color theory. Color was applied to the scanned thumbnails using Photoshop with harmonies and techniques considering the notions of passage.
A. Quincy Jones: Design for Better Living Exhibition

Annie Chu
Woodbury University

ABSTRACT

A. Quincy Jones: Building for Better Living exhibition offered an opportunity to explore design of the interior as a tool to engage the public and the exhibited architecture by creating an inviting bridge of unfolding spatial experiences at multiple scales with least material waste.

Architectural exhibitions cannot offer the direct space:time experience of built work. Orthographic drawings require drawing convention knowledge and 3-D visualization skills to fully appreciate their potency.

Jones pragmatically shaped the postwar landscape of Los Angeles through his collaboration across disciplines from decorators to manufacturers. His work was not cutting-edge, but his influence from tract housing to prestigious private commissions, workplaces and his academic affiliations using his office – popularly known as ‘the barn’ to promote architectural forums, left an enduring legacy.

The exhibition took on the challenge of engaging the public with interior architecture and presented Jones’ legacy with a coherent spatial narrative from the exterior entrance to the determination of matte boards seams for an artifact.

Bright wall graphics transitioned the experience from a sunlit atrium entry to a saturated-hued interior. The plan organization consisted of an existing foyer and a 3,500 sq. ft. room divided into four quadrants based on project types around a core. 80% of the partitions from the previous show were re-incorporated, and carpet-tiles from a previous show were reused for the third time. Each section was anchored by a photographic mural of a Jones’ project, the scale of
the mural transported the visitor to a nearer scale experience. The core paid homage to Jones’
office/forum- ‘the barn’ with a long table (for reuse outdoors) for the visitors to peruse
ephemera on ipads. This arrangement was anchored by a wall portrait and a timeline graphics
mapping his cross-disciplinary network. The portrait wall was reflected in an opposing mirror,
virtually enlarging the core to a size proportionally inviting for staying than moving through.

A strong systematic color scheme provided the chorus for the space plan. The selection began
with the observation of color matte board interaction with a range of flatwork. One color matte
was most effective to invite the eye to stay on the artifact. This color use established a
contemplative experience for visitors and a design of hue / tone shifts that mediated between
the experiences with the framed artifacts and the existing maple floor. The hues were applied
with the darkest for the perimeter and medium tone for the core. The limits of each color and
the hierarchical system of labels were coordinated with the color approach to maintain a sense
of focus the visitor can easily attain.

The finer design scale addressed fleeting moments of encounter when an errant detail can
disrupt contemplation. The dimension and placement of architectural elements were tuned to
achieve exacting alignment of real and reflected images as the visitor moved through spaces –
offering a cinematic unfolding of overlaid memories and allowing respite between the intense
mental engagement with artifacts and the sensual experience of moving through interior
architecture.
The A. Quincy Jones exhibit design strived to create a welcoming bridge for the contemporary public to the deliberate curation of Jones’ mid-century design artifacts through an unfolding spatial sequence of composed experience at multiple scales.
Composite - plans + sections + elevations + details + color scheme
Exterior signage

Process test - stenciled graphic on stucco
A. QUINCY JONES
BUILDING FOR BETTER LIVING

Entry foyer
Screeded graphic rug
William Haines seating used in A. Quincy Jones's houses
‘The Barn’ a collective space evoking A. Quincy Jones’s famed office hub
View from 'The Barn' into 'Working Places'
Memory/Space storyboard
Six Degrees of Separation

Jean Freeman
Marymount University

ABSTRACT

Six Degrees of Separation applies to people, geometry, angles of the sun and the inspiration for a residence. This residence was developed around an existing 1960’s house on a lot that backs to a protected park for a sustainable home. As the project designer of the architecture and interiors, from concept to completion the design and installation was a two-year process.

Many elements added to the design decisions: large pieces of art, furniture designed for the space, and other previously designed furnishings that had to be incorporated in the design of wall and display space.

There were many factors that made this project feasible to “build green.” One objective for the design was solar thermal, on a south-facing roof. In order to achieve this the new house was turned six degrees; the lot, which slanted off at an angle from the street reinforced the concept. This concept was carried through with the hallway in the exiting house, extending through the connecting bridge and on the north facing walls of the new building. The vertical and horizontal spaces reinforced the six degrees with slanted walls and ceilings for a dramatic effect. Another the significant concept was to retain and reuse a preponderance of the existing house that was located on the site for a garage, artist studio and guest bedrooms. Requirement for a garage gave rise to a separation of the existing home and the new.

Windows with views to the woods extended the sense of space. The large amounts of natural light flood the residence, especially in the main living and cooking areas, and studio space reduced the need for artificial lighting. Local sources for materials and supplies are another hallmark of the building, as well as water and energy management.
LEED Silver certification was obtained through the use other categories listed below. Donations of the cabinetry, appliances, fixtures, and lighting were made to Habitat for Humanity and Goodwill. The home achieved a HERS index of 49, which means it is 51% more energy efficient than a typical house. Applications for indoor air quality with whole house vacuuming systems brought added value. A high SRI rating with the white pervious paving system, white roof membrane, light gray metal roof and light color exterior surfacing was another component of the certification process.

Sustainable design was the major part of the ingredients for this home. The result was an understanding of the accumulative impact of products, materials and methods of construction to build something that respects the environment. On the human comfort side the flood of natural light with the thermal radiant flooring make it comfortable all year long.
Reserved But Not Quiet: 
A Considerate Intervention

Tamie Glass & Ulrich Dangel
University of Texas at Austin

ABSTRACT

Context
Motivated by frugality and sustainability, the owners of this 1979 architect-designed residence have made the most of their resources to renew the home’s dramatic yet understated interior, which is virtually unnoticed from the street. Being introverts, it was this sense of discretion that initially attracted them to the structure. Perched on a steep site, the simple forms of the house are set back, reserved from passersby with only the garage and a footbridge visible through the surrounding greenery. Once inside, the stacked, two-story arrangement of spaces reveal themselves and then dissolve through generous amounts of glass toward unsuspecting, panoramic hillside views.

Approach
The already open plan of the main living floor was pushed to the extreme by the designers. An existing half wall extending the width of the house was removed and replaced by a new insertion of millwork, creating stronger physical and social connections. Low ceiling heights (7-9') were mitigated with drastic measures such as lowering floors but also through the illusion created by vertical floor-to-ceiling elements. The contrasting closed-room plan of the lower floor, housing bedrooms, was opened up at its core to create a communal area at the base of the stairs, bringing light into the previously compressed area. Strategic interventions on each floor pay particular attention to functionality, as well as the flow of people throughout the house when in either public or private modes. Spatial tuning and layout adjustments are further influenced by the addition of sliding glass doors on both levels that refine and add access points to exterior decks. Chalk white walls and whitewashed original pine features are punctuated by black-painted volumes and planes, creating a neutral yet graphically bold backdrop. Ubiquitous slat wall also
helps define zones using texture. Many of the designers’ efforts were aimed at reconciling and augmenting renovations by previous owners, with a deliberate return to the modern spirit of the original.

Sustainable Strategies
The compact volume is heated and cooled efficiently by a new hybrid heat pump system. Single-pane south-facing glazing was replaced with double-glazed sliding doors to capitalize on cross-ventilation. Increasing reflectivity, walls were painted with no-VOC paint and the existing long leaf pine flooring and beams were finished with a no-VOC oil. Energy-efficient LED lighting is used throughout, while regional limestone and pine from a sustainably managed forest contribute to a neutral palette. Salvageable cabinetry, tile, and fixtures were donated to friends or Habitat Restore, while construction debris was sorted and recycled where possible by a local waste management company. Thinking about future generations drove many design decisions. Anything attached had to be considerate to ensure longevity. Accents come from furnishings and art, which are easily changeable. Not interested in buying new and wanting to support the local economy, the designers furnished the house almost entirely with used and vintage furniture along with local art, mostly sourced via Craigslist.

The submitting IDEC member was jointly responsible with the co-author for the design, documentation, and administration phases of the renovation.
RESERVED BUT NOT QUIET: A Considerate Intervention

1. Balcony with spiral stair
2. View of footbridge from street
3. Rendering of existing condition
4. Exterior focal point - Japanese maple
5. View from below
1 Existing windows in living room
2 Preparation for full-height glass doors
3 Open plan living
4 Panoramic view from living room
1. Open plan living and kitchen
2. Living room - existing condition
3. New full-height corner glazing
1  Half wall - existing condition
2  Concept sketch
3  Kitchen - existing condition
4  Kitchen with breakfast area
1 Kitchen with breakfast area
2 Breakfast area - existing condition
3 Kitchen
4 Flow diagram - prep/cook/eat/clean
5 Flow diagram - prep/cook/entertain
1 Dining room
2 Dining room - existing condition
3 Media room and stair - under construction
4 View into media room
1. Staircase and new communal area
2. Staircase - existing condition
3. Staircase and former closet - under construction
4. Master bedroom - under construction
5. Master bedroom and new dressing area
Inform + Function

Angela Mckillip, Jeff Hazard & Stacey McMahan
South Dakota State University

ABSTRACT

Sioux Falls Design Center: Inform + Function

The Sioux Falls Design Center is a small space in Downtown Sioux Falls that hosts exhibits, lectures, receptions and other activities aimed to inform the community about the function of design in creating an enhanced quality of life. The Sioux Falls Design Center also endeavors to bring together and activate the various design disciplines within the community – architects, interior designers, landscape architects, graphic designers and artists to work together to create and innovate.

The SFDC functions as a gallery, lecture space, brainstorm incubator, reception space, classroom and meeting room with video conferencing capabilities. The design consists of an open rectangle shell, flanked by a diagonal wall of rolling panels to define the toilet, kitchen, office and storage spaces along one side; while a custom casework element along the other functions as reception, display and additional seating. By shifting these parts within the original form, the designers hope to emulate a similar mental shift occurring within those visiting and utilizing the space.

The key elements added to the raw space are intended to be flexible and writable. The diagonal wall is surfaced with reclaimed slate chalkboards. The presentation wall is both a projection screen and white board, the ceiling cloud is comprised of canvas panels that can be taken down and drawn or painted on, then displayed or replaced with new ones. Furniture is flexible and stackable to work in lounge, lecture, classroom, bar and meeting configurations.
The center is expected to be South Dakota’s first LEED Platinum CI project. Located downtown near restaurants, businesses and the bus terminal, the Center incorporates numerous green strategies including energy efficient systems, water efficient fixtures and reused and recycled materials such as the slate chalkboards. Lighting is exclusively LED and adjustable to meet the needs of the Center’s many users. The wall and custom casework finish is painted 90% recycled fiberboard. More than 90% of the interior and all of the exterior shell of the existing space was left intact.

Consider design. We do.
sioux falls design center
SOUTH DAKOTA
The Sioux Falls Design Center is a small space in Downtown Sioux Falls that hosts exhibits, lectures, receptions and other activities designed to inform the community about the function of design in creating a great quality of life. The Sioux Falls Design Center also endeavors to bring together the various design disciplines in the community – architects, interior designers, landscape architects, graphic designers and artists to work together to create and innovate.
The Sioux Falls Design Center is designed to function as a gallery, lecture space, brainstorm incubator, reception space, classroom and meeting room with videoconferencing capability.

The SFDC is essentially an open rectangle with a diagonal wall of rolling doors to define toilet, kitchen, office and storage spaces.

The key elements added to the raw space are intended to be flexible and writable. The diagonal wall is surfaced with reclaimed slate chalkboards. The presentation wall is both a projection screen and white board, the ceiling cloud is compromised of canvas panels that can be taken down and drawn or painted on, then displayed or replaced with new ones.

Furniture is flexible and stackable to work in lounge, lecture, classroom, bar and meeting configurations.
The Center is expected to be South Dakota’s first LEED Platinum project. Located downtown near restaurants, businesses and the bus terminal, the Center incorporates numerous green strategies. Lighting is exclusively LED and adjustable to meet needs of the Center’s many uses. The wall finish is painted 90% recycled fiberboard. More than 90% of the interior and all of the exterior shell was left intact.
The LOFTS: Transformation of an iconic industrial plant into a chic urban dwelling

Lyndsey Miller
Mississippi State University

ABSTRACT

Opening his famous essay “On Restoration”, Eugene Emmanuel Viollet-le-Duc wrote. “The term restoration and the thing itself are both modern. To restore a building is not to preserve it, to repair, or rebuild it; it is to reinstate it in a condition of completeness which could never have existed at any given time.”

Running counter to the tenets of contemporary historic preservation—which often seeks to freeze buildings in time, returning them to some past condition—Viollet-le-Duc argued that the best way to preserve a building is to “restore” it in such a way that it stays vibrant.

In 2008, a former Borden Condensed Milk Plant was purchased by a developer with the vision of creating a hub for downtown activity at a major intersection through this college town. Thus began the renewal of what is now Central Station. Originally built in 1926, the Borden Plant was the cornerstone of the city’s commerce. Its opening brought local celebration and prosperity for the rural communities nearby. In 1998, Eagle Family Foods was formed and became the umbrella for all future productions. Shortly after this shift, the plant saw a decline in production capabilities and quickly began its descent. Fifty years of this thriving industry was impacted by modern outsourcing forcing the plant to close in 2005. While a portion of the building was used for climate-controlled storage, more than half of the building remained untouched, leading to rapid deterioration and vandalism.

The aforementioned developer recognized potential in this unique building and assembled an integrated design team that played an integral role in the build-out of each of the multi-use
tenant spaces, including a restaurant, two retail outlets, an incubator office environment, and the LOFTS luxury condominiums. The developer established the basic aesthetic framework for all of the build-outs—traditional exterior modifications paired with modern interior spaces. All the while, he requested that the team carefully consider the existing, distinctive features in order to promote the integrity of the building’s authentic character.

The LOFTS Condominiums, located on the second level and accessed by way of the updated freight elevator, are a series of 6 condominium units within the expansive creamery room. The client’s target market for these condos is alumni and young professionals. There has recently been a surge of interest in “game day” homes and these condos were developed to satisfy this growing real estate sector. For the LOFTS, the interior designer chose to highlight inceptive strengths of the space: handsome proportions, robust materials, and the character of age, while introducing modern features concurrent with metropolitan living.

The recent renovation has brought the building back to life. It has rehabilitated an area of town that experienced deterioration and scarcity. The development initiated further growth in the four adjacent corners at a main intersection through the town. The celebration, success, and economic progress that the initial opening of the plant facilitated have been reinstated. The goal, following Viollet-le-Duc, was “restoring” the LOFTS and its counterparts to its highest and best use.
MAIN IMAGE: The building in its current state

TOP LEFT IMAGE: The building at the time of purchase

TOP RIGHT IMAGE: The second level exterior post renovation; this is the area where the LOFTS are located.
MAIN IMAGE: The creaming room prior to renovations

RIGHT IMAGES: alternate views of existing conditions
The plans represent the full building in which the Lofts condominiums are located. They depict the spatial divisions prior to renovations.
The plan above represents the main living space of the six condominium units. Challenges in the plan development included: a variety of floor transitions within the creamery room. There were not only 8 changes in elevation but also large openings to the floor below. The existing structural columns quickly dictated division of space. The existing height of the space traveled to a series of clerestory windows. This expanse proved to be a conditioning challenge.
The original creaming space was connected to a rear addition with the access location eight feet above finished floor. This added space would become the 3rd bedroom for 4 of the units.
LEFT IMAGE: Main living space of a single condominium unit; original brick was stripped of layers of paint, revealing the natural brick texture and color; infill brick is also featured around the new windows.

RIGHT IMAGE: Main living space of a single condominium unit, highlighting the sitting space and island.
Temporary Atmospheres: Installations for the Experience of Sound and Light

Clay Odom, Sean O’Neill, Adam Owens & Nick Hennies
University of Texas at Austin

ABSTRACT

In “Diagrams Matter” Stan Allen says that “The Practice of architecture today is measured by its performative effects as much as by its durable presence. It must negotiate a field in which the actual and the virtual assume ever more complex configurations...” this is even more pertinent in temporary, arts-based projects where the negotiation of experience and affect through material intervention is the primary generator of performance. This trio of installations (tesseract1, tesseract3, and CLOTS) is exhibited as a strategic, iteratively created set of working modalities leveraged within the context of scenographic experiences of music/sound performance. Being temporary installations, they were designed to maximize effects using minimal means of time, money and material. Being completed in series, they also exhibit evolution of approach, facility, and attitude. Notions of tolerance are primary considerations in the projects because they are installed within existing spaces that have been repurposed to become gallery venues. Operationally focused logics of production are appropriated to become analog, site specific tactics for actualization facilitating deployment with an appropriate looseness of fit that only come through active engagement with indiosyncracies and abnormalities of actual conditions with which the projects co-exist and from which they emerge.

The three projects were developed around gallery experiences addressing issues surrounding confluences of time, space, light, sound, surfaces and human pereception. The projects are experiential by design and their realization as effects based solutions facilitates spatial modulation and resonance with performances of music or activation of digitally created sound environments. Space and atmospheres are driven by collaboration between form and surface that both reflect and transmit light while also creating moments and passages for people to
move through or pause within experientially. In Tesseract3 for example, this collaboration is extended. Sound is driven by sensors that pick up the evolving lighting effects and translate this visual condition into a real-time sonic register of visual effect. In Clots, this resonance is created through real-time performance of original composition facilitated by the installation.

The development of material effects is expanded further by mixing material qualities with simple parasitic techniques developed to allow for projects to be installed and tailored based on existing spaces. Design becomes a process of outlining the list of desired effects, strategic selecting a set of material qualities and materials that express those qualities, and actualizing through tactical, agile installation. The process moves from strategic vision toward realization through tactical, on-site installations that allow for the maximum amount of flexibility while also limiting the amount of either pre or post fabrication of materials. Additional material qualities such as standard size and length play into the developments of strategies and tactics in ways to minimize the amount of pre-fabrication or site-fit tailoring required. In this mode of working, Attachment, drape and emergent qualities of assemblage are effective by-products that serve to enhance inherent qualities of material. Finally as Gregg Lynn states in ‘Animate Form’, “form is therefore shaped by collaboration between the envelope and the active context in which it is situated”.


TEMPORARY ATMOSPHERES: CLOTS

diagrammatic sketch of preliminary installation strategy relating existing conditions with new installation through the introduction of light-weight surfaces

rendering of preliminary surface driven atmospheric and spatial concept

clots: interior 01
graphic design of program extended the reach of the designed experience
photographs showing relationship between existing warehouse and the surfaces and modes of connection used to create the serial experience and atmospheres. Surfaces are simultaneously spatial connectors, projection surfaces and directional devices.
TESSERACT

The tesseract is sound and visual installation designed to create a heightened sense of spatial place and time by creating variable field of sound and reflection. The disorienting and reorienting nature of the tesseract creates ripples, folds and waves in perceived space through its oscillating and reciprocal visual and aural qualities. The project will consist of field of reflective, light-weight mylar spheres spaced at 1’-2’ intervals and suspended from the ceiling by thin, flexible line at incremental levels and backlit to create an inverse topography of the room. The space will enacted further by the movement of air and people that will provide a level of reciprocity between the visual and spatial. The field condition created by the base grid of spheres will move toward and away from figuration through interaction. The creation of a live sound track that will mix ambient room noise into a musical wave field that buttress the impact and variable reading of the field.

concept diagrams

reference: wave forms and movement

reference: reflective surfaces and space

above left: concept brief provided to New Media Art and Sound Summit (NMASS) organizers
above right: visitor pulling actuator to send ripples of movement across field
above left: the material module
above right: the lighting and spatial effect produced through installation.
the modules are suspended from the existing lighting grid using simple fishing line that allowed for lightness, motion and strength.
above left: lighting effects produced
above center: lighting effects produced
above right: spatial and lighting effects and the interaction with an impromptu performance by artists
above left: conceptual rendering showing chladani pattern projected onto draping surface with reflective qualities.

above right: paper model studying strip morphologies analogous to sheet widths of reflective mylar
above left: form and surface working sympathetically. mylar sheets installed showing form derived by parabolic draping and reflective quality of the surface prior to projection of light or image.
above left: form and surface of installation prior to engagement of light
above right: chladani pattern projected onto mylar surfaces responds to
create emerging patterns which respond to the movement of the surfaces
that are controlled by computer triggered fans above the installation
lower left: the computer/resonator/matrix set up. speaker vibration of liquid
picked up by document camera and projected
lower right: effects generation from reflection and projection
above left: project engagement was continuous and changing. in addition to sound and pattern, all ambient lighting was generated by the project.

above right: pattern reflected from surface above onto existing wall below
Seats of Learning: 
A Library of Chairs

Rosa Otero
Salem College

ABSTRACT

One area of design study that is not readily accessible to students is that of 20th-century furniture icons. The establishment of a teaching collection of chairs will provide students with a way to access these pieces, learn from their histories, and be inspired toward future design and refinement. The chairs chosen for this collection have stood the test of time or seem poised to do so. A few of these chairs have sold in the millions, and some have remained in continuous production since they were first designed and marketed. Today, all of these chairs are still in production. These chairs reflect the energy and creativity of one of the most inventive and exciting periods in furniture history. Forty-five chairs that are considered icons by furniture historians compose the core of this collection. Each chair is unique because of its design, use of materials and technology, innovation, or creativity.

The goal of this project is to create a space to house this teaching chair collection.

The space is composed of two adjacent rooms that have been redesigned and refinished as an exhibition space. Like the chairs, this space is unique, innovative, and creative. The main design elements of this project are custom-made shelving units with integrated lighting in one room and a cantilevered casework in the other. These are complemented by a sophisticated lighting system and reflective surfaces. Dark, horizontal surfaces on the floor and ceiling allow the vertical surfaces (the walls) to continuously flow throughout the entire project, and accents of red and purple have been added to encourage viewers to pause and reflect on the pieces. A large composition on one of the walls displays the names of the designers represented in the collection. This graphic element strongly supports the educational intention of the project. Additional smaller graphics have been placed in the adjacent room. The rooms are physically
connected by an opening through which users can transition from one room to the other as desired. Additionally, the rooms are visually connected by a glass and metal bridge-like element that seems to penetrate the wall. In one room, this element provides a transparent surface for showcasing several pieces, and in the other, it creates a small niche in which a small folding chair is displayed. Only a few pieces have a permanent space within the collection, and users are encouraged to reposition the others as they prefer.

This chair library is unique in that no other college or university in the country has assembled a comparable collection of chairs that students can study and use for inspiration. The space promotes life-long learning and it is visited and enjoyed by users of all ages and backgrounds.
seats of learning:
a library of chairs
floor plan
finishes

floor

ceilings

walls

casework
klismos
noun \kliz-mas, -mos\-es
Gk. fr. klinein to lean, recline.
Often illustrated on Greek pottery, the timeless klismos chair was perfected by the 5th century BC.

graphics
Café FRAME

Jinbae Park
Fashion Institute of Technology

ABSTRACT

“We are framers; we frame our spaces, our ideas, and our activities calendars. Perhaps in doing so we tend to pay more attention to what we are framing than the frames we are using. Café FRAME wants to be a space that invites your ideas and activity: the lovely frame that contains those things that relax, inspire, and delight you. At the same time Café FRAME nourishes your aesthetic palate as well as your gastronomic sensibilities.”

The main concept of this café can be described as ‘frame.’ The design of the space realizes the energizing effects of framing out a part of your day to nourish yourself both mentally and physically. The open counters and relaxed atmosphere triggers interaction and conversation, feeding both the mind and the body. A clear approach to the layout is achieved by framing each zone, be it the espresso bar, sandwich station, or the salad counter, for maximum ease and efficiency.

Several things were done to the space in order for these concepts to work in unity with each other. The straight-forward materials and planning reflect the simple quality of the food served, creating an over-all aesthetic that is clean, comfortable and accommodating. The use of textural wall treatments, restored antique furniture, and the lavender color used for detailing all enhance the space for a more natural setting.

Clean white tile and sleek stainless steel are framed by the warmth of natural pine planking. On its black and white background, the signature color of bright lavender is the perfect accent, reminding customers of the clarity and freshness of the ingredients they are consuming. The use of color is one way to define a connection of the physical aspects of the world today with the non-physical. The feminine, elegant graphics add a lighthearted touch to the whole experience.
Verazzano

Jinbae Park
Fashion Institute of Technology

ABSTRACT

The design is inspired by the chic pied-a'-terre, which translates from French literally into “foot on the ground”, or more commonly, to “have a foothold”; refers to the jet-set lifestyle that inspires the traveler to obtain a pied-a'-terre within the city. The concept of the pied-a'-terre and the elements of travel led to the development of interior spaces that convey an atmosphere of modern elegance and glamour. A second interpretation of the foothold refers to the soil that the restaurant is rooted in and the element of the vineyard. The client is the foremost wine connoisseur who possesses unparalleled knowledge of wine and the winery processes. We view the heart of the wine process at the inception of its creation: on the vine. The traveler and the wine are both rooted in a “soil” at some point in their travel from destination: the traveler steps into the pied-a'-terre if only to get a sense of grounding before returning to the travel lifestyle just as the wine is rooted in the vine that it sprouted from and it is then bottled and dispersed around the globe.

To define the spatial layout of the rooms and main dining spaces the sub-concept of an urban chateau is employed. Similar to the pied-a'-terre the urban chateau creates an experience of the home, yet still within the culture and city fabric. Each space is designed to evoke a unique atmosphere that one could find within the urban home as well as within spaces that become temporary homes when one is traveling. Verrazzano offers a lunch experience that is smart and casual and at the same time presents a dinner experience that is elegant and formal.

There are seven main spaces that define the Verrazzano dining experience:
1. Garden: creates a serene dining atmosphere; views are created from Boudoir to the garden connecting the diner with both the interior space and the natural exterior environment
2. Boudoir: main dining space that combines minimal architecture and opulent accents such as an emerald sofa, classic chandeliers, vintage modern chairs
3. Blue Train Room: evokes a traditional English club car and creates ambience with luxury travel
4. The Salon: interweaves tactile materials and finishes suggesting a modernized Viennese tea salon with feminine elegance
5. Rubino Room: creates an interplay between the traditional and the exotic with vibrant red hues and silver metallic Art Deco touches
6. The Peacock Room: inspired by the peacock, the space uses rich color and materials to evoke the royalty, beauty and elegance that is associated with the peacock
7. The Library: harks upon the intellect and refinement associated with the library creating an enlightened space that humorously combines the familiar with the new.
WHITE GLASS CHANDELIER

SAARINEN SIDE TABLES

BLACK // WHITE HEXAGON TILE

LOUIS GHOST CHAIR

BOUDOIR
THE SPACE HARKS TOWARD THE TRADITIONAL WITH THE USE OF CROWN MOLDING AND TILE WORK CREATING A DADO LINE AROUND THE ENTIRE ROOM. HOWEVER, THE SPACE EXUDES AN ELEMENT OF THE EXOTIC WITH AN IVORY CORAL CHANDELIER AND ZEBRA RUG. THE TABLE IS CONTEMPORARY BUT EMBRACED BY VINTAGE CHAIRS THAT HAVE BEEN PAINTED WHITE. THE RUBINO COLOR CREATES A VIBRANT QUALITY THAT HEIGHTENS THE DINING EXPERIENCE IN THIS UNCONVENTIONALLY GLAMOUROUS SPACE.
PANELS
Action Plan: Grad Education & the MID

Buie Harwood & John Weigand
Virginia Commonwealth University, Miami University of Ohio

ABSTRACT

Question/Proposal:
To better clarify and define the nomenclature of master’s degrees in Interior Design.

Justification:
To address the confusion surrounding different graduate education degree names, time-to-degree, curricular focus (research, practice), accreditation status, and admission requirements for educators, prospective students, hiring entities, the legal registration arena, and the public.

Background:
Graduate education in interior design is a "hot" issue. It has been addressed over the last 10 years through various articles in the Journal of Interior Design (such as Guerin & Thompson, 2004; Guerin, 2007), IDEC’s Position Paper on Graduate Education (Weigand & Harwood, 2007), panel presentations at IDEC annual conferences (Edwards, 2011; Harwood, 2013), and in book chapters (Martin & Guerin, 2010, The State of the Interior Design Profession). The panel presentation at the IDEC annual conference 2013 on “The Future of Interior Design Education: The MID?” identified the need to continue the dialogue at the IDEC annual conference 2014 due to the various viewpoints presented by the panelists and the audience.

Rationale:
It was obvious in 2013 that people’s perceptions of "what could be" are different. There is a need for more clarity on the subject and for an Action Plan to move forward. This panel presentation addresses this topic and the need.
Framework of Exploration:
The presentation provides a short history of publications and presentations on the topic over
the last 10 years, definitions of post-professional and first-professional graduate degrees in
interior design, and issues related to the differences in masters degrees, and shows the existing
and diverse educational process in interior design. The main body of the presentation will
address issues related to existing and proposed nomenclature for masters' degrees, justification
for the suggested changes, and action plans for implementation. These include changes to the
existing post-professional MA and MS degrees with a proposal for a Master's of Arts-Interior
Design (MA-ID) degree and a Master’s of Science-Interior Design (MS-ID) degree and a
proposal for a single, recognized professional Master's in Interior Design (MID) degree. The
potential impact and results of these changes will be explained, along with the number of
programs that will be affected. Information about PhD degrees will identify the appropriate
achievement level, the number of existing PhDs, and a recommendation for no change. The
final Action Plan, with points related to master’s degrees in interior design that are the core
ideas from the IDEC Position Paper 2007, will be presented to the IDEC membership for
endorsement with a justification for doing so. The power-point presentation (with references)
can be posted on the IDEC website after the conference for further study, comment, and
subsequent action.

Panelists:
The panelists will address their perspectives on these graduate education issues based on their
personal knowledge, experiences, and particular program activities, and comment on ideas for
degree implementation.

Conclusions:
It is anticipated that this panel presentation will help move IDEC forward in a positive way to
address the many nuances of graduate education in interior design and to offer potential
pathways for implementation in various interior design programs.

REFERENCES (APA)
educational transformation, *Journal of Interior Design*, 30(1) 1-12.


Abstract Title: ACTION PLAN: GRAD EDUCATION & THE MID

Appendix:
The information below is taken from the proposed power-point presentation. Information in parenthesis indicates the number of existing programs with that particular degree, per the latest IDEC graduate education update 2013.

1) Definitions • Masters Degrees in Interior Design

Post-Professional Degree:
- Achieved typically after a CIDA accredited bachelor's degree experience in Interior Design.

First-Professional Degree:
- Achieved with a leveling component for those students whose first (undergraduate) degree is outside of Interior Design.

2) Issues • Masters Degrees in Interior Design

Current master’s degrees in ID differ greatly by:
- Degree name
- First- vs. post-professional status
- Accredited status
- Curriculum emphasis
- Time-to-degree
- Admission requirements

Students, practitioners, related professions, the public, and legislators often do not understand the nuances of these degrees and how they vary.

3) Existing • Post-Professional ID Master's Degrees

MA = Master of Arts (14)
MS = Master of Science (22)
MFA = Master of Fine Arts (20)

- Achieved after a bachelor's degree in ID or equivalent professional experience.
- Research focus, design studio (MFA); 4+1/4+2 concept.

4) Proposed • Post-Professional MA, MS, & MFA Degrees

Redefine existing post-professional master’s degrees to include the following characteristics:
- Provide stronger ID identity
- Require CIDA accredited bachelor’s degree or equivalent professional experience for entry
5) Proposed • MA-ID & MS-ID Degrees

MA-ID = Master of Arts - Interior Design (1)
MS-ID = Master of Science - Interior Design (0)

- Achieved after a CIDA accredited bachelor's degree in ID or equivalent professional experience for entry.
- Specialized research; 4+1 concept.

6) Justification • MA-ID & MS-ID Degrees

To reduce the confusion surrounding different master's degree names, time-to-degree, curricular focus (research, practice), accreditation status, and admission requirements.

The MA-ID or MS-ID would qualify the candidate for professional practice or college-level teaching if earned in conjunction with the CIDA-accredited professional undergraduate degree.

7) Action • MA-ID & MS-ID Degrees

At some designated point in the future, the profession will adopt the MA-ID and the MS-ID degrees and award them only at the post-professional master's degree level to reinforce professional identity in Interior Design. These degrees would not be CIDA accredited.

8) Proposed • Advanced-level ID Master's Degree

Create a new, advanced-level ID master's degree to include the following characteristics:
- Provides knowledge and expertise in ID practice.
- Contributes to scholarly practice research in field.
- Can offer interdisciplinary relationships.
- Can offer specialty emphasis in ID related areas.
- Puts ID on parity with the MArch in architecture.
- Qualifies graduates for practice or college-level teaching.

9) Proposed MID • Master's of Interior Design

MID = Master's of Interior Design (5?)

- Achieved as a professional experience at an accepted advanced master's degree level to reinforce professional identity in Interior Design.

Post-Professional MID Degree:
- Achieved typically after a CIDA accredited bachelor's degree in ID.
First-Professional MID Degree:
- Achieved with a leveling component for those students whose first (undergraduate) degree is outside of ID, including those who have practice experience.

10) Proposed MID • Requirements

- 60-90 sem.cr.hrs. = integrated design studio + evidence-based (research) emphasis
- 4 yrs. ID undergrad degree + 2 yrs. ID grad degree
- 5 yrs. ID undergrad degree + 1 yr. ID grad degree
- Terminal degree for teaching and professional practice
- CIDA accredited

11) Justification • Master's of Interior Design

Reduces the confusion surrounding different master’s degree names.

Enhances ID identity and clarity at the graduate level in the Interior Design profession, with architecture, related professions, the public, and in the legal registration arena.

It supports a stronger Interior Design profession.

12) Action • MID Degree

At some designated point in the future, the profession will adopt the MID as the single, recognized, professional master’s degree and award it only at an accepted advanced level to reinforce professional identity in Interior Design. It will be the only CIDA accredited masters degree in Interior Design, and therefore will be recognized as a terminal professional masters degree in the field.

Note: This concept parallels what happens in the professions of Architecture, Law, Medicine, Engineering, and Landscape Architecture.

13) Potential Impact of the new MID • First-Professional ID Master’s Degrees

MA = Master of Arts (6)
MA-ID = Master of Arts - Interior Design (1)
MS = Master of Science (4)
MFA = Master of Fine Arts (2)
MID = Masters of Interior Design (5; typically 30 sem.cr.hrs.)

- Achieved with a leveling component for students whose first (undergraduate) degree is outside of ID.
- Some research + design studio; most are 4+1 concept.
- CIDA currently accredits these degrees.
14) *Potential Impact of the new MID* • Post-Professional ID Master’s Degrees

MFA = Master of Fine Arts (20)
- Achieved *after* a bachelor’s degree in ID or equivalent professional experience.
- Research focus, design studio (MFA); 4+1/4+2 concept

15) *Action Plan* • For IDEC Membership

*Endorse the MA-ID and MS-ID as post-professional master’s degrees.*

*Endorse the MID as the single, recognized, professional master’s degree and award it only at an accepted advanced level.*

*Endorse the development of a mutually accepted educational model for the MID degree.*

*Endorse the MID degree as the only CIDA accredited degree in Interior Design, eventually.*
Connecting Dots: Collaborative Research and Sustaining Integrated Programs with Industry and the Academy

Hank Hildebrandt, Chris Auffr, Steve Doehle & Craig Vo
University of Cincinnati

ABSTRACT

Design Intelligence (2011) featured the international firm HKS launching the Center for Advanced Design Research & Evaluation to support the firm’s practice. This formal commitment by a well-established A&E firm represented a new direction for the design industry as part of a transition from service provider to knowledge-based information provider. This allowed HKS to provide formal, knowledge-based research services (Pati, 2011). Also in 2011, Gehry Technologies, a research derivative of Frank Gehry Partners LLP, announced a strategic alliance to develop new technologies in design and construction with software developer Autodesk Inc. These examples illustrate a shift toward developing collaborative research partnerships for knowledge production and a wider commitment beyond building systems research toward social / cultural research topics. This underscores how ID research needs have evolved and the opportunities for academic institutions to collaborate with design firms in R&D partnerships.

The practice of interior design has become more complex requiring that new areas of knowledge and expertise must be made part of graduate interior education. Previous discussions of specializing graduate interior design education focused on tailoring curriculum content to professional practice needs, as was covered in the themed panels at the 2007 IDEC conference (Weigand and Harwood, 2007; Dohr, 2007; Calibafin and Hildebrandt 2012), and the 2007 AIA / ACSA sponsored Cranbrook “Integrated Practice and the Twenty-first Century Curriculum” conference. The panel proposed here is intended to advancing that dialogue by extending the discussion to the potential for collaborative academic / professional practice research supported by continuous, sustainable revenue streams. Following recommendations by
Boyer and Mitgang (1997) in their landmark study on architecture education and practice where they assert that “educators and practitioners should establish a more unified profession based on a new, more productive partnerships between schools and the profession,” the proposed panel will address the need for ongoing practice-oriented research as part of interior design graduate education, and how supportive partnerships can be made part design education programs. In addition, the panel will discuss how collaborative research programs have been successfully employed by other disciplines.

The proposed panel will address the following questions:

- What are the vehicles used to construct successful research collaborations within the academic structure?
- Is there a need for graduate interior design education that is focused on practice-oriented research?
- What interior design research can be useful and feasible for academic/practice collaboration?
- What dialogue issues can be strengthened through graduate education?

The proposed panel includes professors teaching in graduate programs at a nationally ranked college with architecture, design and planning programs at a large Research One university. The panel consists of an associate dean of graduate programs and research, and three professors from architecture, design and planning who have extensive collaborative research experience. The panel’s discussion will focus on understanding the research needs of professional practice and opportunities for collaborative research in practice-oriented graduate programs. It is anticipated that a dialogue will develop about how graduate interior design programs can respond to opportunities for meeting professional practice research needs.

**REFERENCES (Chicago)**


Feast or Famine: A Report from the Trenches

Mitzi R. Perritt, Leisha M. Bridwell, Sally Ann Swearingen & Ray Darville
Stephen F. Austin State University

ABSTRACT

Many interior design programs are still experiencing declining enrollment. Is it due to bad publicity like writers for the Washington Post (Will, 2007) originated which refuted the need for interior design licensure? Is it due to an overall declining college enrollment of 2.3% compared to the Spring 2012 semester—which is particularly hard-felt among non-traditional students over the age of 25? Do enrollment patterns reflect some ethnic phenomenon? Statistics indicate that the enrollment of Hispanic students is continually rising while the enrollment of non-Hispanic whites fell in 2012 by one million (Lawrence, 2013). Is declining enrollment only a regional concern? Is it unique to certain states where the interior design licensing acts have been reduced to toothless title acts where the only difference in a professionally educated interior designer and someone with a knack for aesthetics is the word “registered” in front of the title “interior designer?” Are ever-expanding accreditation standards creating an oppressive interior design curriculum that stifles program interest? Is the economy regaining its footing so that non-traditional students are returning to employment without feeling the need to “return to school” as is often the norm during a recession? Whatever the cause, or causes, the pain is so great that some programs have closed their doors, and others are fearfully waiting in the wings.

On the other hand, experts predict a positive job outlook for interior designers. Much like other professions, employment of interior designers is expected to increase by 19 percent from 2010 to 2020; the average growth rate for all occupations is 14%. Savvy consumers will expect the interiors of their homes and offices to meet certain criteria, such as being constructed sustainably or being more easily accessible (Bureau of Labor Statistics, 2013). Some speculators predict that companies will elect to refurbish existing old buildings rather than undertake new construction, and thus, interior designers will be needed (Archinect Discussion Forum, 2013).
The Interior Design Billings Index, based on a survey of 300 firms, documented continued growth for the interior design profession through June 2013. Jack Kleinhenz, ASID economist, reported that “the economy expanded more than expected in the second quarter of 2012, and this momentum should carry forward, albeit at a soft pace, in the remainder of 2013” (ASID, 2013). Signs of job growth and rising housing prices suggest a continued slow but steady upswing for the interior design profession.

A panel of five design educators, one from each region, will explore the puzzling dichotomy of declining interior design program enrollment and predicted future growth of the profession at large. How can these conditions co-exist? What societal, economic, or other factors are negatively impacting program enrollment? Where does the situation leave program faculty whose course enrollments are dangerously low and program administrators and coordinators who are pressured to recruit, recruit…and retain? Findings from a review of literature and survey of IDEC regions will be discussed.

(479 words)

REFERENCES (APA)


Publish or Perish: The Interior Design Predicament

Susan Martin Meggs, Margaret Portillo, Jennifer D. Webb & Margaret Zusky
East Carolina University, University of Florida, University of Arkansas,
John Wiley & Sons

ABSTRACT

The issue of journal ranking for interior design was recently raised in an article for the Journal of Interior Design. This article posed a challenge for interior design academics. How do traditional journal ranking systems affect interior design educators who are seeking to publish? How do ranking systems affect programs and institutions? How does the ranking of journals affect promotion and tenure? What are interior design academic faculty and administrators, as well as relevant journals, prepared to do about it? It has been noted by other authors that this is an important issue because ranking systems are used to determine faculty promotion and tenure, prestige of an institution, and viability of an individual program. Yet standard measurements of journal quality, such as the impact factor, do not reflect the diversity of journals in which interior designers publish, nor do they address other complex issues such as the prestige of long-established journals, and the comparison of the scope of readership of highly visible journals to the relatively limited visibility of a specialized field such as interior design.

A commitment to strengthening the image of interior design as a serious academic discipline that can be validly measured on its’ own merits is essential. A step in this direction has already been taken by the Journal of Interior Design (JID). In the editorial accompanying the above referenced article, the history of publishing, and the JID’s commitment to sound research was described. A note from the publisher, Wiley Blackwell, affirmed the recent accomplishment of the JID to be listed in the Web of Science Arts and Humanities Citation Index. This represents a significant step in clarifying the role of interior design in academia. Furthermore, as the Editor-in-Chief asserts, “The Journal of Interior Design is the journal of record for interior
design”. Therefore, there needs to be an accepted standard of measurement that ranks this journal, and other journals in which interior designers publish, in accordance with their significance specifically to the field.

This panel presentation will present a dialogue to address these issues. The participants who have agreed to participate include an Editor and the Chair of the Editorial Board from a scholarly journal in the discipline; an Associate Publisher from a major publisher of academic journals, an interior design department chair, and an interior design faculty member. Representative questions that will be posed by the moderator:

1. What defines the journal ranking system?
2. What defines the journal of record in a discipline?
3. Are there advantages to ranked journals?
4. What are the barriers to the ranking of journals?
5. What does journal ranking mean for those seeking promotion and tenure?
6. What are the differences between an ISI listing, ISI ranking, and an unlisted/unranked journal?
7. How other factors can be presented as of evidence of publication?
8. How do open source journals rate and how will they be evaluated by administrators?
9. How are institutions currently evaluating the quality of an individual’s research?
10. With a global community and increased venues for publication, will peer reviewed papers retain value?
11. What options exist for individual authors and researchers?

REFERENCES (APA)


Avenues for Engaged Scholarship: Opportunities for Community Impact in Interior Design Pedagogy

Angela Boersma, Amanda Gale, Travis Hicks, Rebekah Ison Radtke & Stephanie Sickler
South Dakota State University, Auburn University, University of North Carolina at Greensboro, University of Kentucky, University of Alabama

ABSTRACT

Purpose
Service-learning is important to interior design education. However, faculty are pressured to do more with less. Students are also under increasing pressure from rising tuition costs, expanding employer expectations, and stiff competition for jobs. With these increased demands, why would interior design programs engage in service-learning and community engagement, which require additional time, effort, energy, and resources? Applying service-learning pedagogy to a curriculum can provide students with a deeper understanding of end users and community needs while strengthening the program's relevance within the community. The purpose of this panel is to share strategies and discuss tactics used by faculty who successfully include service-learning and community engagement in their teaching and scholarship, despite conflicting pressures.

Significance
Existing literature has linked service-learning to increased higher level thinking, enhanced communication skills (Ehlrich, 2007), expanding cultural awareness (Angotti, Dobie, & Horrigan, 2011), and furthering the university mission through community engagement (Zollinger et al., 2009). Leveraging these positive benefits attributed to service-learning pedagogy and community-engaged scholarship, the panelists and their students are effective change agents for their universities and communities.
Furthermore, the Council for Interior Design Accreditation has outlined pressing issues such as globalization, diversity, and sustainability as critical components in Interior Design education (CIDA, 2013). The panelists discuss how these learning outcomes are strengthened through community partnerships, and how transformational learning occurs for students.

Panel
The educators on this panel, representing four CIDA-accredited programs throughout the Midwest and South regions, will share their experiences integrating service-learning and community-engaged projects into their teaching and scholarship. Each panel member provides a unique perspective based upon his or her experience(s) teaching studios, lectures, and study abroad courses. Projects range from local to international and varied in length from day-long to multi-year projects. Questions to be discussed include:

- What are the challenges of engaged scholarship?
- How do you promote interdisciplinary involvement?
- What support was received from administration?
- How did this fulfill CIDA standards?
- What was the community’s involvement?

Examples
One panelist shares a long-term community-engaged project in which design students take on the responsibility of re-designing houses in a neighborhood adjacent to the campus. This project has resulted in the interior design program’s creation of a community design center focused on sustainable community design.

Another panelist shares an international service-learning project that creates opportunities for students to engage community members in the design process to develop interventions for a small rural village. These experiences have demonstrated student understanding of the impacts of collaborative practice in varying cultural contexts.

Yet another panelist shares two interdisciplinary service-learning projects focused on the subject of sustainable design. One is a small scale local project incorporated into a lecture course. Another is a study abroad course where students are immersed in the culture for four weeks.
The final panelist shares two community projects focused on issues of diversity. The first is a studio project focused on the redesign of local Habitat for Humanity homes to meet universal design needs. The second focuses on immersive cultural experiences for students as they work to identify and explore design needs for reservation communities.

REFERENCES (APA)


Figure 1: Students survey low cost housing in community where the interior design program's community design center will be located.
Figure 2: Image Courtesy of Glint Studios; Students creating classroom interventions for local village school.

Figure 3: Image Courtesy of Glint Studios; Students collaborating with preschoolers from local village
Figures 4-8: Students work on a community-based "deconstruction" project.
Figures 9-10: Students discuss contemporary issues with tribal and community leaders.
Figure 11: Students meet with a local designer who describes ordering principles of traditional Native American architecture.

Figure 12: Students meet with one of several community members who describe living conditions on the reservation.
“Flipping” the Classroom: A Popular Pedagogy for Improving Lecture-Style Courses

Stephanie A. Clemons
Colorado State University

ABSTRACT

Problem
Design students today struggle to stay engaged in lecture-style courses. This is not unusual. A National Training Laboratories study (2005) indicates that less than five percent of information delivered through lecture format is retained. The purpose of this presentation is to discuss benefits, challenges, and strategies for “flipping” lecture courses to encourage student knowledge retention, enhance learning, and boost critical thinking skills.

Teaching Strategy/Significance
Simply put, the “flipped” classroom model is demonstrated when “classwork” and “homework” is reversed (Saban, 2013; Bergman & Sams, 2011). Rather than passively attending a lecture and completing homework after, students arrive having viewed lectures online to engage with in-class learning exercises. Teachers can assess differentiation of student learning on-the-spot; students have more “facetime” with teacher.

Gaining popularity in STEM disciplines, “flipping” a class is showing promising results. Studies indicate that students demonstrate twice the rate of learning in “flipped” versus traditional lectures (Berrett, 2012). More frequent student-faculty interaction – a component of the “flipped” classroom -- increases student satisfaction and motivation to learn (Chickering & Gamson, 1987). Misbehaviors are diminished as students become increasingly self-directed, and in control of their learning. Frustration decreases as opportunities for the immediacy of answers increase.
Interior design students should be comfortable with the process of collaborative learning of a “flipped” class. Studio environments have prepared them. However, studios often enroll 16 to 24 students; a flipped classroom can handle 100+ students. That equates to efficiencies and revenue generation; important factors for universities.

Converging trends make “flipping” classrooms easier. Technological innovations allow distribution of electronic lectures at low or no cost. Wireless, needed for some exercises, allows students web access without a computer lab. Currently, many campuses are undergoing renovations offering opportunities to rethink the design of the physical classroom.

To maximize success “flipped” classrooms need four components: a professor willing to modify pedagogies, a flat classroom floor rather than theatre seating, flexible technology, and moveable furniture. However, benefits and challenges exist for both teachers and students when “flipping” a lecture class. See Table 1-2.

Panel
The panel will be comprised of three design educators of diverse years of experience, from different institutions, with experience teaching various topics in lecture formats of differing sizes. The presentation will discuss a “flipped” case study: junior level, mid-size lecture course. Additionally, dominant and diverse viewpoints will be offered regarding four issues:

- Strategies for “flipping” design-related lecture courses
- Faculty concerns when shifting to a “flipped” classroom model
- Strategies that encourage student interaction and critical thinking in “flipped” setting
- Challenges and benefits for students, faculty and administration

An educator-moderator will lead discussions to stimulate engagement with the audience.

Outcome + Summary
Design faculty offering lecture courses have historically struggled with enhanced student engagement and learning. Preliminary research studies indicate strong trends that “flipping” a class can improve student success. To administrators, “flipping” the classroom is a viable answer for increasing student retention when enrollment numbers are dropping. To design educators it just makes sense; experiential learning always trumps lecture delivery systems.
REFERENCES (APA)


Table 1. Benefits for teacher and students when “flipping” lecture course.

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Teacher can clearly and more quickly perceive differentiation of student learning (e.g. who is struggling and where the struggle is with course content)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teacher can discern how much time and energy the student devotes to the learning process. Teacher is more aware of how motivated the student is toward learning</td>
</tr>
<tr>
<td></td>
<td>Easy to take “pulse” of student learning during class time.</td>
</tr>
<tr>
<td></td>
<td>Teacher can clarify student misunderstandings before habits are formed</td>
</tr>
<tr>
<td></td>
<td>Fewer acts of misbehavior and distractions to manage in class.</td>
</tr>
<tr>
<td></td>
<td>Enhanced interaction with students that lead to increased student satisfaction.</td>
</tr>
<tr>
<td></td>
<td>Increased understanding of the diversity of learning styles.</td>
</tr>
<tr>
<td></td>
<td>Better teaching evaluations</td>
</tr>
<tr>
<td>Student</td>
<td>Community learning environment; with individual assessment. Social interaction increases.</td>
</tr>
<tr>
<td></td>
<td>More &quot;face time&quot; with teacher; frequent and regular interaction increases learning</td>
</tr>
<tr>
<td></td>
<td>More control over their learning</td>
</tr>
<tr>
<td></td>
<td>Increased opportunity for collaborative learning that enhances retention.</td>
</tr>
<tr>
<td></td>
<td>Timely, on-the-spot problem solving that mimics practice</td>
</tr>
<tr>
<td></td>
<td>Increased opportunity to process information; leads to additional questions and discussions that continue outside classroom</td>
</tr>
</tbody>
</table>

Excerpts taken from Berrett (2012).
### Table 2. Challenges for teacher and students when “flipping” lecture course.

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Moving lecture content to another retrievable format outside classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loss of comfortable level with lecture format; new skills may be</td>
</tr>
<tr>
<td></td>
<td>needed to move to new classroom format</td>
</tr>
<tr>
<td></td>
<td>Rhythm and timing of course changes. How to manage class time and</td>
</tr>
<tr>
<td></td>
<td>format differently.</td>
</tr>
<tr>
<td></td>
<td>Administrative support; funding available for furniture that supports</td>
</tr>
<tr>
<td></td>
<td>“flipping” course.</td>
</tr>
<tr>
<td></td>
<td>Discomfort with students asking questions throughout class time.</td>
</tr>
<tr>
<td></td>
<td>Managing changing needs of students.</td>
</tr>
<tr>
<td></td>
<td>Time available to remodel lecture course.</td>
</tr>
<tr>
<td>Student</td>
<td>Increased expectations of participation and accountability may be</td>
</tr>
<tr>
<td></td>
<td>uncomfortable.</td>
</tr>
<tr>
<td></td>
<td>New habits of learning may need to be formed. Loss of opportunity for</td>
</tr>
<tr>
<td></td>
<td>passive learning.</td>
</tr>
<tr>
<td></td>
<td>Student will be more “noticed” in classroom. Back row mentality not</td>
</tr>
<tr>
<td></td>
<td>available.</td>
</tr>
</tbody>
</table>
Current Lighting Design Issues: What should interior design students know?

Tina Sarawgi
University of North Carolina at Greensboro

ABSTRACT

The field of lighting design is “undergoing the most rapid set of changes since the time of Edison” (Slobin, 2012). It has been moving at a fast pace over the last few years not only in the proliferation of light emitting diode (LED) technology, but also in code compliance and sustainable design (Russell, 2012). The Council for Interior Design Accreditation (CIDA) requires that entry-level interior designers “understand the principles of natural and electrical lighting design” and “competently select and apply luminaires and light sources” (Council of Interior Design Accreditation, 2013). However, with significant changes surrounding topics such as light source and luminaire technology, sustainability incentives, and energy codes and compliance impacting the lighting design field, design students’ comprehension of lighting needs to go beyond CIDA’s basic requirements. Hence the question: how and to what extent should interior design educators prepare design students to understand and address these topics in lighting before entering the design profession?

The importance of lighting in the design of an interior environment is indisputable. Light affects the way we perceive the interior environment, and when designed thoughtfully can lead to an energy-efficient interior environment that triggers the desired emotional effect. Basic knowledge of lighting design coupled with a good grasp on the aforementioned topics in the lighting design field could enable design students to make better informed design decisions on a given design project. However, are we as design educators doing enough to facilitate this learning?

The format of teaching lighting varies greatly in design programs. Lighting is either taught as a part of an environmental or building systems course or as an exclusive lecture class. It is also
addressed in a design studio setting in some institutions. Additionally, teaching approaches in lighting include traditional lecture classes, lighting labs, field trips, digital and physical model explorations, full-scale mockups, etc. This panel discussion will bring together four award-winning lighting design educators who have taught lighting in different course formats using a variety of teaching approaches. Panelists will share their teaching strategies to address competencies that go beyond meeting the minimum CIDA professional standard in their programs. The following questions would be explored through the panel discussion:

- Which current issues on lighting should undergraduate interior design or interior architecture students actively engage with?
- What are the best teaching strategies for addressing these lighting-based topics in the undergraduate interior design or interior architecture programs?
- What impact does this change have on the overall interior design curriculum, if any?

The panel would encourage a lively audience discussion of the current topics on lighting focusing on the exploration of knowledge in lighting that an entry-level interior designer must be armed with on graduation. Because well-designed lighting is essential to our perception of the interior environment and has implications for sustainability, safety and comfort, entry-level Interior designers conversant in the basic concepts in lighting as well as current significant issues in lighting design are more likely to gain a competitive edge and make meaningful contributions to the design profession.

REFERENCES (APA)


Figure 1. Example of sustainability-related lighting analysis: solar access study.

Figure 2. Example of sustainability-related lighting analysis: electric lighting analysis study.
Figure 3. Example of sustainability-related lighting analysis: daylight analysis study.

Figure 4. Example of sustainability-related lighting analysis: daylight analysis study.
Infusing Reflective Writing in the Interior Design Curriculum

Stephanie Zollinger, Denise Guerin & Pam Enz
University of Minnesota

ABSTRACT

When we reflect, we consider deeply something that we might not otherwise have given much thought. This helps us to learn. Reflection is a form of personal response to experiences, situations, events or new information (Learning Center at the University of South Wales, 2008). It is a ‘processing’ phase where thinking and learning take place. Reflection activities guide students toward discovering, exploring and evaluating relationships between the course content as they encounter it in readings, lectures, discussions, and their experience in the studio. However, this method of learning is not always addressed in design curricula.

The act of writing is extremely important in reflective thinking. In writing, one “puts into words” the unstructured thoughts and ideas that form the material for reflection. Once the reflections have been written down, they are available for review by the reflector and wider community. Reflective writing can be:

- response to experiences, events, or new information
- response to thoughts and feelings
- way of thinking to explore learning
- opportunity to gain self-knowledge
- way to achieve clarity and better understanding of what one is learning
- chance to develop and reinforce writing skills
- way of making meaning out of what one is studying (Learning Center at the University of South Wales, 2008).

Reflection and reflective writing seldom are among the course objectives/outcomes typically associated with interior design curriculum. The panelists have found that reflection and reflective writing provides students with increasing abilities to mentally process learning.
experiences, identify what they have learned, modify their understanding based on new information and experiences, and transfer their learning to other situations. Drawing from over 50 years of combined experience in teaching, the panelists have identified multiple ways by which reflection and reflective writing can be infused into a design curriculum.

For example, one panel member will address the use of Francis’s (2009) technique of writing reflectionnaires. Students are asked to put themselves into a situation being addressed such as, Michelangelo was passionate about his work. What am I most passionate about in my life? What is my dream for the future? Students use “I” in their responses, which, when combined with the act of writing, allows them to own their learning, ultimately serving as a form of self-empowerment. This ownership of learning can lead them to form opinions and articulate or express their personal values (Francis, 2009). As Moon (1999) claims, practice in reflective writing develops personal power and a ‘voice’ through which this power is communicated. Reflectionnaires can take many forms: they can be graded or not graded, draw from different experiences during a course, and be employed at different phases.

Panelists will provide the rationale for the use of reflective writing and learning objectives. They will share several methods by which they have infused reflection into research, studio, and lecture-based content courses. Finally, they will present some of the results of this infusion. They will also ask the audience to share their methods of reflective writing.

REFERENCES (APA)


APPENDIX - A Few Examples of Student Outcomes

Reflectionnaire: Based on field trips
During the course of the semester, design history students are required to go on two field trips. It is believed that providing rich experiences and taking advantage of what the community has to offer are essential components of a transformative education. An additional goal of the required field trips is to deepen reflective thinking skills. This is accomplished by having students understand, for example, the important role our senses and emotions play in guiding conceptions of events and reflection.

Here are three examples of how Reflectionnaires are used in conjunction with field trips:

- Today we have viewed art work and vignettes that have only been seen in books or on the internet. Ask yourself: What do I see, feel, and perceive that I cannot experience from a reproduction in a book?
- Find one exhibit in the local museum that interests you. Describe what you see. Ask yourself: What have I learned from the exhibit?
- Consider the space in the Cathedral of St. Paul. Ask yourself: How do I feel in terms of what I see, hear, feel, and smell? What architectural elements have contributed to my sensations?

Here is an example from one interior design student.

The St. Paul Cathedral is visually stunning! I feel small, humble, and in awe. The large scale of the columns, stone and dome contribute to this. It is almost silent with a mystical light coming in from the stain glass windows, giving me a spiritual experience that allows me to contemplate how great God is. The paintings, mosaics, and sculptures enhance this experience delighting my eyes and soul. I smell the burning wax from the votive candles. The massive structure of the dome, gives me the feeling of being humble, with all the Angels looking down at me. It was a very beautiful experience.

The student was able to convey, in writing, her impressions of the space based on the sensory experiences of seeing, smelling, and feeling the space around her. She also begins to generate a record or impression of the mood, aura, and range of meaning of the sacred space.
Reflectionnaire C: Exam questions

Through carefully crafted questions, the goal on each of the design history exams is to provide at least one Reflectionnaire that aids in deep learning and promotes independent thought. This means that students have to focus their thinking and articulate in writing the results of their reflection. Another goal is to expand creativity and reinforce writing skills. The following is a Reflectionnaire used on an exam plus a student’s response.

• There were a variety of chairs produced during the Renaissance. If I were to be described as a chair during the Italian, French, or English Renaissance, which would I be? Describe the chair and discuss how it reflects my personality, traits, etc.

If I were a chair from the Renaissance, I would be the English Farthingale Chair. The chair was popular for its ability to accommodate the exceptionally wide-hooped skirts known as Farthingales. I like to be accommodating to people and if I was a chair I would like to be functional for everyone. The Farthingale Chair can be described as armless, with a wide seat covered in a high-quality fabric and fitted with a cushion; the backrest is an upholstered panel, and the legs are straight and rectangular in section. A perimeter stretcher is used to join the legs. The above chair reflects my personality and traits in the following ways. The chair had upholstery to add comfort. I like to make people comfortable around me and I prefer chairs with more comfortable aspects. The chair is more simple in design than others, I’m a pretty laid back and simple person. The exposed wood is oak and being from Minnesota, this species is well-known to me since it’s fairly abundant around the state. Some of the upholstery on the chair has turkey work on it to imitate oriental patterns. This represents me because I love learning about different cultures and I love to travel. Finally, the bottom of the chair has a perimeter stretcher. This to me represents support, stability, and structure which represents my love of architecture.

The student generated an accurate description of the Farthingale chair and reflected on her personality and traits. Chairs have long been known for revealing a person’s status or style.
POSTERS
Biophilic Design: A Contemporary Modality for Restorative Healing Environments in an Urban Context

Amanda Cleveland & Jim Dawkins
Florida State University

ABSTRACT

When people reach a critical point of frustration, anxiety or tension they speak about removing themselves from their psychological pressures by “escaping from it all”. Research shows that this especially occurs to those engaged in highly stimulating environments such as dense urban settings. According to Rachel and Stephen Kaplan, this is often a way to express a need for change in environments, venues, or scenery and is described as “mental fatigue”. This experience is a worn-out state, which often precedes a period of intense effort, anxiety or worry, or an overwhelming task and is generally not physical (1989).

Kaplan and Kaplan explained in their text The Experience of Nature that the desire to experience a sense of renewal can be achieved through two different means: rest and escape. The appropriateness of each is dependent on what is causing an individual to experience mental fatigue (1989). Responding to the state of mental fatigue that people often encounter, Kaplan and Kaplan developed a framework for “restorative environments” by analyzing the aspects of an environment that were most conducive to psychological restoration. The study’s findings were modeled into four central categories surrounding human behavior in natural environments that later defined the four aspects of a restorative environment (see Appendix A).

The connection between human beings and nature suggests a theory that human evolution has been dependent on the natural environment for a sense of overall well-being and personal fulfillment since the beginning of mankind (Kellert, 1993). This interconnectedness continues to be a bond that reinforces the deep affinity people experience with life and life-like processes and has been termed the “biophilia hypothesis” (Wilson, 1984). According to research, this
relationship has shown to be a critical component in fostering human health and overall well-being, and when elements promoting this connection are integrated into the built environment it is known as biophilic design (Kellert, 2008).

Recognizing the need for restorative healing environments in urban settings where nature has been severely withdrawn from interiors and architecture and where mental fatigue is prominent, this researcher’s master’s thesis project has proposed a biophilic design and restorative healing environment framework (see Appendix B), integrating the two design models into one symbiotic urban context. Using the framework as a primary researcher filter, the researcher will investigate biophilic design attributes and their perceived effectiveness as they pertain to the success of a restorative healing environment.

This poster will graphically illustrate the preliminary findings of this study and will provide the study’s proposed design solution for a biophilic urban restorative healing environment. Its intent is to create a more significant dialogue between design professionals and educators regarding biophilic design in the built environment and the well-being of the urban population. The resulting discussions between the researcher and the viewers can lead to greater comprehension of how biophilic design can more successfully become a contemporary model for restorative healing environments and possibly encourage the restoration of the human-nature connectedness within the urban environment, supporting the population’s overall well-being.

REFERENCES (APA)


## Restorative Environment Aspects

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Escape</strong></td>
<td>The term escape refers to the ability to get away from some involved endeavor that is normally present. In an urban environment, this references noise, crowding, chaos, and even the everyday routine of work. This is also an expression of the desire to take a mental and/or physical rest from pursuing a certain purpose or task.</td>
</tr>
<tr>
<td><strong>Concept of connection &amp; extent</strong></td>
<td>Although connectedness is achieved through the individual's interrelatedness with the environment as a whole, extent is achieved through the experience that is being presented and the promise of continuation beyond that which is initially perceived.</td>
</tr>
<tr>
<td><strong>Fascination</strong></td>
<td>Fascination is stimulated by an act of involuntary attention, “attention that requires no effort at all such as when something exciting or interesting happens and [an individual] looks to discover what is going on” (Kaplan, R. &amp; Kaplan, S., 1989, p. 179).</td>
</tr>
<tr>
<td><strong>Action &amp; Compatibility</strong></td>
<td>Stephen Kaplan (1982) states that an environment must offer compatibility with the individual’s inclinations and actions required by the environment (as cited in Kaplan, R. &amp; Kaplan, S., 1989).</td>
</tr>
</tbody>
</table>

(Kaplan, R. & Kaplan, S., 1989)
Appendix B

Biophilic Design / Restorative Healing Environment Framework
Investigating the Success of Four Year Interior Design Graduates as Sales and Design Associates in the Multi-Million Dollar International Home Furnishings & Accessory Industry

Cathy Hillenbrand-Nowicki
High Point University

ABSTRACT

Preparing our students for a successful career is of paramount importance. The role of higher education, the cost of college, and the return on educational investment are topics currently trending everywhere. Interior Design education provides students a marketable skill set which can be utilized in a variety of creative occupations and business related careers. Home Furnishings and accessory sales is an optional career path for graduates of interior design. Top national and international manufacturers of fine furniture and accessories, in addition to wholesale and retail furniture and accessory businesses seek to recruit interior design graduates for employment. It is generally perceived that an interior designer’s knowledge and experience contributes to the sales role by providing visual design expertise and credibility to customers during the purchase of big ticket furniture items. It is also assumed that interior design training contributes positively to the earning potential of the sales associate, and therefore contributes to store profitability. This study features interior design graduates from 4 year colleges employed as residential furniture and accessory sales associates by Furnitureland South, the largest home furnishings retailer in the world located in High Point, North Carolina, site of the twice yearly International Furniture Market. Furnitureland South serves customers around the globe and is the most successful business model of its kind with annual revenues of $140M. A survey vehicle is employed to quantify factors that indicate sales associate success. It identifies income levels, years employed, interior design skills learned in college that have best prepared designers for this career path, how interior designers’ contributions are perceived and utilized by other store personnel including those sales associates without interior design training or a college education, and job satisfaction levels. Some findings are that the majority of sales associates
surveyed were interior design program graduates, that salaries averaged between $40k and $60K but years selling did not influence income, and that space planning, color, trending and perceived credibility were the most beneficial program skills utilized in this type of sales. This study is the first in a series seeking to identify the importance of interior design and design contributions to a variety of business settings, and how employing interior designers influences business profitability. It also helps to identify the most marketable design skills necessary for employment after graduation in the retail Home Furnishings and Accessory sales industry. This data would be beneficial when planning interior design curricula that could affect student placement in business internships prior to graduation, and in successful career placement afterward.

REFERENCES (APA)

Environmental Preferences of Adolescent Patients in Healthcare Settings: Natural View and Privacy

Eun Young Kim
University of Kentucky

ABSTRACT

Healing environmental stimuli that are compatible with patients’ physical and psychological needs promote their holistic quality of life by creating positive environmental experiences. Individuals have their own sense of healing depending on their personal values and preferences, personalities, physical conditions, and the stage of life. Adolescents are in the process of ongoing physical development and fluctuating emotional changes with their own unique social and cultural characteristics. Bovier et al (2004) suggested that self-esteem and perceived stress were important factors for adolescents’ mental health, and adolescents’ mental health was a central determinant of quality of life. Interaction with their peers is important to adolescents and perceived stress can be reduced by social supports. Although there is much concern and effort in improving adolescents’ health (Fox & Frohman, 2011), there is not much empirical evidence of applicable age-appropriate healing environmental design that support adolescent patients’ needs and characteristics.

The goal of the study was to investigate environmental preferences of adolescent patients in patient rooms that might affect emotional well-being and healing process. Preferences on natural window view, semi-private rooms, and architectural details were examined. Adolescent patients’ emotional states and environmental needs of hospital settings were also surveyed to identify the relationships among adolescents’ environmental preferences, emotional states, and environmental needs. The Health-Related Quality of Life (HRQOL) concept was adapted to this study as a theoretical framework. Promoting the healing process is affected by adolescents’ internal factors such as demographics, emotional states, values and preferences of design. Research questions of the study are as follows:
1. Do adolescent patients prefer natural window view to city view?
2. Do adolescent patients prefer private patient rooms to semi-private rooms?
3. Do adolescent patients prefer architectural details in their patient room?
4. Do adolescent patients’ emotional states affect adolescents’ preferences and environmental values in their healing processes?
5. Is there environmental preference discrepancy between adolescent patients and healthy adolescents?

Adolescent outpatients in surgical department and emergency departments and participated in the survey. To examine comprehensive environmental preference of adolescents, healthy high school students also were participated in the survey. The finding showed some discrepancy with other empirical research results reporting the healing effects of an outside view, particularly of a natural window view (Curtis, Gesler, Fabian, Francis, & Priebe, 2007; Ulrich, 1984; Blumberg & Devlin, 2006). The findings indicate that having a natural view in hospital rooms are not necessarily preferred by adolescent patients. Although being able to control of privacy is crucial, some adolescent patients preferred to have peers in their hospital rooms depending on their medical conditions. The results suggested adolescent patients’ emotional states affected their environmental preferences and perceptions of hospital rooms. The findings also revealed environmental preference discrepancy exist between adolescent patients and healthy adolescents.

REFERENCES (APA)


Appendix I: Theoretical Framework

Figure 1. Health-related Quality of Life and Influential Factors
Adapted from Patrick & Chiang (2000, p.II-19)
Appendix II: Data Collection Instruments (Photo Analysis)

- Natural window view + Asian design
- City window view + Asian design
- Natural view + Modern design
- City view + Modern design
- Natural view + Ceiling & flooring details
- City view + Ceiling & flooring details
- Natural view + Semi-Private + Asian design
- Natural view + Semi-Private + Modern design
Wayfinding Experience of University Library Users

Seunghae Lee & Seda Dazkir
Oregon State University

ABSTRACT

Contemporary libraries are not only spaces for individual study and storing books. They are complex buildings with multiple floors and many different service areas such as information commons, lounges, classrooms, daycare, etc. According to Hisle (2005), they serve as community centers. With this study, we focused on a library building on a university campus. We questioned: 1) what wayfinding problems the users had and 2) what wayfinding aids they used to find their ways.

Observations and questionnaires were used for collecting data in the building. Through observations, we recorded how users navigated through the setting and which areas they visited most often during different days and times of the week. We developed a survey and refined it using a pretest with 15 participants. After questionnaire refinement, we collected data from 219 library users (median age = 23.4 years) via self-administered questionnaires that were placed in key areas in the library. The participants were asked about their demographics, how often they used the library, which areas they visited, what aids they used for wayfinding, and what difficulties they had while searching their desired destinations in the building. The data were coded and analyzed using the statistical software program SPSS. Descriptive statistics and correlations were used for data analysis.

The majority of the respondents (81%) agreed that signs helped them find ways in the library, which supported Li and Klippel (2012)’s findings. Signage was significantly correlated with wayfinding ($r = 0.44$, $p = 0.000$). The more the respondents agreed that the signs were utilized and placed appropriately, the more they agreed that wayfinding was easy in the library. The agreement decreased on the usefulness of maps (56%) and directories (55%) supporting Beecher’s (2005) findings on patrons’ difficulty using such tools in wayfinding.
Familiarity was positively related to their wayfinding experience. Sixty nine percent reported that it was easy to navigate in the building. However, less than half of them (45%) agreed that it was easy to find ways during their first several visits to the library. This result is aligned with the results from O’Neill (1992).

The correlation results indicate that the level of agreement about wayfinding aids’ helpfulness was significantly correlated with gender. Wayfinding aids were separately analyzed first. For the correlations report all wayfinding aids combined into one variable and then signs was separated as it was the most preferred aid. Female respondents agreed more that they sometimes felt lost in the library and wayfinding is not easy ($r = -0.14, p = 0.015$).

As there are lack of studies about users’ evaluations about wayfinding in the library, findings of this study will be used for improving the configuration of the library space and for designing more effective wayfinding tools. Understanding which aids are used more commonly by the users to locate their destinations in the library can guide the library staff to improve such aids.

**REFERENCES (APA)**


<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Gender</th>
<th>Visit Freq.</th>
<th>Wayfndg</th>
<th>Wayfndg aids</th>
<th>1st visits</th>
<th>Signs</th>
<th>Maps</th>
<th>Lib. exper.</th>
</tr>
</thead>
<tbody>
<tr>
<td>age</td>
<td>1</td>
<td>0.1</td>
<td>0.08</td>
<td>-0.05</td>
<td>0.02</td>
<td>-0.045</td>
<td>0.05</td>
<td>0.02</td>
<td>0.05</td>
</tr>
<tr>
<td>gender</td>
<td>0.1</td>
<td>1</td>
<td>-0.05</td>
<td>-0.14*</td>
<td>0.13</td>
<td>0.084</td>
<td>0.08</td>
<td>0.13</td>
<td>0.11</td>
</tr>
<tr>
<td>visit frequency</td>
<td>0.08</td>
<td>-0.05</td>
<td>1</td>
<td>-0.06</td>
<td>0</td>
<td>-0.026</td>
<td>-0.03</td>
<td>0.09</td>
<td>-0.01</td>
</tr>
<tr>
<td>wayfinding</td>
<td>-0.05</td>
<td>-0.14*</td>
<td>-0.06</td>
<td>1</td>
<td>0.34**</td>
<td>0.44</td>
<td>0.44**</td>
<td>0.13</td>
<td>0.22**</td>
</tr>
<tr>
<td>wayfndng aids</td>
<td>0.02</td>
<td>0.13</td>
<td>0</td>
<td>0.34**</td>
<td>1</td>
<td>0.27</td>
<td>0.81**</td>
<td>0.69**</td>
<td>0.41**</td>
</tr>
<tr>
<td>1st visits</td>
<td>-0.05</td>
<td>0.08</td>
<td>-0.03</td>
<td>0.44***</td>
<td>0.81**</td>
<td>0.33</td>
<td>1</td>
<td>0.31**</td>
<td>0.36**</td>
</tr>
<tr>
<td>signs</td>
<td>0.05</td>
<td>0.08</td>
<td>-0.03</td>
<td>0.44***</td>
<td>0.81**</td>
<td>0.33</td>
<td>1</td>
<td>0.31**</td>
<td>0.36**</td>
</tr>
<tr>
<td>maps</td>
<td>0.02</td>
<td>0.13</td>
<td>0.09</td>
<td>0.13</td>
<td>0.69**</td>
<td>0.12**</td>
<td>0.31**</td>
<td>1</td>
<td>0.25**</td>
</tr>
<tr>
<td>library experience</td>
<td>0.05</td>
<td>0.11</td>
<td>-0.01</td>
<td>0.22**</td>
<td>0.41**</td>
<td>0.20</td>
<td>0.36**</td>
<td>0.25**</td>
<td>1</td>
</tr>
</tbody>
</table>

Pearson’s r –value from correlations analysis reported. Note. *p<.05, **p<.01, *** p<.001

Visit frequency: How often do you visit the library
Wayfinding: It is easy to find my ways in the library/Sometimes, I feel lost in the library (reverse coded)
Wayfinding aids: architectural feature, floor map, library staff, stack numbers, directories
Signs: Signs help me find ways in the library/The amount of signs in the library is appropriate, The signs re properly placed in the library
Library experience: I like visiting the library, I feel relaxed and at ease in the library

Table 1. Correlations
-42 incidents of people moving throughout the floor were counted (some people were counted more than once if they moved more than once).

-3 people went in the elevator, 9 people came out of the elevator.

-2 people arrived using the East stairwell, 3 using the West stairwell. 2 left using the East stairwell.

-1 person went to Special Collections.

-18 people went towards the stacks, study rooms, or rotundas.

-Observation point was to the east of the Special Collection, sitting in the hallway.

-People did not exhibit visible signs of being lost (looking around, wandering, etc), rather made direct lines to destinations.

-Observation took place before major holiday, might have affected student attendance.
NO KNOWN CURE: 
Researching Alzheimer’s Disease Quality of Life Issues

Nancy G. Miller 
University of Arkansas

ABSTRACT

“Alzheimer’s disease is the sixth-leading cause of death in the United States and the only cause of death among the top 10 in the United States that cannot be prevented, cured or even slowed.” (Alzheimer’s Organization, 2013).

As many as 50% of people older than 85 years in the United States have some type of dementia—the incidence currently estimated at one in eight individuals—estimated at 5.2 million people in the United States over the age of 67. For many reasons, baby-boomers want to see change in the approach to Alzheimer’s care. The purpose of this poster is to outline research needs, propose survey instruments appropriate for data collection, and propose publication venues to help facilitate this change. The resulting information will ultimately result in interior design research yielding quality design as it meets a greater need for more humane Alzheimer’s and dementia care centers.

In exploring dementia-focused care center design criteria for a course project, an outstanding need for rigorous empirical research was discovered. The overall design and/or physical environment of a care center is usually dictated by the care philosophy subscribed to by the sponsoring agency. However, designers of care facilities must also focus their attention on the environmental needs of the care philosophy as well as being aware of other issues of the near environment surrounding Alzheimer’s and dementia care.

An extensive literature search established that little empirical research has been conducted to further specific environmental needs and quality-of-life issues. There is a recognized need for
nonpharmacological interventions, specifically, “behavioral and environmental” (NIH., 2013) factors focusing on an individual’s function and quality of life. To enable aging-in-place and humanize care environments for the growing elder population, it is imperative additional research be conducted.

To facilitate such research within the design community, poster information will outline research domains, present a taxonomy of appropriate research types, review proven foundational theories, cite proven data collection instruments focused on quality of life, and list venues for publishing research, all resulting from examining over 200 articles.

As designers, it is our charge to design in a conscientious manner for the end users. Further, as designers, we have a clear responsibility to address the health, safety, and welfare of our fellow man. Therefore we must create humanitarian environments addressing the quality of life for those having diseases with no known cure.

REFERENCES


The Importance of Integrating Complex Programs into the Classroom: A Focus on Translational Medicine in an Interior Design Studio Healthcare Studio

Lynette Panarelli & Jeffrey Keilman
Wentworth Institute of Technology

ABSTRACT
As a professor, it is important to increase students’ awareness of current trends, especially in sectors such as healthcare, which promise longevity and constant innovation. One such trend is Translational Medicine. This poster will exhibit diagrams and renderings of students work as they interpreted a complex program based on Translational Medicine and its relationship to design. It will also include photos of process and results of a collaborative industry relationship integrated into the studio curriculum after one semester of exploration.

The studio was designed to engage in collaboration with a healthcare design firm, to educate students in healthcare design, and to examine both failures and successes in the design of Translational Medicine facilities. Throughout the semester, members of the healthcare design team at a local architecture firm committed to contributing their time through guest lectures and attending multiple design critiques. The results of this partnership encouraged students to adopt an alternate design perspective by understanding the need for patient-centered care and what that means within the context of translational medicine. The students uncovered the essence of spaces by discovering the moments in planning for innovation to occur. They learned to translate research into a vision through design and technology. Students of this generation are quick to adapt their ideas of today’s technology and used their proficiency to better design for the inevitable obsolescence of that technology during the design process.

Translational Medicine is a movement at the forefront of medical campus planning and raises important issues for healthcare design. For the purposes of the studio project, translational
medicine was defined as the enabling of multidisciplinary collaboration in a patient-centric environment designed to speed the discovery of new knowledge and technologies. Translational Medicine goes beyond collocating research labs next to clinical or inpatient areas, it enables the minds of researchers and clinicians to converge and innovate together in the everyday work environment. The studio explored the role that design can play in the application of Translational Medicine and how students can be effectively introduced to new trends in collaboration through studio work and design reviews with industry experts.

Translational Medicine seeks to integrate research, development, and care to the end of maximizing patient health. In order for design to play an effective role in furthering such a movement, we must find ways to introduce students to new trends in fields such as healthcare as early as possible. Collaborating with design firms and providing professional interactions for students is one way for them to become aware of emerging trends and to begin developing the solutions of the future.

REFERENCES (Chicago)


PROJECT DESCRIPTION, PROGRAM, and SCHEDULE

COURSE DESCRIPTION
Projects of advanced programmatic complexity are studied in context with institutional building types. Project resolution requires competent and comprehensive solutions that explore and synthesize theoretical, technical, and practical issues concerning the integration of selected building systems.

STUDENT LEARNING OUTCOMES:
At the conclusion of this course, the student should be able to:

- Demonstrate fluency with a design process that facilitates fulfillment of the multiple objectives that are typical of professional design projects.
- Demonstrate the ability to conceive design solutions that exhibit novel approaches in conceptual thinking and organizational strategies.
- Demonstrate design strategies that facilitate the resolution of complex projects.

PROJECT DESCRIPTION:
Collaboration is a movement occurring in every market sector. As designers, we help our clients to collaborate in the most effective and creative ways. In the next 15 weeks this studio will research, analyze, apply and design a complex program for a rehabilitation hospital. The founding principle behind the studio is to help encourage collaboration and convergence of ideas to help expedite new discoveries in healthcare. We will research Translational Medicine and use the basis of this concept to design two floors of a rehabilitation hospital. The program will include research as well as clinical spaces. It is the challenge of the studio to find the places where researcher and clinician come together to share and innovate. The following definition of Translational Medicine will guide the adjacencies on the project and inspire the end design conclusions.

“The enabling of multidisciplinary collaboration in a patient-centric environment designed to speed the discovery of knowledge and technologies.”

GUIDING PRINCIPLES:

Why integrate Healthcare into the classroom:
- Major sector in most cities
- Expose students to basic Healthcare 101
- Expose students to empathy/understand patient, caregiver and researcher experience

Why Integrate Translational Medicine into the classroom:
- Collocating people or departments does not necessarily result in collaboration
- Create spaces to encourage the convergence of ideas
- Explore the hierarchy of collaboration

RESEARCH TOPICS:
- Evidence Based Design & Lean Design for Healthcare
- Sustainable Practices in Relation to Healthcare
- Regulatory Codes
- Infection Control & Safety by Design
- Patient Experience
- Functional Space of an Outpatient Exam Room & Barrier Free Design
- Lighting & Acoustics – It’s Impact on Wayfinding and Reducing Patient Anxiety
- Examples of Recently Built Rehabilitation Facilities & Short History of Rehabilitation Facilities
- Translational Medicine/Research
- Convergence and Collaboration Between Healthcare & Science
- Traumatic Brain Injury – Treatment and Experimental Therapy Process
- Regenerative Medicine
- Neurostimulators
- Spinal Cord Injury- Treatment and Experimental Therapy Process
PROGRAM:
(Note below is a simplification of spaces to provide an overview of spaces. You will receive an indepth program with square footages and anticipated adjacencies as used for an actual professional project.)

2 Floors of a Rehabilitation Hospital – 71,522 Square Feet

<table>
<thead>
<tr>
<th>CLINICAL SPACE</th>
<th>RESEARCH SPACE</th>
<th>OFFICE SPACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology/Bone Density</td>
<td>Muscle Cell Lab</td>
<td>Therapist/Clinician Offices</td>
</tr>
<tr>
<td>Pain Management Clinic</td>
<td>Cardiovascular Lab</td>
<td>Research Offices</td>
</tr>
<tr>
<td>Outpatient Therapy (Gymnasium)</td>
<td>Robotics Lab</td>
<td></td>
</tr>
<tr>
<td>Reception, Check-in, Waiting</td>
<td>Running Lab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Motion Analysis Lab</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research/Research Shell Space</td>
<td></td>
</tr>
</tbody>
</table>

SCHEDULE:
(Note below is a simplification of the schedule. You will receive requirements to meet at every class session. We meet 3 times a week for 4 hours each class. Your schedule will be similar to the milestones expected of a Professional Designer)

Jan. 9, 2013  Assign Initial Research Project
Jan. 21, 2013  Research Project Due/Presentation of Projects
Jan. 23, 2013  Field Trip to Partnering Architecture Firm for Kick-Off Meeting/ Begin Schematic Design
Feb. 13, 2013  Schematic Design Presentation with Architecture firm as guest critics
Mar. 22, 2013  Design Development Presentation with Architecture firm as guest critic
Mar. 4, 2013  Guest Lecture: Medical Professional on Cardiovascular labs
Apr. 23, 2013  Final Presentation: Presentation at Rehabilitation hospital with Architecture firm as critics
PROFESSOR’S GOALS

ADOPT A NEW PERSPECTIVE

UNCOVER/DISCOVER
THE ESSENCE OF SPACE

TRANSLATE RESEARCH & WORDS
INTO A VISION

Student Work
“Collaboration to me was about education. Not only do doctors educate patients but patients educate doctors.”
Student Senior Class 2013

“I know there is a lot of focus on patient and doctor but I also wanted to design a great space for the support staff because their collaboration is equally as important and so is their day-to-day experience within the hospital.”
Student Senior Class 2013
“Creating a large interactive wall allows for patients, family members, physicians and researchers to constantly be reminded of the exciting advances being made on a daily basis.”
Student Senior Class 2013

“It was hard to constantly remind ourselves that most of the patients in the space were physically challenged.”
Student Senior Class 2013
Bibliotheca: A Paradigm for Translating Student Preferences into the Design of a Library

Nicole Peterson, Lori Brunner Stone & Lee Cagley
Iowa State University

ABSTRACT

The university library continues to evolve in response to student behaviors, perceived desires, and technological advancements. The interior qualities of the library can contribute to academic success and provide students with an unparalleled study environment that supports peer collaboration and scholastic achievement (Gardner and Eng, 2005). How can a student’s perception of an ideal study environment be integrated into the design of a library to foster an environment of learning? Using results from a case study to develop a model project, this research examines the design of a student group study space within a library.

Image board and graffiti wall methods were used to engage users of an existing group study space to identify the spatial design features that exemplify their ideal collaborative environment. A poster of collected pictures and illustrations were used to visually communicate design intent to a targeted user group (Hanington and Martin, 2012). To prevent bias in describing the visual images in this study, a user-centered card sort study was developed to understand the meaning of the images through the lens of undergraduate students (Kaufman, 2006). Graffiti walls “provide an open canvas on which participants can freely offer their written or visual comments about an environment of system, directly in the context of use” (Hanington and Martin, 2012). A content analysis of the written phrases and images drawn from the graffiti wall was used to quantify data collection. The informal approach of these methods was fundamental in creating an open and unbiased platform for students to respond and provide feedback on the design of a group study space.

The most noteworthy design feature from the study results were that students had a preference for a group study space with an alcove design feature, whether actual or perceived, to allow
private space for groups. The majority of students preferred intimate spaces that allow them to have privacy within the group study environment. Spatial definition is an important aspect of these spaces that can be used to control visual and acoustical privacy (Miller and Schlitt, 1985). These spaces should be supported with a variety of other seating options that were selected by the students as favorable in their ideal study environment, including tables and padded chairs as well as informal lounge spaces that allow students to relax in a “beanbag” type space. With today’s technology students expect power sources to be integrated into the design of study spaces.

Bibliotheca, a visual design solution, implements the research outcomes into usable design recommendations for the design of the university library. The project is used to illustrate the spatial arrangements, control features, group communication methods, and other significant design features from the research study. Key findings from the study are annotated throughout the project, through a multi-media graphic communication approach that combines research conclusions with a personal sketching vocabulary. Bibliotheca explores the historical setting of the university library through the use of antiqued materials with rich patina, which link the tactile quality of books to the contemporary library.

REFERENCES (APA)


Photographs of image board during the research portion of the study

Analysis of images selected by the students during the image board research – captions are design features identified during the card sort
Graffiti wall of student's ideal group study space at the library

Examples of spatial definition students prefer in a group study environment
View of group study area that expands upon trends in library design of open areas near a café. The ceiling plane and furniture arrangements are used to define space.

View of library from entrance. The design integrates technology without dominating the design. Emphasis is placed on the spatial definition of the group collaborative areas.
“Don’t Speak About Us Without Us”: Design Considerations and Recommendations for Inpatient Mental Health Environments for Children and Adolescents

Dana Tapak
Algonquin College

ABSTRACT

Abstract: A significant number of children and adolescents in Ontario, Canada, suffer from a variety of mental health issues: “15%–21% of children and youth in Ontario have at least one mental health issue” (Centre for Addiction and Mental Health, 2010). At least 500,000 Ontario children—up to one in five under the age of 18—have difficulties that can be diagnosed as a serious mental illness (Gionas, 2011). Mental health services and facilities are, therefore, needed for this specific populace.

This study explores the relationship between inpatient mental health environments and children and adolescents. Research was conducted by way of observation, questionnaires, interviews, and reading floor plans in partnership with two hospitals in Ontario offering inpatient child and adolescent mental health services.

The spaces allocated to inpatient children and adolescents during a pivotal time in their healing are frequently barren, sparse, overscaled and feature primarily hard surfaces. I determined that this subject warranted further exploration. The primary goal of this study was to develop considerations and recommendations that inform design decisions.

I set out to gather the opinions and insights of children and adolescents who were inpatients in the facilities. The staff were also interviewed to capture their views on how the physical environment can support their work. The research provided a portal into a complex and sensitive area of study, and offered insights into the experiences and preferences of the youth.
Their perspectives and stories contributed significantly to the knowledge gained in this exploration.

My research was guided by a phenomenological approach, with the intention of understanding the lived experiences of children and adolescents with mental disorders. I wanted to understand how the participants interpreted their social reality and listen to their experiences so as to be able to determine their specific needs, and to be better equipped to design appropriate inpatient child and adolescent mental health facilities (Kirby, Greaves, & Reid, 2006).

My findings support Foucault’s declaration, that the children admitted into care are not functionally interchangeable and are unique individuals with distinct penchants and requirements (Foucault, 1965).

Additionally, my findings revealed that the patients reported a lack of privacy, emphasized the significance of their bedroom, the importance of personal choice, and the desire for an exercise area which were all important to them. The staff findings outlined the importance of patient safety, sightlines, acoustics, and travel distances between spaces.

It is essential that the topic of child and adolescent mental health remain a priority and at the forefront of current health issues. Until mental health is viewed as a disease without a negative connotation, those affected will be treated with lack of respect and ignorance (Guyatt, 2004). The health of the nation’s youth together with the advancement of this subject demand greater importance. The status quo is no longer an option. It is because of the status quo that the present day attitudes are what they are. Financial resources must be prioritized to continue the progress of children and adolescents mental health facilities.

REFERENCES (APA)


Lifelogging as Data Collection

Jennifer Webb
University of Arkansas

ABSTRACT

Lifelogging is the process of recording substantial parts of one’s life through photodocumentation, journaling, and collecting (Malm, 2013). Many individuals engage in this activity without knowing what it is; photo albums, journals, and even scrapbooking can be considered lifelogging. While not a new idea, recent technological advances provide the ability to capture moment-by-moment, person-environment interactions in an unobtrusive and unselfconscious process (Memoto, 2013).

The purpose of this poster presentation is to assess the Memoto Lifelogging Camera and its potential as a data collection tool. The ability to capture or revisit a person’s unique interaction with the built environment is difficult. The obtrusive researcher, the unwieldy and sometimes unreliable equipment, the unpredictability of events and the time required to be present are significant barriers to effective data collection. In contrast, the Memoto camera is a small, one inch square camera worn clipped to a shirt. This small device records two or more images per minute, and provides the user’s unique perspective. Significantly, the Memoto camera requires no technical knowledge for the subject and is particularly effective for persons with disabilities. Its unobtrusive nature, multiday battery life, hands-free activation, automatic recording process, and automatic downloads to the cloud ensures consistent and safe data collection. Data collection can occur for a short time such as a single task (e.g., using an automated teller) but can be worn for days, weeks, or months with little interruption on inconvenience. Because of its unobtrusive presence, it also has minimal impact on the recording process and does not interrupt real action. Combined with other data collection methods, the lifelogging camera provides rich data for person-environment analysis for a wide variety of users.
For the purpose of assessing the camera, data from an ongoing current project will be used to illustrate the device’s strengths and weaknesses. Used by individuals with disabilities, pilot data indicates the images illustrate small scale tasks, movement and navigation, and person to person interactions. Data also reveals that two images a minute does not capture adequate detail especially for more detailed tasks and that varying rates of capture will be necessary. A Memoto camera will be available for experimentation.

REFERENCES (APA)


Making Lunch :: 30 Second Intervals

Early sample data: The Memoto Lifelogging Camera allows the documentation of simple tasks for evaluation in an unobtrusive manner.
Place Attachment and Cultural Identity in a Middle-Eastern Restaurant in the United States: A Case Study

Ahmad Alansari & Kristi Gaines
Texas Tech University

ABSTRACT

Introduction: A place tends to give meaning through group, cultural or personal processes. The art of understanding people in particular environments is vital in considering the implication of the responsive and appropriate design features to incorporate in a plan, in this manner offering more emotionally rewarding and satisfying surroundings. The decorative designs and the feeling of attachment to a restaurant or a coffee shop as one’s ‘own’ increases the notion of familiarity and thus enhances social intimacy (Beriss, 2007). Various characteristics are renowned for encouraging gathering behavior as well as contributing to public place attachment to restaurants and coffee shops. The social characteristics that enhance place attachment in coffees shops include socialization, networking, sense of community and social culture related to sense of belonging (Waxman, 2006). Moreover, Ujang (2008) Found that meeting the needs of the users has a strong influence to the development of place attachment.

Purpose: The aim of this study is to explore the factors that affect Arab customers' place attachment in relation to an Arabic-designed restaurant in the U.S. While there are several Arabic-designed restaurants in Arlington, Virginia, one particular restaurant, Layalina Restaurant, experiences heavy traffic. The Middle Eastern culture, representation, and identity are made explicit in the restaurant.

Method: The research is conducted as a case study, and the data-gathering methods involve interviewing the restaurant owner, distributing questionnaires to customers, and taking pictures of the restaurant to record the place identity. Twenty-five Arab customers were randomly selected for the questionnaire. Due to the absence of females in the restaurant during

IDEC 2014 Annual Conference | New Orleans, LA
data collection, all of the participants were males. In addition, the owner of the restaurant was interviewed in order to obtain in-depth information about the restaurant and the services provided. Because this study focuses on customers’ feelings and perceptions of the restaurant, a qualitative method of data collection was employed.

Findings: Layalina Restaurant represents a meaning of place for Arab customers. The main physical characters that contribute to place attachment among participants are representing cultural elements, comfortable furniture, and supporting group and personal activities. On the other hand, the psychological and social attributes that influence Arabic customers attachment to the restaurant are safety, comfort, protected personal space, and the sense of ownership, community and belonging which improve occupants’ feelings for and attitudes regarding the place. In addition, the restaurant fosters socialization and networking among its Middle Eastern patrons, which create a unique cultural and social environment. Thus, it can be said that Layalina Restaurant has achieved the goal of being a ‘third place’.

REFERENCES (APA)


Culturally Competent Design for Elderly Asian Indian Immigrants

Cynthia Bertoia
Brenau University

ABSTRACT

This poster presentation illustrates outcomes from a study to identify design features within the assisted living built environment that support the social, religious, and other cultural aspects of older Asian Indian immigrants in the United States. The poster presentation includes information about the research and a proposed design solution.

A review of existing literature indicated that retirement home use among Asian Indians is on the rise (Bhat & Dhruvarajan, 2001; Feng et al, 2010), and there is evidence to suggest that immigrants more successfully acclimate to culturally specific retirement home environments (Sasson, 2001). In order to gain in-depth knowledge of the experiences of older Asian Indian immigrants, a qualitative research approach was selected. The following questions guided the research: (a) What attributes of the built environment support and reflect the culture and lifestyle of older Asian Indians? (b) In what ways can these design elements be incorporated into assisted living facilities to best accommodate aging Asian Indian immigrants?

A purposive sample of participants was selected. Data collection consisted of face-to-face interviews. Interview questions and responses were organized into three categories: elements of the interior environment that support daily activities, current living situations, and expected living situations. Findings included the importance of religious activities in the home, in places of worship and in the community; dietary restrictions, including vegetarian; following principles of vaastu shanstra, a canon of ancient Asian Indian architecture; a preference for living alone or with a spouse only; no expectations of living with their adult children; and a preference for culturally specific care.
As a result of the research, a design for an assisted living home that follows the Green House model was proposed. In reviewing a Green House home in Tupelo, Mississippi, Rabig et al (2006) provide a comprehensive overview of the Green House model beginning with a structure that closely resembles a home, not an institution. Asian Indian culture values a sense of community and shared responsibility and accomplishment which is a fundamental concept of the Green House model. However, some modifications are necessary, including a separate kitchen for the preparation of meat. In addition, space must be available to support daily religious activities including a room that can be used for group prayer by Muslim residents, though it does not need to be dedicated to this purpose. Hindu puja, or prayer, could be supported by placing puja cabinets in the residents’ private rooms or a shared puja cabinet located in a common area.

An in-depth knowledge and understanding of vaastu shastra principles was beyond the scope of this project, so additional research should be conducted to more accurately and completely apply vaastu shastra principles to the design of the assisted living home, including location and orientation of kitchens and prayer cabinets.

Floor plans for several existing Green Houses were studied, and the proposed plan is influenced by these designs with modifications to accommodate the needs of this unique group of elderly immigrants.

**REFERENCES (APA)**


Collaboration between Interior Design and Nutrition Professionals to Enhance Food Consumption in Dementia Residents

Laura K. Burleson & Valencia Browning-Keen
Sam Houston State University

ABSTRACT

In 2005 studies indicated globally there was a new case of dementia every 7 seconds. Additionally, research in Sweden has shown that diet interventions can have an impact on the rate of progression of dementia into Alzheimer’s. While many Elders are cared for in the home, an increasing number of these cases are being served by extended residential care communities. Through studying this group it is becoming increasingly clear that the elderly have very specific ideas and value concerning food ritual and cultural values connected with meal traditions. Reactions of new elder residents, including those with dementia in care facilities, includes complaints about food (which may be real or imagined) due to fear of the unknown as well as change in their environments.

This investigation explored the connection between interior environmental features in extended residential care communities and the impact on food consumption of individuals with dementia. A survey was given to managers/foodservice directors/chefs of residential care communities or daycare/participant support services. They responded to questions related to design of food service, the design of dining environment, and the nutrition issues related to menu for dementia residents or participants. A model was generated reflecting environmental factors such as sound, lighting, color contrast and pattern of furnishing and finishes that impact food consumption, hydration, Anorexia of aging that may lead to malnutrition, and liberalized heritage meals.

It was determined that the style of meal service impacted both the time given to eat and reduces the incidence of forgetting to eat. Additionally, in dining spaces where high contrast was used...
sounds such as music were turned down and in spaces where pattern was used there was more use of sound such as music. Even though research has shown that use of RedWare© dinnerware increases food and liquid intake in elderly with Alzheimer’s and dementia, this study had no sites that used these utensils for dining. However red dishware was used for wall decor. Since this was a pilot study with a small data sample, it did not show significant impact of the environment on food consumed. It is projected, changes in the dining environment can have a positive impact on food intake to improve wellbeing and reduce progression of dementia stages.

REFERENCES (APA)


Environmental/Food Model. Ongoing observation of environmental impact on food intake.
Beyond the Pane of Historic Preservation: Valuing Interiors for Daylight Strategies

Marissa Rosati Cool & Judy Theodorson
Washington State University

ABSTRACT

Purpose
Historically, buildings used a variety of strategies to capture and distribute daylight to provide ambient lighting to the interiors. As electric lighting became widely available, the necessity for daylighting disappeared, along with much of the knowledge base. Presently, it is common to find alterations in historic daylighting strategies with ramifications on interior environmental quality. This graduate research specifically looks at daylit buildings from the time period 1900-1920. The intent is to build a knowledge framework that supports designers in reclaiming daylighting during rehabilitation and adaptive reuse of historic buildings. The research is grounded in a broader objective of advancing daylighting as a sustainability initiative, recognizing benefits to occupants in terms of health and productivity along with energy savings and passive survivability.

Literature
Several references examine daylighting in historic buildings, primarily from an architectural perspective. Fontoyonont (1999) uses a mapping method to document how 60 European buildings, ranging from historic to modern, capture and distribute light. Holl (1980) reveals how city planning affected building form to allow passive daylighting and ventilation. The United States Secretary of Interior standards for historic preservation (1992) provide guidance for the preservation of windows and other interior features, however the primary focus is on preservation of exterior facades. The issue of this research -- alterations to historic buildings that affect interior daylighting -- is not noted in the literature and therefore constitutes a significant gap. It is crucial when dealing with daylight to note not only the windows but also other interior features that impact daylight after entering a building’s fenestration.
Method
This research addresses the following questions: First, what strategies were originally used to provide ambient daylighting? Second, what alterations have occurred and why? Third, what is the impact of these alterations on interior daylighting conditions? To answer these questions, the researcher conducted an inventory of campus buildings from the period of 1900-1920. Data collection is mixed modal, combining field study, examination of historical documents, and interviews with facilities managers and occupants. Field study techniques include photography and visual inspections. Historical documents such as original construction drawings, photographs, and news articles provide evidence of the original daylighting features. Interviews with facilities personal probe questions of when and why alterations were made. Interviews with current occupants provide qualitative evidence on current daylighting conditions. For each building, the data are presented through various methods including comparative analysis, graphic analysis, historical narrative, and description.

Results and Relevance
This research examines historic features of buildings that were designed with a knowledge base of nearly a century ago. It was this knowledge base utilized daylight to illuminate interior environments. Moreover, investigation into the alterations tell a story of multiple forces — aesthetic, functional, social, cultural, economic — that led to changes that ultimately impact the interior luminous environment. A fuller understanding of these conditions arms the designer with knowledge that will enable a more informed approach to reclaiming daylighting features in historic building while preserving and enhancing interior environmental qualities.

REFERENCES (APA)


<table>
<thead>
<tr>
<th>Historic Feature</th>
<th>Benefits of Historic Features</th>
<th>Alteration</th>
<th>Problem Being Addressed</th>
<th>Daylighting Impacts</th>
<th>Social/Cultural Reasons for Alteration</th>
<th>Interior Aesthetics/Experiences/Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall Window Head Heights</td>
<td>Allow daylight deeper into space</td>
<td>Covering Top Section of Window</td>
<td>Cover plenum; energy efficiency; reduce quantity of daylight in smaller spaces</td>
<td>Minimizes daylight zone</td>
<td>En vogue to have strip of horizontal windows; energy efficiency;</td>
<td>Positive | Negative</td>
</tr>
<tr>
<td>High Ceilings</td>
<td>Allow daylight deeper into interior space through taller windows</td>
<td>Lowering Ceilings</td>
<td>To accommodate a ceiling plenum for HVAC/Water/Lighting/ etc.</td>
<td>Minimizes daylight zone</td>
<td>advances in systems and mechanization of environmental systems for better control of thermal and luminous comfort</td>
<td>Feeling of Compression, can increase noise reduction</td>
</tr>
<tr>
<td>Interior Windows and Re-lights</td>
<td>Allow for daylight to be recaptured and utilized</td>
<td>Removing Re-lights/ Interior Windows</td>
<td>Privacy- sound or visual, Fire protection</td>
<td>Daylight is not fully utilized</td>
<td>Fire Proofing, more privacy</td>
<td>Sense of Privacy</td>
</tr>
<tr>
<td>Interior Walls- As a rule of thumb were kept about twice the distance of the top of the window</td>
<td>This allows for interior spaces to have ambient lighting needs met by daylight</td>
<td>Moving Interior Walls</td>
<td>Occupant Needs: Increase number of rooms, Placement of Services such as elevators, HVAC, stairs, restrooms</td>
<td>Cave Effect Increases from moving interior walls further from window, glare from windows increases which leads to covering windows to decrease eye strain from glare; Truncating the natural flow of light</td>
<td>Corner Office as a status symbol; open floor plan in homes influence by Frank Lloyd Wright</td>
<td>Can Increase space, or number of rooms; increase sense of privacy</td>
</tr>
</tbody>
</table>

Daylight Strategies & Alterations of Historic Buildings

Wilson-Short Building, 1913
Current design of this building has lowered ceilings to create a plenum for electric light, HVAC, plumbing and a fire suppression system. Thus truncating the daylight portion of the window. Further rooms have been divided to provide one windows mainly to one side which increases contrast and occupant discomfort. When occupants are uncomfortable they will mitigate their discomfort by drawing the curtains which usually will remained closed furthering dependence on electric ambient light.

Though this photograph does show the finished interior, this photo demonstrates how large window supply ambient light for occupants. Further features that contribute to their visual comfort include windows on more than one side of the room, and window mullions that are neutral colors which minimize contrast.

Daylight Impacted by Interior Alterations
Wilson-Short Building, 1913
Upper portions of windows constitutes the daylight portion; lower portion is the view portion. When covering the top portion of the window daylight penetration is restricted to the

Exterior Sun-shading screens on windows Daylight restricts daylight to the interior.

Daylight Impacted by Exterior Alterations

Wilson-Short Building, 1913
Historic Floor Plan Features
Wilson-Short Building, 1913
Current Floor Plan Features that Impede Daylight
Wilson-Short Building, 1913
Interviews with Turkish Women: Rise of Consumerism and Its Influence on Home Interiors

Sibel S. Dazkir & Marilyn A. Read
Georgia Southern University, Oregon State University

ABSTRACT

Since 1980, Turkish economy was transformed from state governed and local to capitalist. This led to rapid economic growth. Per capita income in Turkey has nearly tripled during the past decade (The World Bank, 2013). Kasaba and Bozdogan (2000) claimed that this economic shift along with globalization resulted in social, cultural, and economic transformations in Turkey. New consumer values emerged (Sandikci & Ger, 2000). With this study, we questioned how domestic Turkish interiors reflect the changing economic conditions and consumption behaviors in Turkey, and we aimed to explore this question through women’s perspectives. The data were collected via audio and video recordings of in-depth interviews, observations, and still photographs inside the respondents’ living rooms. Living rooms reflect how the inhabitant reflects self to the society (Rechavi, 2009). According to Gurel’s findings (2009), Turkish living rooms reflected social and cultural change through its usage, decor, and furnishings, and Turkish women were usually perceived as home-makers and were in charge of representing the family to outside world.

Thirty one married women were interviewed in their homes in Turkey. The participants answered questions about: how they use their living rooms; process of salon creation; their childhood house; their ideal salon; whether or not they follow the decoration trends; their opinions on the socio-economic changes in Turkey and replacing furniture frequently. The interviews were transcribed verbatim. The qualitative data analysis allowed us to explore personally and socially constructed in-depth meanings of consumerism, economic change and their influence on living room design.
The majority of the respondents confirmed that variety and availability of consumer goods along with furniture increased significantly in the last three decades. People have more possessions compared to the past, and purchasing power has increased. Eleven (35%) respondents reported that they believed the changing economic conditions and consumption habits were favorable. Twelve (39%) of them perceived the change as negative followed by seven (23%) who perceived it as both positive and negative.

The respondents had different opinions about the rise of consumerism. The findings of this study supported the idea that consumption behaviors influence people's relationship with places. With the changing economic conditions, people live more comfortably, afford items easier, and there is more variety of products to reflect self or create the ideal salon environment compared to the past. Many respondents believed that rise in consumerism, spending unnecessarily, being allured by market pervasiveness, and being able to own products easily make people inappreciative, unhappy, and dissatisfied with what they have, and cause wastefulness. This study provided an understanding of how the socio-economic changes were perceived by the respondents in their domestic space. The results indicate that cultural and economic environments influence society’s perception of buying and decorating.

REFERENCES (APA)


Appendix A: Interview Quotations.

ID25: I am happy with the change [in the economy]; it brought prosperity and abundance of products. From scarcity of necessities, we turned into finding luxury items easily. Our parents and grandparents experienced wars, and they were saving-oriented people. Now, it is better from a materialistic point of view, but it is worse from a spiritual point of view; people cannot take the pleasure in [their possessions] as much compared to the past.

ID1 explained: In the past, there was less variety [of products]... Now, everything is abundant and affordable, but the new generation does not know how to be satisfied with what they have; they take it for granted... The new generation has everything, and yet they are not as happy.

ID31: It is better now. Everyone lives more comfortably. Everyone can afford [consumer products]. People can pay in installments. Yes, there is a little prodigality; I am against it. It is just too much spending. I would not replace my furniture that often even if I were very rich. Money has become a virtue. New generation longs for living comfortably. There is no effort for saving. In our time, we used to be...content with what we had.

ID2: Yes, we have become a consumption oriented society but we also started living a more comfortable life. We did not have much in the past. You could not find many things, at least not in every city. People used to ask their friends and relatives who lived in Cyprus or Germany to bring stuff for them. Only rich people could own some particular brand products. Now, there is more variety [of consumer goods], and purchasing power has increased... When I was a kid, people waited for the fall to do their shopping... because that was when they sold their produce and had a big sum of money. Now, because of credit cards, people can buy things anytime they want. Poor is still poor, but the difference between different socioeconomic groups has been diminished.

ID12: But everything is a lot cheaper now; you can buy ten items for the same money that you used for buying one in the past. People did not have much in the past because they [consumer products] were not available. Now it is abundant, and I am very happy about this. We buy things without thinking whether or not they are necessary,... Yes, it is prodigality but that is fine with me... I would [replace my furniture often even if it is not necessary]. Furniture is not bought for using until it is broken or for using it many years. My parents replace their furniture very often, too. My mother buys new seating units every other year. She replaces them when she notices a little scratch on it. I think, I have the same attitude; I get bored [with my furniture] very easily, and I’d like to replace it often. Even when we lived in the shanty, mom replaced her kanepes (a type of sofa) every three years or so because we used them a lot.

ID5: What fits my budget is what I would buy regardless of fashion. That is my personality. I cannot get on well with people who keep spending their money to get what is fashionable. Such as my neighbors, they are so keen on buying new things. They replace their furniture and their curtains just because they are bored with the existing ones. It was not like this before. This has been going on for the last five or six years. One should not spend this much; people should know how to make use of what they already have. That much spending and shopping ruined marriages. I know people among my neighbors and relatives who got divorced because of financial problems. The new generation is in a very bad condition; they spend too much. They have everything but they are not happy.
Appendix B: Still photographs of the respondents’ living rooms
Branded Environments and Sensory Experience: Developing a Conceptual Framework

Tina Patel
South Dakota State University

ABSTRACT

Issue

According to Marty, “Brand is gut feeling about a product, service or a company” (Neumeier, 2004). Brands get woven into consumers’ cultural universe and start making an emotional connection by engaging five senses. ‘Sensory Branding’ is the concept introduced by Lindstorm (2005), which stimulates and enhances consumers’ imagination and perception by creating emotional ties between brand and consumer. Branded environments promote this experience where customers can see, hear, feel, taste and smell the brand. The presence of multisensory cues contributes and compliments each other in orchestrating the complexity of interiors. This can eventually motivate consumers’ purchasing behavior and allow emotional responses to dominate their rational thinking.

Understanding sensory stimulation of people in branded environments is vital to designing these spaces. Malnar and Vodvarka provide sensory schematics to analyze the built environment. They devised a sensory slider to tap clarity for a particular sense (Malnar and Vodvarka, 2004). Analysis of resulting sensory levels in interior environments provides understanding of the interior’s physical condition in relation to sensory perception of users. Thus, it becomes imperative for designers and retailers to be aware of these sliders to articulate the interior physical conditions to achieve the desired sensory experience.

Process

The purpose of this poster is to propose a conceptual framework to analyze and ideate sensory experience in branded environments. This, framework is developed by expanding the spatial taxonomy of the sensory and haptic slider proposed by Malnar and Vodvarka. The existing sensory slider presents very limited spatial parameters to measure the sensory intensity of the
space as seen in Appendix A. Designers need a more holistic understanding of spatial elements so that they can devise strategies to manipulate them to create desired sensory experience in branded environments. Gestalt Theory of Visual Perception contends when viewing the mind no longer sees the individual parts but rather only aggregate of whole along with thoughts and feelings associated with whole. Gestalt principles aim to formulate the regularities where perceptual input is organized into unitary forms. Principles of closure, continuity, figure/ground and similarity are studied with respect to the branded environments and sensory slider. Grounded theory, one of the methods of qualitative research, is adapted to critically analyze Gestalt Theory of Visual Perception, Malnar and Vovarka’s visual and haptic sensory slider and other principles of spatial articulation and manipulation presented in Interior Design Books by Rengel and Ching. The findings are synthesized and a new framework is proposed, which expands the spatial taxonomy for the Visual and Haptic Sensory Sliders. Appendix B and C, show the visual references to the proposed framework.

Implications
The study was exploratory in nature given little research and writing on this relationship. The framework does give direction to analyze and ideate spatial dimensions to stimulate and engage the senses and creating a memorable experience for the branded environments. The insights and directives from this work suggest added research possibilities and application in interior design, graphics, as well as marketing and retailing to further edit this framework.

REFERENCES (APA)


APPENDIX A: MALNAR AND VODVARKA’S SENSORY SLIDER

Malnar and Vodvarka’s Sensory Slider
It is a tool for analyzing and measuring sensory existence and its intensity in existing buildings.
APPENDIX B: SLIDER FOR VISUAL SENSE

Gestalt Theory of Perception: It studies the ways in which people organize and select from the vast array of stimuli presented to them. It contends that the whole is greater than the sum of its parts. When viewing the mind no longer sees the individual parts, but rather only aggregates of whole along with the thoughts and feelings associated with that whole. This theory can be used to expand the spatial taxonomy for the Visual Sensory Slider.

Our minds tend to complete the unfinished forms and close the gaps. We seek completeness in our perceptual fields. This can be used to enhance the aesthetic appeal of design.

Continuation is the eye's instinctive action to follow a direction derived from the visual field. People will need a good direction to comprehend a scene. It can be used to direct them to touch-points.

The foreground and background is a visual field. The presence or absence can create high or low sensory intensity in an environment. Thus, designer can manipulate this.

Similar objects will be counted as the same group and this technique can be used to draw a viewer's attention.
APPENDIX C: SLIDER FOR HAPTIC SENSE

Malnar and Vodvarka’s Sensory Slider

It is a tool for analyzing and measuring sensory existence and its intensity in existing buildings. They have four parameters for haptic sensory slider that can be expanded further.

Touch relates to texture as felt and seen as a gradient and understood in context. Attribute is identified as certain things for what they are. Further, shape and color can contribute to sense of touch.

Kinesthetic is a muscular tension and resistance exerted against the bodily mass. It can be further expanded by involving strong sense of movement, sense of time, layering and level changes in interior branded space.

Plasticity refers to spatial compression and expansion on human awareness. Surface articulation and treatment of boundaries can further intensify the sensory experience.

Temperature is degree against normative range. Color, lighting and massing psychologically impacts temperature.
A Third Place Plus for Cancer Patients: Social Support in a Restorative Environment + Complementary Healing Techniques

Shefali Thomas, Judy Theodorson & Dana Vaux
Washington State University

ABSTRACT

Purpose
Cancer is a prevalent medical condition of the 21st century. Patients often face lengthy courses of treatment with uncertain outcomes marked by periods of compromised health and social isolation. These stressors are known to negatively impact the emotional and psychological well-being of both the patient and their families. Many types of facilities provide support for oncology patients; a case study of eight projects in the US and India was conducted to identify a range of offerings. This identified a gap in services -- no single facility provides healing treatments and social support within a restorative environment. To address the gap, this graduate design research project identifies a new healthcare model with the overarching goal of creating a holistic environment that benefits physical, emotional and social needs of cancer patients and their families. The conceptual proposal, A Healing Club is grounded in an original theoretical construct that offers an integrative approach to health (Figure 1).

Development of Design Framework
Building program and design considerations are developed through literature that supports complementary healing, restorative environments, and third place social support (Figures 1-2).

Modern cancer treatments are primarily guided by the perspective of the western medical model, focusing on eradication of disease. Conversely, eastern medical models are more concerned with promotion of health, defined as a state of well-being were the body is vital, balanced and adaptive to its environment. Meditation, yoga, acupuncture, and Ayurveda are identified as four techniques that are particularly effective with cancer patients. One study that
implemented such complementary healing techniques within a restorative environment showed positive outcomes for oncology patients. (Kligler, Homel, Harrison, Levenson, Kenney & Merrell, 2011).

Restorative environments are places where people escape to when they experience high levels of stress or mental fatigue (Kaplan & Kaplan, 1989). Nature has been shown to have a considerable influence on restoration and healing of the patient. Appleton’s (1975) Prospect - Refuge theory offers a conceptual approach that classifies restorative environments as areas where one seeks opportunities (prospect) and areas where one seeks safety (refuge).

A ‘Third Place’ is defined as a social place where one always feels welcome and comfortable; there are no fixed goals or schedules (Oldenburg & Brissett, 1982). Glover and Perry (2009) suggest that cancer patients can benefit from a ‘Third Place’, away from home and away from hospital.

Outcomes
A design project serves to test the proposed theoretical framework for an urban site located near medical treatment facilities (Figure 4). During this phase, an emergent finding was the importance of building a sense of community; this initiated the inclusion of more social spaces and activities into the program. A second important finding was the value of an interdisciplinary approach whereby landscape architecture, architecture, and interior design are mutually reinforcing in the creation of a restorative oasis in a urban setting. The overarching conclusion is that this framework fills an important gap in the current landscape of supportive care for oncology patients; further research might explore how this model meets needs of related populations.

REFERENCES (APA)


Figure 1: Theoretical framework
<table>
<thead>
<tr>
<th>theoretical justification</th>
<th>design guidelines (initial)</th>
<th>design development</th>
</tr>
</thead>
<tbody>
<tr>
<td>restoration theory</td>
<td>create a variety of restorative environments</td>
<td>addition of Appleton’s ‘Prospect and Refuge’</td>
</tr>
<tr>
<td>restoration theory</td>
<td>expansion and compression of views</td>
<td>clarified through ‘Prospect and Refuge’ and notions of lines of sight connecting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>interior (near) and exterior (distant)</td>
</tr>
<tr>
<td>restoration theory</td>
<td>indoor courtyards with rooms opening to a view of the courtyard</td>
<td>a ying / yang solution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>lower: rooms surround</td>
</tr>
<tr>
<td></td>
<td></td>
<td>courtyard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>upper: rooms merged with</td>
</tr>
<tr>
<td></td>
<td></td>
<td>courtyard</td>
</tr>
<tr>
<td>restoration theory</td>
<td>transition from exterior to interior -- urban ambience to natural environment - western to</td>
<td>developed in arrival sequence</td>
</tr>
<tr>
<td></td>
<td>eastern medicine</td>
<td>to building</td>
</tr>
<tr>
<td>restoration theory</td>
<td>linking motion through the spaces to restorative environments</td>
<td>“paseo” concept + multiple ways to circulate</td>
</tr>
<tr>
<td>holistic healing</td>
<td>focus the entire ambience on the experience of the patients</td>
<td>diagram of ambient zoning</td>
</tr>
<tr>
<td>holistic healing</td>
<td>circle symbolic to holistic healing generative in space planning</td>
<td>circles (courtyards) within</td>
</tr>
<tr>
<td></td>
<td></td>
<td>rectilinear form (building)</td>
</tr>
<tr>
<td>social support</td>
<td>maximizing social interaction between patients: formal + informal</td>
<td>further developed as to type /</td>
</tr>
<tr>
<td></td>
<td></td>
<td>length of social interactions</td>
</tr>
<tr>
<td>social support</td>
<td>build supportive community</td>
<td>building program and interior</td>
</tr>
<tr>
<td></td>
<td></td>
<td>elements informed by ‘sense of community’ theory</td>
</tr>
</tbody>
</table>
Figure 3: Linking theoretical framework to building programming
Figure 4: Conceptual Design Proposal
The Exploration of Cross-Disciplinary Scholarship: A Notion Fit for the ‘Big Screen’

Erin E. Adams
Western Carolina University

ABSTRACT

In 1990, Ernest Boyer published Scholarship Reconsidered, in which he argued for abandoning the traditional “teaching vs. research” model on prioritizing faculty time, and urged colleges to adopt a much broader definition of scholarship to replace the traditional research model. According to Boyer, the traditional definition of scholarship (new knowledge through scientific breakthroughs, journal articles, publication of books) presents too narrow a focus. Instead, Boyer argued, scholarship should also encompass the application of knowledge, the engagement of scholars with the broader world and the way scholars teach. The Boyer Model suggests that the new version of ‘scholarship’ should include four categories: discovery, integration, service and teaching (Boyer, 1990).

In 2007, University name withheld adopted Boyer’s definition of scholarship to replace traditional measures of research for tenure and promotion considerations. This model now offers a platform to include cross-disciplinary, collaborative efforts as an accepted form of scholarship. This poster will focus on one faculty’s interpretation and assimilation of Boyer’s Scholarship of Integration, as outlined in an ongoing student project, and highlight the possibility of an alternative form of scholarship.

The interior design department at University name withheld has coupled with the Motion Picture and Television Production (MPTP) program to create an interdisciplinary opportunity for design students to practice design on a much larger stage. As a requirement for graduation, each student in MPTP must write and direct their own motion picture film. Although the student-writer/director possesses an intimate knowledge of his character(s), he was seldom able to successfully translate this knowledge into a holistically designed space that truly encompassed
the essence of the character(s). To increase 'believability' of senior thesis films, interior design seniors were brought in during the film’s pre-production stage to professionally design each scene.

As design students move through the traditional design phases, they are given the opportunity to apply their design knowledge in a real-world setting. They explore alternative methods for design process documentation (from MPTP), work with 'clients' and sub-contractors (grips, lighting hands, set builders), specify materials and finishes, gain a working-knowledge of scheduling dilemmas and experience the challenge of tangible budget constraints. In the course of a single semester, design students are able to present their design solutions to the 'client', become an active participant in the construction and installation of their design and see their final designs come to life on the silver screen. This interdisciplinary, collaborative project is at the heart of the Boyer Model's Scholarship of Integration and is currently beginning work on its eighth film. This project has proven to be a win-win for both the MPTP and interior design students, as well as the faculty leading the process.

This poster will showcase imagery documenting the creative processes used in motion picture design, include samples of design student work and foster a one-on-one dialogue that considers cross-disciplinary projects as an opportunity for non-traditional scholarship.

REFERENCES (APA)

Measuring Out My Own Learning: 
Formative Pedagogy Used to Educate Millennial Interior Design Students Hand Drafting and Model Building Skills

Tommy Crane & Kyoung-Im Park
Valdosta State University

ABSTRACT

The traditional method of instructing entry-level interior design students in technical drawing follows a fairly well-established formula. First, lectures and demonstrations are used to familiarize students with the various drawing types, line types and weights, architectural lettering, etc. Then students are provided with preexisting technical drawings that they are then asked to redraw. As a method of learning professional drafting, however, this is unlike to prove effectual for the Millennial generation of interior design students (Sickler and Pable, 2009). Having existing plans and elevations that students must redraw may provide them the technical and mechanical skills of drawing, but does it allow for comprehension of the volumetric space represented by those drawings? Would a formative pedagogy where students integrate Lee Shulman’s (2005) habits of mind, heart and hand provide a more effective educational approach to student learning outcomes?

To test this enquiry, an assignment was developed for the Studio I course that requires students to actively field measure and annotate a space. This assignment is given early after students have been presented with lectures and demonstrations on basic drafting skills and equipment use; these presentations are also supported by daily and weekly assignments to practice drafting skills. Once all required views have been processed from graphite on tracing paper to inked vellum drawings, students construct scaled models of the space verifying their measurements and gain insight to model-making for understanding volumetric spaces. Students also produce a perspective view for their rendering studio to inter-collaborative teaching within the program.
The application of these concepts and techniques onto drawn views of the space that they themselves measured allows for a more effective learning. By using their own notations and field measurements, students are dependent on their own “habits of the mind” (Shulman, 2005) for the successful completion of their drawings. Applying lectures with hands-own collected information provides students with valuable experience (Honey. P., 2009) that helps make connections to an actual environment as well as allowing them to comprehend the importance of what and how interior spaces are drawn.

The key objectives are:

• Active observation, awareness and participation of built environments through personal data collection.
• Engagement in actual development of course assignment through use of collected data.
• Gain knowledge of how to field measure and convert into scaled dimension drawings.
• Gain knowledge of drafting / drawing as a form of communication and its importance for model building skills.

The outcomes of my inquiry are drawn from a total of 22 students enrolled across two semesters, with data collection continuing in association with ongoing course offerings; examples of student work are can be viewed in the appendix. Initial results suggest that students are more actively engaged in class activities and have increased efficiency in drafting skills, as well as a clearer understanding of scale and proportions from both drafting and model building. These results are based on student feedback as well as ongoing review of student production in this and other interior design courses, including those overseen by other faculty members.

REFERENCES (APA)


Shulman, L.S. (2005b) *Signature pedagogies in the professions.* Daedalus, 134:3, 52-65
Hello students,

These past few class meetings, we have discussed architectural lettering, line weight, line quality and how to use a scale. We have briefly discussed plans and how to draw them. This project will combine all of what you have learned and put them into a hands-on small project. The list below is the break down to the project, part one.

1. You will need to physically measure out the room x (sophomore studio) with a measuring tape. Make note of doors, windows, cabinets, and ceiling height (to the ceiling grid only).

2. Take these measurements and draw out the floor plan and elevations (in graphite) at 1/2” = 1’-0” scale on Tracing paper. Use appropriate line weights and line types.

3. Please letter your work and also add the dimensions of the walls (inside thickness to inside thickness) to your drawings. Make note that wall thickness will be 1’-0”. This is added to the dimensions you get for the walls.

4. Once you have completed the graphite drawings and they have been approved by the instructor – you may start drawing ink on vellum.

Model building

1. You will need to use the measurements from your floor plan and elevations. You will also need cutting supplies (i.e. X-acto knife and replacement blades, glue (craft glue that dries clear works best), a board material (foam board is acceptable, however more sustainable options will be considered.) Finished presentation of model is important so please be neat.

2. Take the plan and elevations and have good clean copies made then and apply to the board material.

3. Take the board material and cut out the floor plan and elevations (do consider how corners should meet. Also consider window and door locations and also build out upper and lower cabinets.

4. Neatly assemble the pieces together.
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Do not have (F)</th>
<th>Developing (D)</th>
<th>Competent (C)</th>
<th>Strong Comp. (B)</th>
<th>Exemplary (A)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensioned Floor Plan (Scale 1/2&quot; = 1'-0'”)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/30</td>
</tr>
<tr>
<td>Well developed and drawn correctly and is correct scale and complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate use of line weights and line quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension values are correct and drawn correctly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drawing is correctly labeled and scale is provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North arrow is provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensioned Elevations (all 4 walls)(Scale 1/2” = 1'-0'”)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/30</td>
</tr>
<tr>
<td>Well developed and drawn correctly and is correct scale and complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate use of line-weights and line quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension values are correct and drawn correctly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drawing is correctly labeled and scale is provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model (Scale 1/2” = 1'-0'”)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/30</td>
</tr>
<tr>
<td>Well developed and correct scale and complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model lines up and matches scale of floor plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model construction is neat, professional and finished</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lettering</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/10</td>
</tr>
<tr>
<td>Clean, concise, free of misspellings and grammatical errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well developed and drawn correctly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate use of line-weights and line quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>/100</td>
</tr>
</tbody>
</table>

Additional comments
(A) **Excellent and superior academic work.** A clear and thorough demonstration to the knowledge of the drawing types. Student clearly demonstrates the ability to critically apply the knowledge, skills, processes, and ideas studied with independent thought and creative expression. Students clearly demonstrate that they have the ability to go beyond requirements outlined by the instructor in meaningful and thoughtful methods. All drawings are clearly developed with strong attention to details on all planes (floor, walls, ceiling, etc.) Detail components are well developed and use appropriate line weights to relay appropriate communication through the drawings. Lettering is well developed and concise. All work is turned in on time.

(B) **Above average, approaching excellence in academic work.** A clear and thorough demonstration to the knowledge of the drawing types. The student clearly demonstrates the ability to critically apply knowledge, skills, processes and the ideas studied with limited implementation of independent thought and creative expression. The student may go beyond course requirements as outlined by the instructor, but may not have realized or demonstrated the full potential independent thinking and creative expression in drawings. All drawings are developed with some attention to details on all planes (floor, walls, ceiling, etc.) Detail components are developed and use appropriate line weights to relay appropriate communication through the drawings. Lettering is developed but could use more practice for conciseness. All work is turned in.

(C) **Average academic work.** A clear understanding and knowledge of central topics, skills, processes, and ideas studied in the drawings. The student sufficiently demonstrates the ability to critically apply knowledge, skills, processes, and ideas studied to drawings. Limited or misdirected independent thinking or effort to go beyond course requirements. Most drawings are developed however missing attention to details on all planes (floor, walls, ceiling, etc.) Detail components show a need for improved development and along with line weights to relay appropriate communication through the drawings. Lettering needs better development and could use more practice for conciseness. All work is turned in.

(D) **Below average academic work.** Minimal acceptable understanding and knowledge of central topics, skills, processes, and ideas studied in drawings. The student weakly demonstrates the ability to critically apply knowledge, skills, processes, and ideas studied to drawings. Lack of independent thinking or effort to go beyond course requirements. Most drawings are poorly developed and missing details on all planes (floor, walls, ceiling, etc.) Detail components show a major need for improved development and along with line weights to relay appropriate communication through the drawings. Lettering is poorly develop and needs major practice for conciseness and clarity. Not all work is turned in.

(F) **Unacceptable academic work.** Inability to demonstrate minimal understanding of central topics, skills, processes, and ideas studied in the drawings. The student does not demonstrate the ability to critically apply knowledge, skills, processes, and ideas studied to drawings. No independent thinking or effort to go beyond course requirements. Most drawings are not developed and missing most or all details on all planes (floor, walls, ceiling, etc.) Lettering is not clearly developed and requires major practice for conciseness and clarity. Not all work is turned in.

The above grading breakdown is based on the informed opinion of the instructor. The ability for +/- s is left to the instructor based on if there is a need for work to fall between the above mentioned categories. The justification for the +/-s is dependent of the overall quality of the assignment and averaging of the categories being graded.
Example of student model based off project. Student 1 showed comprehension of needed details that were not specifically required for project.

Example of student model based off project. Student 2, international student, showed an understanding of the imperial measuring system.
Digital Fabrication & Rendering Pedagogies for Interior Design: Merging the Abstract and Corporal through Precision and Intuition
[ Or, The Improper Use of Digital Media: A Primer ]

Jonathan Healey & Sydney M. Luken
Corcoran College of Art + Design

ABSTRACT

"The case of the 19th century drawing machines illustrates that advances in design knowledge and instrumental knowledge are often complementary, even symbiotic: one enables the understanding and expansion of the other."

— Andrew J. Witt, “A Machine Epistemology in Architecture”

The work discussed here is the product of a graduate-level elective engaging digital fabrication as process and re-examining the issues inherently at stake with rendering tools. The course proposes innovations in interior design education through non-conventional digital design methods to introduce relationships between precision-based craft and intuitive design-thinking.

[ The Premise: Media is generative when you know how to (mis)use it. ]

Challenging conventional studio methods of drawing and modeling instruction, the faculty devised two projects: one focused on vector drawing and evaluated through tactile feedback, the other working with raster datasets and measured by affective responses.

[ Software is a means, not an end. ]
The five-week course proposed a theoretical framework defining systems of knowledge as both empirical-mechanical, as expressed by Witt, and experiential, per Robin Evans’s insistence of the intrinsic relationship between the abstract and corporal aspects of design. Each assignment constructed an instrument-oriented process of translation initially focused on precision—to the point of exact reproduction—so as to ultimately inform new concepts for proto-environmental applications.

[ Application and speculation go hand-in-hand. ]

In the first project, students translated an historical ornament to a vector pattern, then to a physical assemblage. Use of a retail-scale electronic cutting tool required exacting precision; students examined the craft of their drawings through a quasi-bas-relief model, introducing material dimensionality to the analysis. Defining the compositional layers to construct a 3-dimensional expression of the drawing necessitated numerous revisions to students’ initial interpretations.

[ Don’t judge a tool by its targeted audience. ]

In the second, the ambiguous and affective were introduced when J.M.W. Turner paintings replaced geometric ornament as the subject of translation—this time raster-based. Students used image-editing software as an analytical tool to investigate the paintings’ spatial devices. They then attempted to represent the painting and its atmospheric qualities as a 2-dimensional tableau using 3-dimensional modeling software.

[ Use familiar tools in unfamiliar ways. ]

Timed iterations of the digital model were restricted by a progressive application of rendering properties, creating an analog buffering process wherein each successive translation attempted to construct a more precise resolution of the painting. Rendering properties included quantity of objects and object-layers, surface properties, and lighting controls. The translations demanded constant adaptation to keep pace with the interaction of changing variables. Final experiments with animation encouraged students to orient away from the original picture plane for tangential spatial explorations.
Limitations are revealing.

The resulting work demonstrates the generative potential of introducing new drawing and modeling processes to the interior design curriculum, and the benefits of methodological control to a more speculative design process. Students’ interest in their final output provoked expectations of surface and spatial application, suggesting potential for further course development. The accompanying poster will demonstrate evidences of both in-studio processes as well as examples of each project’s conclusion.

Expect the unexpected.

REFERENCES (APA)


The source image is reproduced via layering of vector patterns. Pattern swatches are developed for use with the electronic cutting tool. Digitally fabricated material evidences of pattern tests introduce physical and volumetric depth. The final assemblage is photographed to explore potential spatial application. Work by Kathy Chisholm.

Construction of the historical ornament is analyzed through refinement of the digital drawing analysis. A quasi-bas-relief model studies the compositional relationship of pattern layers. Speculative environmental studies are achieved through lighting and photography.

Work by Victor Fehrenbach.

Various means of assembling the digitally fabricated components are tested.

Work by Tom Raviv.


In this example, a pattern swatch element is extruded to serve as a jig. Work by Dalia Santibanez.

Digital selection tools are used to analyze the painting’s compositional application of color and light. Translative precision of the digital model increases as additional rendering properties are made available. The output is considered for its atmospheric qualities. Animation reveals ample opportunity for tangential spatial exploration. Work by Rebecca Elmore.

Compositional structure is documented in lighting placement. Work by Amanda Ripley.


Variations in material opacity produce volumetric effects in off-axis explorations, evidencing spatial speculation. Work by Tom Raviv.

Reflection Made Visual: 
Analyzing Student Triumphs and Tragedies

Amy Huber
Florida State University

ABSTRACT

Management of one’s own learning is often one of the most difficult; yet, important endeavors for a college student (Pascarella & Terenzini, 2005). Complexities surrounding learning are many; students live multi-faceted lives and their learning is a result of both their individual temperaments and their respective situations (Gurung & Schwartz, 2013). To assist in metacognitive development educators need to build a contextual understanding of their student’s thinking (MeNeely, 2010) and learning (Ambrose et al., 2010). While important, this can be an overwhelming task in an educator’s already busy schedule.

In executing design studio projects, much can be learned from critically examining student’s perceptions of their own triumphs-achievements and tragedies-hindrances during the course of their work. Research tells us reflective writing can not only help obtain these perceptions for an educator’s use; but, can also prompt students to examine the meaning of their own learning (Fink, 2003) and improve their learning management (Ambrose et al., 2010).

This poster presents a visual meta-analysis of a studio cohort’s perceptions based on individual reflective narratives collected weekly during a junior-level corporate studio project. Students were directed to respond to questioning prompts during six interventions and subsequent data were coded via priori themes regarding student perceptions of achievements, antecedents to achievements, hindrances, and potential solutions for hindrances (see Figure 1). Each student’s themes were color coded, illustrated on a cluster diagram, and overlaid on the project timeline.
Preliminary findings
Analysis of the entries illustrated both expected and unexpected themes. Students overwhelmingly felt that feedback (both instructor and peer) most contributed to their achievements. Student perceptions of hindrances were split between frustrations in documenting ideas using newly learned media and difficulties in time management. Final anonymous reflections were conducted at the project’s end to better understand specific contributing factors to student perceived success; students often mentioned hands-on activities as being particularly remembered and helpful. Students were also asked if they felt they achieved their initial goals, all students (n=11) answered some form of Yes; interestingly, some added exclamation points (n=4) and smiling faces (n=5) to their responses.

Student reflections became a tangible tool for the instructor to understand areas needing more emphasis and depth of exploration. The instructor was better able to ascertain what students were retaining from class sessions and how information was used. Data from the reflections provided an opportunity for just-in-time discussions and was subsequently used to improve delivery of the following project. Students informally commented that responding to the prompts first seemed overly arduous; but, became an effective use of their time. More research would be needed to bolster these comments. Data proved useful in building a case to acquire additional software and to extend hourly access to computer labs. It is hoped that with continued use and refinement of this developing framework instructors could longitudinally chart changes to student perceptions over subsequent semesters.

Data such as these could become a source of improvement for instructors as well become a visual tool for sharing ideas and experiences with other educators.

REFERENCES (APA)


Figure 1. Taxonomy of data collection areas.

Question Matrix

<table>
<thead>
<tr>
<th>Project Start Up</th>
<th>Weeks 2-5 (asked each week)</th>
<th>Project completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are your personal goals for the project?</td>
<td>Rate your level of excitement (1 low; 5 high) and apprehension.</td>
<td>Did you achieve your goals?</td>
</tr>
<tr>
<td>Describe your numbers…. (2-3 sentences)</td>
<td>What are you currently working on?</td>
<td>How would you rate your level of accomplishment (1 low; 5 high)</td>
</tr>
<tr>
<td>What activities (in class or out) have best prepared you for this project? (2-3 sentences)</td>
<td>What has been your biggest accomplishment up to this point?</td>
<td>Describe your numbers…. (2-3 sentences)</td>
</tr>
<tr>
<td></td>
<td>What led you to this accomplishment?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What has been your biggest obstacle/hinderance?</td>
<td>What was your biggest accomplishment?</td>
</tr>
<tr>
<td></td>
<td>How could you overcome this hinderance?</td>
<td>How did you achieve it?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

status/other

accomplishments

hindrances
Course Syllabus excerpts

Project with reflection data is framed

CONTACT INFORMATION:
Instructor: 
Office: 

Please contact me via email for class questions with the heading FCS 370

Course Meets in Turner 141 Tues, Thurs 2:00-4:50 pm

COURSE DESCRIPTION:
This course develops the student’s ability to solve problems of a complex nature in commercial spaces. Client analysis, programming, space planning, design and selection of interior components, and lighting are presented in a logical sequence from design concept to construction documentation and presentation materials. The student is introduced to the process of linking rooms and spaces by architectural promenades and developing an understanding of how axis, focal points, openings, screens, enclosures, and signage create and define space for both public and private environments.

COURSE STRUCTURE
The course will consist of lecture, lab, critiques, group and individual meetings, presentations and field trips.

REQUIRED MATERIALS
Texts:
- Interior Graphic and Design Standards; Reznikoff
- The Codes Guidebook for Interiors; Harmon, Kennon
- Designing Commercial Interiors, Piotrowski, Rogers

Supplies:
Course information will be supplied via ReggieNet
Appropriate drafting equipment, materials and books to complete individual projects.
Metal Measuring Tape, 16’ min.
1 roll 8.5x11 trace paper-will need trace for second day of class

EVALUATION METHOD

Projects: 
Small Office 35pts
Office Project 300pts
- Case study 25 points
- Concept Board 25 points
- Presentation Boards 100 points
- Drawing Checks 50 points
- Construction Drawings 100 points

Restaurant Project 150 pts
- Resource Presentation 5 pts
- Participation 10 pts
STUDIO SCHEDULE
Tentative Time Line for Projects; see project work plans for detailed information

Project 1-Marketing Firm
Week 1-2 ½

  Project Concept Due Jan 17
  Due January 29

Project 2-Bank Offices
Week 2 ¾-7

  Project Approach Due February 5
  See work plan for drawing checks
  Design Presentation Due February 21
  Construction Drawings Due February 28

Project 3-Retail Design Institute Restaurant Project
Week 7-15

  Project Approach Due March 21
  Design Presentation Due Friday May 3

Syllabus and schedule subject to change.
Please note one Friday class session during week 15
In order to assist students in time management mini deadlines may be established for any project
MONEY NATIONAL BANK

DESIGN PROPOSAL

perspective one

perspective two

floor plan

1: WAITING/RECEPTION
2: MARKETING ASSISTANT
3: COMPUTER
4: MECHANICAL
5: MARKETING
6: PRESIDENT
7: HR
8: CEO
9: BOARD
10: LARGE STORAGE
11: BOARD
12: GROWTH OFFICES
13: MANAGER & LOAN STAFF
14: LOAN OFFICER #1
15: LOAN OFFICER #2
16: SMALL STORAGE
17: COPY/SUPPLY
Hybrid Spaces: 
Wireless Users’ Perceptions of Indoor Public Space

Amanda Gale & Melanie Duffey  
Auburn University

ABSTRACT

As technology becomes increasingly mobile and integrated within daily life, there is a need to understand how this impacts the physical environment (Forlano, 2009). This is particularly true for urban dwellers, where public spaces aid in fostering community and creating a sense of place outside of the home and work environment. Cities and non-profit initiatives have begun sponsoring free access to Wi-Fi in public spaces as a response to digital divide concerns. The purpose of this study was to examine users’ behaviors within an indoor privately owned public space (POPS) with free access to Wi-Fi, and investigate users’ preferences toward the physical characteristics of the space.

‘Third places’ are conceptualized as public spaces used for informal social interaction outside of the home and workplace (Oldenburg, 1989). Oldenburg (1989) warns against the absence of these physical places as it can result in fragmentation of community and overall quality of life. Forlano (2009) suggests that wireless networks can reconfigure people in spaces. Some scholars suggest that Internet access, within public space, may have the ability to increase the overall use of these spaces (Hampton, Livio, & Sessions, 2010); while others argue that technology is diminishing the social importance of public spaces. Additionally, the management and design of indoor POPS have often been criticized for purposefully discouraging public use through various management and design controls (Kayden, 2000). However, succeeding the introduction of free Wi-Fi into public space, there is little empirical research in how this has impacted human behavior, public use, and perceptions.

This study examined the role of wireless networks at Winter Garden Plaza, an indoor POPS in Lower Manhattan where free Wi-Fi has been provided since 2003. A mixed methods approach
paired observational data with a web-based survey. The observational data was collected through behavioral mapping to reveals users’ behaviors and social interactions within this space. The survey was designed to reveal users’ preferences toward the physical characteristics of public space.

The findings revealed common patterns among wireless device users. When wireless users were present, mobile seating options were preferred over fixed seating choices. Environmental factors, such as vegetation, were significant qualities in preference of public spaces. This finding corroborates existing literature that discusses the importance of access to nature. Furthermore, results indicated that users prefer public spaces with free wireless access over most other physical attributes within the space. Findings also revealed that convenience in location and small-scale food consumption ranked highest in user preferences of public spaces.

The results indicate that even as technology becomes increasingly integrated within daily life, public spaces still serve as a ‘third place.’ Therefore, the role of wireless connections on the behavior of individuals is increasingly necessary for interior designers to understand in order to design spaces that support new uses. Additionally, this research advances the growing body of knowledge on contemporary issues in interior design. This poster serves as a tool in graphically communicating the complex relationship of hybrid spaces and the interaction between physical and digital space.

REFERENCES (APA)


PRESENTATIONS
Empirical Approach in Designing a Store: Comfort, Arousal, and Motivation

Kyuho Ahn & King Tang
University of Oregon, Rafael Vinoly Architects PC

ABSTRACT

From the notion that a store environment takes a primary role in inducing the shopping experience and behaviors, many empirical studies on the store environment have been conducted. One of the primary frameworks used for many of these studies is the Stimuli-Organism-Response (SOR) theory, which states that induced feelings of “pleasure” and “arousal” and their interaction moderate the shopping experience and behavioral intentions (Donovan & Rossiter, 1982). However, Kaltcheva and Weitz (2006) found that pleasure, along with satisfaction, is found as a dependent variable of arousal concurrency based on shopping motivational orientation. Also, Wirtz, Mattila, and Tan (2007) found that consumer satisfaction is maximized when perceived arousal meets a consumer’s arousal expectations. This supports the Mehrabian and Russell (M-R) model’s view that an intermediate arousal level should be achieved for positive behavioral responses (Mehrabian & Russell, 1974), whereas arousal in the SOR model has a linear relationship to positive behavior under a pleasant environment. The concept of arousal in the M-R model and arousal concurrency offer designers information on how to manipulate store stimuli for intended customers. However, pleasure in the M-R model, an internal organism of consumer experience, should be reconsidered because it conflicts with the concept of pleasure in Kaltcheva and Weitz’s study. Scitovsky (1992) suggested “comfort” as a shopping motivation that moderates induced pleasure and satisfaction, while the current study argued that “comfort” can replace “pleasure.”

The goal of this study, therefore, was to investigate whether a positive consumer shopping experience (pleasure) induced by store stimuli is moderated by the interaction between comfort and intermediate arousal based on shopping motivational orientation. It hypothesized that pleasure (positive response) is 1) induced by a moderate arousal level (medium brightness of
lighting) in a comfortable condition (music) and 2) maximized when a motivational expectation (low or high arousal motivation) that is controlled by a motivational scenario meets a proper intermediate arousal condition (medium low or medium high arousal) that is controlled by lighting conditions in a comfortable environment.

An experimental study, which showed a computer rendered image of a coffee shop, was conducted by manipulating four different lighting conditions (dim/medium-low/medium-high/bright) as an arousal variable. Two sound levels (music vs. noise) were manipulated for comfort and discomfort conditions. Arousal motivations were controlled by motivational scenarios. A total of 89 subjects voluntarily participated; each subject was randomly assigned to one of eight experimental sessions. Both the independent-sample t-test (hypothesis-1) and paired-samples t-tests (hypothesis-2) were conducted to test the hypotheses.

The results of hypothesis-1 showed that a consumer’s positive shopping experience is maximized at the intermediate arousal level (medium-bright-lighting-condition) under a comfortable environment. However, hypothesis-2 was partially supported in that participants preferred the medium low arousal condition, regardless of motivational scenarios. This suggests to designers that an intended arousal level of store design should not exceed a consumer’s arousal expectation. When a high arousal condition is expected in retail environments, increasing the arousal level of a store should be conservative. Further research opportunities and additional findings will be discussed at the presentation.

REFERENCES (APA)


Display Layout and Perceived Crowding: Examining the Effects of Interior Design on Customers’ Perception of Crowding in a Retail Environment

Ahmed Alawadhi & So-Yeon Yoon
University of Missouri-Columbia

ABSTRACT

A crowded store is often recognized as an indication of a successful business. However, crowding can also cause lasting negative effects on customers, such as spending less money or leaving the store without making a purchase (Michon, Chebat & Turley, 2005). One possible solution is for the physical setting to facilitate traffic flow on the selling floor with the arrangement of displays, i.e., display layout (Berman & Evans, 1992). Although interior designers in charge of designing the physical retail environment are capable of controlling the overall effect of perceived crowding (Baker et al., 2002; Eroglu & Machleit, 1990), empirical evidence and knowledge base supporting designers’ process of making informed decisions are scarce. When interior design purposefully helps consumers perceive, process, and experience the environment, positive shopping behavior can be elevated regardless of the crowding situation.

Using high-fidelity virtual environments, the current study empirically investigates if and to what extent display layout affects the perception of crowding in a retail setting. Furthermore, the study examines the role of consumers’ individual differences (gender, culture, and other individual characteristics) in processing the crowding situation. After formulating our research hypotheses and operationalized key concepts (Figure 1), a 2X2 within-subjects experiment was designed to empirically test the effect of two types of layout (free-flow vs. grid-based) under two crowding conditions (high vs. low).

Referring to visual references of international retail stores, we developed computer-simulated, 3D department store interiors representing two distinct layout typologies: a free-flow condition
with an asymmetric display arrangement in a non-defined pattern, and a grid-based condition with displays arranged in perpendicular axis (Figure 2). We arranged 3D human figures to simulate customers in a crowded store, both with high and low human densities. The amount of display and circulation was calculated and matched between the two types of layouts. In addition, the color scheme was controlled for all manipulations with low saturation and a sophisticated color scheme.

A total of 40 college students from a Midwestern University participated in the experimental study. In the VR lab, subjects were randomly assigned to one of the two layout conditions and asked to walk through the virtual store space using a joystick (Figure 3). Immediately after the experiment, data collection began through completion of a questionnaire containing a series of questions, including self-report of perceived crowding—both human crowding and spatial crowding (Machleit et al. 1994). Using ANOVA and T-test, the study tested and compared the direct effect of different display layouts on perceived crowding for each condition. In addition, roles of differences between individuals were examined. Findings from the analyses will be presented and implications will be discussed.

REFERENCES (APA)


Using Design Thinking to Identify Issues with Special Education Classroom Environments

Lori A. Anthony, Holly L. Cline & Christopher M. Good
Radford University

ABSTRACT

In 2011, approximately 5.8 million American schoolchildren, ages 6 to 21, received special education services through the Individuals with Disabilities Education Act (IDEA) (Education Week, 2011). Enacted in 1975, IDEA mandates that special needs children ages 3–21 receive a free and appropriate public school education (US Department of Education, 2012). The IDEA was amended in 1997 to facilitate the rights of special needs students so that they may be educated with general education students (Abend, 2001). This amendment (Section 504) identifies several concepts related to the planning and design of educational facilities. One requires placement of special needs students in close proximity to mainstream education programs. In other words, to the greatest extent possible, they must be educated with general education students (Abend, 2001). According to the U.S. Department of Education, between the 1988–89 and 1997–98 school years, the number of special needs children spending 80 to 100 percent of their instructional time in the general education classroom grew from 30 to 46 percent (Office of Special Education Programs, 2000).

The integration and sharing of classrooms presents unique challenges related to the physical learning environment. The purpose of this project was to use design thinking to identify issues with the learning environment of special needs children and cultivate multiple solutions. This presentation will share insight into a community outreach project, where three researchers, one educator and two interior design professionals, conducted five design thinking workshops with 20 middle school special education teachers at a public school in Virginia. According to Thomas Lockwood author of Design Thinking: Integrating Innovation, Customer Experience, and Brand Value, design thinking is a “human-centered innovation process that emphasizes observation, collaboration, fast learning, visualization of ideas, [and] rapid concept
prototyping..." (Lockwood, 2009, page xi). Design thinking was used to investigate the issue of special needs learning environments for two reasons. First, the researchers wanted to test its usefulness in addressing the complex needs of special education facilities. Second, it was used to elicit innovative thought, creative ideas and foster brainstorming from special education teachers.

The first workshop asked teachers to reflect on the biggest challenge in their classroom. They participated in design thinking activities to facilitate problem identification. During workshop two, teachers were charged with finding find common themes, identifying stakeholders, and developing a comprehensive understanding of the challenges to further define the problem. Common themes and initial codes related to the classroom that came out of this session included:

1. Distraction/focus
   a. Lack of student and instructor preparation
   b. Classroom disruption
   c. Over stimulus of students
2. Space limitations/conflicts
   a. Space not optimized for individual learning
   b. Lack of input in how space is allocated/scheduled/utilized

The third workshop facilitated ideation and prioritization while the activities for the fourth workshop helped teachers validate their ideas and refine their solutions. The final workshop summarized findings and identified ten viable solutions for addressing the issues and problems related to learning environments for special needs children.

REFERENCES (APA)


Design Lessons in Craftsmanship and Mass Production from the Furniture Industry

Theodora Batchvarova
University of Houston

ABSTRACT

Until the Industrial revolution furniture and buildings had one thing in common: their designers were their makers. Economic, technological and cultural development have changed this physical relationship. Information technology is affecting this connection even more. This research will explore parallel models of engagement in the interior design and the furniture industry that integrate design and production, craftsmanship and technology, and will compare changes induced by faster introduction of new materials and technologies, lean manufacturing, better use of customization and mass production, and an improved cross-discipline dialog.

Framework

What we know today as contemporary furniture design, was born in Italy after World War II (Bornsen-Holtmann, 1994, p. 10). Italian furniture design exemplifies timeless quality, creativity and a level of craftsmanship that has not been compromised by economic conditions. Rooted in solid traditions, blending pragmatic needs and technical knowhow, it embodies expression of imagination, individuality, and poetic values. It has been able to keep up with technology and its innovation level has surpassed that of contemporary architecture. It has also preserved the intimate connection between designing and building, thinking and making (Casciani, Sandberg, 2008, p. 26).

Most of Italy’s well-known furniture designers were architects. This is the first country in which architecture, interior design, and industrial design were not separated. Even with the specialization of labor and increased dependency on technology, the act of designing and making were never apart – the tactile relationship between the object of design and its creator, or the intimate connection between designing and building, thinking and making, has not
Design Practice and Process • Scholarship of Design Research • Presentation

diminished. The quest for quality had dictated that furniture designers are an integral part of the production process. The result of such holistic approach was the blend between modern technology and mass production, or between commodity and art.

A similar process occurred simultaneously in the USA, which already had developed mass production methods on a large scale. Commercial furniture design became a catalyst between designers, psychologists, material scientists, business professionals. It became quickly apparent, that the industry was gaining strength, and the product demand created a change in work place, and living culture. Extensive research, the interest in blending innovative technologies and materials (Gualteri, 2003, p. 35), while focusing on comfort and ergonomics, is again producing a blend between technology and art. It is now influenced strongly by sustainability in broad terms: cradle-to-cradle design and production, lean manufacturing, low VOC finishes, rapidly renewable materials, etc.

Conclusion | Discussion
The comparison of different US commercial furniture manufacturers’ research, design, and manufacturing processes is valuable as it helps to determine the new role of the contemporary designer. The furniture industry has created a successful business model driven by innovation, handcraft, standardization, and customization which can be used in interior design and architecture to reestablish craft by changing the design process and the integration of all acts of design, manufacturing, and construction (Steelcase. 2011. P. 7). As a result the designer’s ideas will come into a direct, intimate contact with the public.

REFERENCES (APA)


The Digital Portfolio as an Assessment Tool in Interior Design Job Interviews

Diane Bender
Arizona State University

ABSTRACT

The purpose of this study is to investigate the role of the digital portfolio as an assessment tool in the job interview process. Design portfolios have typically been used as methods of assessment for entry into higher education programs and as exit tools for today’s graduates (O’Donoghue, 2009). Many of today’s technologically proficient graduates are creating their collection of work as a digital portfolio to present to prospective employers via CD-Rom or the Internet (Luescher, 2010). These digital portfolios can go beyond “the normal” for dramatic effects such as virtual reality, 3D modeling, rendering, animation, and audio and video narratives.

However, it is unclear how practitioners evaluate these portfolios in a job interview. Many blogs, handbooks and websites exist for how to create a digital portfolio, yet empirical research on the portfolio has not been conducted for decades (Matthews & Gritzacher, 1984). Are digital portfolios evaluated any differently than traditional printed portfolios? Do digital presentations make a bad portfolio better? Do digital portfolios only assess the applicant’s skill with computer technology and not the mastery of the profession? Portfolios are used to network with professionals, display the candidate’s level of creativity, assess the work done in design studio education, and secure employment in a job interview. With multiple and diverse uses, it is logical that some disagreement will exist as to the portfolio’s correct content and format.

Methodology/Process

The data collection stage of this research involves in-depth semi-structured interviews with selected practitioners from the Top 10 Interior Design Firms, as designated by Interior Design magazine (Interior design, 2012). One representative from each firm was selected by judgment
sampling, to locate individuals who have knowledge of the interview process and whose opinion will be valuable to this study. The study participants were asked several open-ended questions about their experience assessing a job candidate’s design portfolio, both in a traditional and a digital format. The interview format allows the researcher to delve and probe into deeper issues of portfolio assessment as necessary. After unitizing and coding transcript text, a qualitative data analysis has resulted in the identification of general themes on portfolio assessment (Campbell, Quincy, Osserman & Pedersen, 2012). Preliminary findings reflect a diverse viewpoint of the portfolio by design practitioners, who are seen as experts in assessing the capabilities of the job candidate.

Summary of Results
The implications of this research are three-fold: 1) to determine the usage of digital portfolios in the largest interior design firms’ job interviews, 2) to determine how a portfolio format may impact the assessment of the job candidate, and 3) to provide insight into how a recent interior design graduate may enhance his portfolio’s appeal to future employers. Changes in the profession of interior design inevitably put pressure on higher education. After presenting a synopsis of the research findings, educational topics for discussion will include the impact of digital portfolios on internship and entry-level job acquisition, and the best fit for portfolio development in an already overloaded interior design curriculum.

REFERENCES (APA)


An Exploratory Study of Creativity, Spatial Ability, and Visual Cognitive Style in Interior Design Studio Performance

Ji Young Cho
Kent State University

ABSTRACT

Creativity is considered an important ability in the design domain: Because design involves ill-defined problem solving techniques, an original and open approach is necessary. Spatial ability—the ability to read, interpret, and visualize spatial information (McKim, 1972)—is also considered important because the basic communication media of design information is either two-dimensional (2D) or three-dimensional (3D) spatial information. In addition, visual cognitive style is related to the interior design domain because interior design basically communicates visual information. Regardless of its importance, little research has been conducted on how creativity, spatial ability, and visual cognitive style relate with studio performance.

In order to identify the relationship among creativity, spatial ability, visual cognitive style, and studio performance, an exploratory study was conducted at one Midwestern university in the USA. Thirty freshman interior design students participated in the study. They completed the following: (a) three general spatial ability tests, (b) the Architectural Spatial Ability Test (ASAT), (c) the Torrance Test of Creative Thinking (TTCT), and (d) the Object–Spatial Imagery Questionnaire (OSIQ).

A well-established creativity test in use for more than 40 years, the TTCT focused on the divergent thinking creativity, measuring fluency and originality among many features of creativity (Kim, 2006). The general spatial abilities tests consisted of three tests: mental rotation, paper-folding, and visualization of viewpoints. The ASAT, a computer-based test, was
developed by the author of the current paper in order to measure interior design and architectural domain-specific spatial abilities.

The OSIQ is a tool assessing individual differences in visual imagery preferences, and according to the test result, one can belong to either object visualizer or spatial visualizer (Kozhevnikov et al., 2005; Blajenkova et al., 2006). Object visualizer and spatial visualizer process visual information differently. Object visualizers tend to process visual information holistically and excel in constructing vivid, detailed images of individual objects, and spatial visualizers tend to process images analytically and excel in recognizing spatial relations.

Students’ performance during the studio course was evaluated by their instructors and compared to the test results. The collected data were analyzed using statistical analysis methods such as ANOVA and correlation.

Results show that most interior design students tended to be stronger in object imagery than spatial imagery, corresponding with literature stating that art and visual design major students tend to be object visualizers. In addition, students who were strong in object imagery tended to be stronger in creativity, especially in the elaboration category. Students with higher spatial imagery tended to be stronger in the spatial ability test.

The finding of this paper is tentative and exploratory, yet it may promote interesting discussions and questions about how various student cognitive characteristics relate with each other, what abilities contribute to studio performance, and what creativity means in the interior design domain.

REFERENCES (APA)


Kozhevnikov, M., Kosslyn, S., & Shephard, J. (2005). Spatial versus object visualizers: A new characterization of visual cognitive style. Memory & Cognition, 33, 710–726.

Building the Knowledge Base: Transforming Hypotheses into Usable Outcomes

Lindsey Guinther & Allison Carll-White
University of Kentucky

ABSTRACT

Objective
The implementation of design objectives and hypothesis testing are critical components of the evidence-based design process. The Center for Health Design (2008) defines evidence-based design (EBD) as “the process of basing decisions about the built environment on credible research to achieve the best possible outcomes” (p. 4). According to Cama (2009), “Most important in the process of evidence-based design, is the ability to measure results and to share the knowledge gained” (p. 15). It is the goal of this presentation to demonstrate the use of a multi-methodological POE to test the implementation of design objectives and hypotheses for an emergency department (ED) in a Level 1 Trauma Center. The presentation of a case illustration for one hypothesis will reveal approaches for cross-examining data, methods of reporting, and the development of design recommendations that add to the EBD knowledge base.

Background
An observational study of an emergency department by Mlinek and Pierce (1997) concluded that privacy and confidentiality breaches were committed by all members of the healthcare team. This positions patient confidentiality and audible and visual privacy issues at the forefront of ED design. The designers of this study’s emergency department hypothesized that utilizing an open-plan central core would improve staff communication, and in turn, the privacy and confidentiality of patient information. To test this hypothesis, the design firm contacted interior design researchers to conduct a POE. This led to a three-way partnership between the design firm, university, and hospital administration.
Methods
The use of multiple methodologies was critical in testing the hypothesis. Using a diagnostic POE, data was collected in two separate phases over 12 months. Phase 1 included over 200 hours of observations, physical measurements, and occupancy counts. Data analysis resulting from Phase 1 informed surveys (N=315) of staff, visitors, and patients, and eight distinct staff focus groups in Phase 2 of the study. The methodology was constructed around a comprehensive framework that helped ground the research. Both graduate and undergraduate students were involved in the data collection process.

Conclusions and Implications
The examination of the study outcomes has revealed that the use of multiple data sources is required to provide an accurate assessment of a design hypothesis and helps researchers and practitioners correctly interpret and report data, ultimately influencing design recommendations. Phase 1 observations indicated that most confidential conversations were being contained within the linear core. However, the surveys and focus groups revealed staff concerns regarding the level of confidentiality due to the core’s openness. Thus, the phase 2 findings offer a different perspective of the linear core design model than what was ascertained through the observational assessment and yielded more grounded results for evaluating the validity of the hypothesis.

Student involvement in this research study offered first-hand experience in hypothesis testing and evaluations of an environment with which they were unfamiliar. Such an experience demonstrates the importance of the use of evidence-based design and its impact on building occupants.

REFERENCES (APA)


Maker Space: 
Promoting Multidisciplinary Participation through Design

Wendy Hynes & Morgan Hynes
Purdue University

ABSTRACT

The “make” or “maker” movement has gained significant attention in the last few years (Dougherty, 2012). Members of this movement are teaming up with educators who see tremendous benefits from the potential learning opportunities afforded by the self-motivating and engaging learning environment created in the maker spaces. These spaces are popping up throughout various universities in the United States that are attempting to promote and foster a community of collaboration in hopes of unlocking innovative design work from multidisciplinary communities of students. However, little research has been done to understand how these spaces can be designed specifically to draw students in and engage them in the sort of collaborative learning environment that is evident in the grass-roots maker communities. University lab coordinators, professors, and administrators have voiced frustration that their maker spaces outfitted with the latest technologies, glass-writing wall, and colorful chairs sit empty. While guidelines for designing maker spaces exist (see Doorley & Witthoft, 2012), these guidelines do not fully address issues related to the visibility of such spaces that are often seen as intimidating to new or unfamiliar students.

In order to begin to understand how students perceive such spaces, a survey was developed to elicit perceptions and attitudes toward various maker space designs and aesthetics. Kaplan’s (1987) framework for describing people’s environmental preference, which considers both scenes from nature and the built environment, highlights two key components—understanding and exploring. Understanding is the extent a person is able to make sense of the environment while exploring is the environment’s ability to foster curiosity and a person’s desire to learn.
more. Along these two dimensions, Kaplan describes four characteristics of the space that when appropriately balanced lead to personal preferences. The characteristics are as follows:

- coherence – an immediate impression that the scene makes sense and its purpose is clear;
- complexity – an immediate sense of the richness of the space defined by the number of things going on;
- legibility – the predicted navigability or ease in figuring out how to use the space;
- mystery – the level of intrigue inspired by the space leaving one wanting to see or learn more about the space.

Using Kaplan’s framework as a basis, photos of maker spaces were selected that varied along the four characteristics. The pilot study exclusively surveys college freshmen in the disciplines of engineering, art and design. The results lead to a better understanding of factors that encourage multidisciplinary participation in collaborative maker spaces through their design.

REFERENCES (APA)


ABSTRACT

The interior design profession commits itself to environments that satisfy people’s needs and encourage them to perform better. However, without a clear understanding of the needs of the users, such a goal is impossible to realize. The eyes are considered to be not only the principal means by which the individual gathers information, but the eyes are also critical for conveying emotion to the mind (Hall, 1982). This indicates that for people with visual impairments, beyond their basic needs, their social and aesthetical appeals are seriously affected as well. However, social and aesthetic needs have been ignored by existing accessibility codes like ADA. In light of this omission, this study explores design guidelines for spaces that are not only safe, but that also break down the social barriers for and provide aesthetical experiences to the visually impaired.

Of the 285 million visually impaired people worldwide, 86% have low vision, while only 14% are legally blind (World Health Organization, 2012). This fact contradicts the stereotype that equates visual impairments to blindness. For interior designers, these figures mean that most visually impaired people are still relying largely on vision to recognize their physical space, with assistance from other senses (Aiello, 1979). This study provides designers with key points that lead to better spatial and social experiences for this user group in each level of a project.

Based on Maslow’s hierarchy of needs, six categories of the needs of the visually impaired were established – wayfinding, route of travel, emergency, social barriers, comfort, and aesthetics. Further, interactive studies with mentors with visual impairments were conducted in real spaces. Mentors were invited into buildings with different typologies and then asked to describe their feelings – both positive and negative – concerning the six categories. Their experiences

Qing Ju, McCall Wood, Kyu-ho Ahn, & Molly Rogers
ZGF Architects LLP, University of Oregon

Designing for All:
Better Spaces for the Vision Impaired
were recorded and analyzed. Based on these responses, the researchers gave suggestions for design solutions with illustrated examples. Four interview and review sessions were held with a variety of participants, including mentors, designers, professors, students, and community members. The preliminary guidelines were modified according to the feedback, which shaped the final outcome.

This guideline expands the interior design focus of accessibility to the social and aesthetical needs of visually impaired users. The social barriers confronting the user group are specified as a clear wayfinding system, circulations that are accessible and connect all social spaces, and variety in public and individual spaces. Also, the aesthetical experience can be gained through a variety of strategies, such as integrating aesthetics with necessity, barrier-free design for aesthetic experience, using mixed function as motivation, and activating other senses.

With the new findings, the guideline enriches the classical accessibility focuses for the visually impaired in terms of wayfinding, route of travel, and emergency. In all, the research pushes forward the concept of accessibility and contributes to interior spaces that are accessible not only for basic usage, but also for the social life and aesthetic pursuits of visually impaired people.

REFERENCES (APA)


# A Tool for Conscious Design for Visually Impaired

Making spaces that need to be physically comfortable and safe, similar to the approach from ADA Standards. These make the most of the visual sense by using high contrasts, defined edges, and color highlights. Beyond needs and visual cues, we wish to fill higher human wants of beauty, comfort, and social interaction. These appeal to non-visual senses by using texture, material, and cognitive information.

<table>
<thead>
<tr>
<th><strong>Wayfinding</strong></th>
<th><strong>Route of Travel</strong></th>
<th><strong>Emergency</strong></th>
<th><strong>Social Barriers</strong></th>
<th><strong>Comfort</strong></th>
<th><strong>Aesthetics</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical, typical program layouts</td>
<td>Logical, typical program layouts</td>
<td>Logical, typical program layouts</td>
<td>Logical, typical program layouts</td>
<td>Logical, typical program layouts</td>
<td>Logical, typical program layouts</td>
</tr>
<tr>
<td>- Based on clear typologies</td>
<td>- Based on clear typologies</td>
<td>- Based on clear typologies</td>
<td>- Based on clear typologies</td>
<td>- Based on clear typologies</td>
<td>- Based on clear typologies</td>
</tr>
<tr>
<td>- No unexpected moments</td>
<td>- No unexpected moments</td>
<td>- No unexpected moments</td>
<td>- No unexpected moments</td>
<td>- No unexpected moments</td>
<td>- No unexpected moments</td>
</tr>
<tr>
<td>Landmarks as memory nodes</td>
<td>Landmarks as memory nodes</td>
<td>Landmarks as memory nodes</td>
<td>Landmarks as memory nodes</td>
<td>Landmarks as memory nodes</td>
<td>Landmarks as memory nodes</td>
</tr>
<tr>
<td>- Rhythmic system of architectural and nonarchitectural objects on path</td>
<td>- Rhythmic system of architectural and nonarchitectural objects on path</td>
<td>- Rhythmic system of architectural and nonarchitectural objects on path</td>
<td>- Rhythmic system of architectural and nonarchitectural objects on path</td>
<td>- Rhythmic system of architectural and nonarchitectural objects on path</td>
<td>- Rhythmic system of architectural and nonarchitectural objects on path</td>
</tr>
<tr>
<td>- Single, obvious entry from parking/transit</td>
<td>- Single, obvious entry from parking/transit</td>
<td>- Single, obvious entry from parking/transit</td>
<td>- Single, obvious entry from parking/transit</td>
<td>- Single, obvious entry from parking/transit</td>
<td>- Single, obvious entry from parking/transit</td>
</tr>
<tr>
<td>Additional sources of Information</td>
<td>Additional sources of Information</td>
<td>Additional sources of Information</td>
<td>Additional sources of Information</td>
<td>Additional sources of Information</td>
<td>Additional sources of Information</td>
</tr>
<tr>
<td>- Signs with large, contrasting raised letters + Braille</td>
<td>- Signs with large, contrasting raised letters + Braille</td>
<td>- Signs with large, contrasting raised letters + Braille</td>
<td>- Signs with large, contrasting raised letters + Braille</td>
<td>- Signs with large, contrasting raised letters + Braille</td>
<td>- Signs with large, contrasting raised letters + Braille</td>
</tr>
<tr>
<td>- Material of path typical for its use type</td>
<td>- Material of path typical for its use type</td>
<td>- Material of path typical for its use type</td>
<td>- Material of path typical for its use type</td>
<td>- Material of path typical for its use type</td>
<td>- Material of path typical for its use type</td>
</tr>
<tr>
<td>- Overlap of color and tactile information</td>
<td>- Overlap of color and tactile information</td>
<td>- Overlap of color and tactile information</td>
<td>- Overlap of color and tactile information</td>
<td>- Overlap of color and tactile information</td>
<td>- Overlap of color and tactile information</td>
</tr>
<tr>
<td>Predictable circulation routes</td>
<td>Predictable circulation routes</td>
<td>Predictable circulation routes</td>
<td>Predictable circulation routes</td>
<td>Predictable circulation routes</td>
<td>Predictable circulation routes</td>
</tr>
<tr>
<td>- Circulation routes close to reception</td>
<td>- Circulation routes close to reception</td>
<td>- Circulation routes close to reception</td>
<td>- Circulation routes close to reception</td>
<td>- Circulation routes close to reception</td>
<td>- Circulation routes close to reception</td>
</tr>
<tr>
<td>- Linear hallways with perpendicular openings</td>
<td>- Linear hallways with perpendicular openings</td>
<td>- Linear hallways with perpendicular openings</td>
<td>- Linear hallways with perpendicular openings</td>
<td>- Linear hallways with perpendicular openings</td>
<td>- Linear hallways with perpendicular openings</td>
</tr>
<tr>
<td>- Stairs with 1 entry point and 1 destination</td>
<td>- Stairs with 1 entry point and 1 destination</td>
<td>- Stairs with 1 entry point and 1 destination</td>
<td>- Stairs with 1 entry point and 1 destination</td>
<td>- Stairs with 1 entry point and 1 destination</td>
<td>- Stairs with 1 entry point and 1 destination</td>
</tr>
<tr>
<td>Well defined, open pathways</td>
<td>Well defined, open pathways</td>
<td>Well defined, open pathways</td>
<td>Well defined, open pathways</td>
<td>Well defined, open pathways</td>
<td>Well defined, open pathways</td>
</tr>
<tr>
<td>- Safe, wide, unobstructed paths</td>
<td>- Safe, wide, unobstructed paths</td>
<td>- Safe, wide, unobstructed paths</td>
<td>- Safe, wide, unobstructed paths</td>
<td>- Safe, wide, unobstructed paths</td>
<td>- Safe, wide, unobstructed paths</td>
</tr>
<tr>
<td>- Define edges with contrasting color and texture</td>
<td>- Define edges with contrasting color and texture</td>
<td>- Define edges with contrasting color and texture</td>
<td>- Define edges with contrasting color and texture</td>
<td>- Define edges with contrasting color and texture</td>
<td>- Define edges with contrasting color and texture</td>
</tr>
<tr>
<td>- Organized system of lighting defining path</td>
<td>- Organized system of lighting defining path</td>
<td>- Organized system of lighting defining path</td>
<td>- Organized system of lighting defining path</td>
<td>- Organized system of lighting defining path</td>
<td>- Organized system of lighting defining path</td>
</tr>
<tr>
<td>Simultaneous sensory cues</td>
<td>Simultaneous sensory cues</td>
<td>Simultaneous sensory cues</td>
<td>Simultaneous sensory cues</td>
<td>Simultaneous sensory cues</td>
<td>Simultaneous sensory cues</td>
</tr>
<tr>
<td>- Talking elevator</td>
<td>- Talking elevator</td>
<td>- Talking elevator</td>
<td>- Talking elevator</td>
<td>- Talking elevator</td>
<td>- Talking elevator</td>
</tr>
<tr>
<td>- Texture indicative of spatial changes</td>
<td>- Texture indicative of spatial changes</td>
<td>- Texture indicative of spatial changes</td>
<td>- Texture indicative of spatial changes</td>
<td>- Texture indicative of spatial changes</td>
<td>- Texture indicative of spatial changes</td>
</tr>
<tr>
<td>Clear signge system</td>
<td>Clear signge system</td>
<td>Clear signge system</td>
<td>Clear signge system</td>
<td>Clear signge system</td>
<td>Clear signge system</td>
</tr>
<tr>
<td>- Exit sign with color contrast</td>
<td>- Exit sign with color contrast</td>
<td>- Exit sign with color contrast</td>
<td>- Exit sign with color contrast</td>
<td>- Exit sign with color contrast</td>
<td>- Exit sign with color contrast</td>
</tr>
<tr>
<td>- Waist level, illuminated, large letters</td>
<td>- Waist level, illuminated, large letters</td>
<td>- Waist level, illuminated, large letters</td>
<td>- Waist level, illuminated, large letters</td>
<td>- Waist level, illuminated, large letters</td>
<td>- Waist level, illuminated, large letters</td>
</tr>
<tr>
<td>Physical help</td>
<td>Physical help</td>
<td>Physical help</td>
<td>Physical help</td>
<td>Physical help</td>
<td>Physical help</td>
</tr>
<tr>
<td>- Designated assistance areas</td>
<td>- Designated assistance areas</td>
<td>- Designated assistance areas</td>
<td>- Designated assistance areas</td>
<td>- Designated assistance areas</td>
<td>- Designated assistance areas</td>
</tr>
<tr>
<td>Spaces and paths that embrace all</td>
<td>Spaces and paths that embrace all</td>
<td>Spaces and paths that embrace all</td>
<td>Spaces and paths that embrace all</td>
<td>Spaces and paths that embrace all</td>
<td>Spaces and paths that embrace all</td>
</tr>
<tr>
<td>- Informal social spaces at strategic points</td>
<td>- Informal social spaces at strategic points</td>
<td>- Informal social spaces at strategic points</td>
<td>- Informal social spaces at strategic points</td>
<td>- Informal social spaces at strategic points</td>
<td>- Informal social spaces at strategic points</td>
</tr>
<tr>
<td>Variety in architectural and individual spaces</td>
<td>Variety in architectural and individual spaces</td>
<td>Variety in architectural and individual spaces</td>
<td>Variety in architectural and individual spaces</td>
<td>Variety in architectural and individual spaces</td>
<td>Variety in architectural and individual spaces</td>
</tr>
<tr>
<td>- Interspersed wide seating options</td>
<td>- Interspersed wide seating options</td>
<td>- Interspersed wide seating options</td>
<td>- Interspersed wide seating options</td>
<td>- Interspersed wide seating options</td>
<td>- Interspersed wide seating options</td>
</tr>
<tr>
<td>- Additional task lighting</td>
<td>- Additional task lighting</td>
<td>- Additional task lighting</td>
<td>- Additional task lighting</td>
<td>- Additional task lighting</td>
<td>- Additional task lighting</td>
</tr>
<tr>
<td>- Unsegregated program locations</td>
<td>- Unsegregated program locations</td>
<td>- Unsegregated program locations</td>
<td>- Unsegregated program locations</td>
<td>- Unsegregated program locations</td>
<td>- Unsegregated program locations</td>
</tr>
<tr>
<td>Satisfying spaces</td>
<td>Satisfying spaces</td>
<td>Satisfying spaces</td>
<td>Satisfying spaces</td>
<td>Satisfying spaces</td>
<td>Satisfying spaces</td>
</tr>
<tr>
<td>- Unharsh lighting conditions</td>
<td>- Unharsh lighting conditions</td>
<td>- Unharsh lighting conditions</td>
<td>- Unharsh lighting conditions</td>
<td>- Unharsh lighting conditions</td>
<td>- Unharsh lighting conditions</td>
</tr>
<tr>
<td>- Uniform, muted color palette</td>
<td>- Uniform, muted color palette</td>
<td>- Uniform, muted color palette</td>
<td>- Uniform, muted color palette</td>
<td>- Uniform, muted color palette</td>
<td>- Uniform, muted color palette</td>
</tr>
<tr>
<td>- Unslick, grippy, unreflective surfaces</td>
<td>- Unslick, grippy, unreflective surfaces</td>
<td>- Unslick, grippy, unreflective surfaces</td>
<td>- Unslick, grippy, unreflective surfaces</td>
<td>- Unslick, grippy, unreflective surfaces</td>
<td>- Unslick, grippy, unreflective surfaces</td>
</tr>
<tr>
<td>Plenty and variety of information</td>
<td>Plenty and variety of information</td>
<td>Plenty and variety of information</td>
<td>Plenty and variety of information</td>
<td>Plenty and variety of information</td>
<td>Plenty and variety of information</td>
</tr>
<tr>
<td>- Online access to maps and webcams</td>
<td>- Online access to maps and webcams</td>
<td>- Online access to maps and webcams</td>
<td>- Online access to maps and webcams</td>
<td>- Online access to maps and webcams</td>
<td>- Online access to maps and webcams</td>
</tr>
<tr>
<td>- Information retrieval on every floor</td>
<td>- Information retrieval on every floor</td>
<td>- Information retrieval on every floor</td>
<td>- Information retrieval on every floor</td>
<td>- Information retrieval on every floor</td>
<td>- Information retrieval on every floor</td>
</tr>
<tr>
<td>- Staff training programs for user recognition</td>
<td>- Staff training programs for user recognition</td>
<td>- Staff training programs for user recognition</td>
<td>- Staff training programs for user recognition</td>
<td>- Staff training programs for user recognition</td>
<td>- Staff training programs for user recognition</td>
</tr>
<tr>
<td>Mixed function as motivation</td>
<td>Mixed function as motivation</td>
<td>Mixed function as motivation</td>
<td>Mixed function as motivation</td>
<td>Mixed function as motivation</td>
<td>Mixed function as motivation</td>
</tr>
<tr>
<td>- Include facilities for special groups to attract diversified users</td>
<td>- Include facilities for special groups to attract diversified users</td>
<td>- Include facilities for special groups to attract diversified users</td>
<td>- Include facilities for special groups to attract diversified users</td>
<td>- Include facilities for special groups to attract diversified users</td>
<td>- Include facilities for special groups to attract diversified users</td>
</tr>
<tr>
<td>- Disperse facilities to various locations</td>
<td>- Disperse facilities to various locations</td>
<td>- Disperse facilities to various locations</td>
<td>- Disperse facilities to various locations</td>
<td>- Disperse facilities to various locations</td>
<td>- Disperse facilities to various locations</td>
</tr>
<tr>
<td>Activate other senses</td>
<td>Activate other senses</td>
<td>Activate other senses</td>
<td>Activate other senses</td>
<td>Activate other senses</td>
<td>Activate other senses</td>
</tr>
<tr>
<td>- Quality of textures</td>
<td>- Quality of textures</td>
<td>- Quality of textures</td>
<td>- Quality of textures</td>
<td>- Quality of textures</td>
<td>- Quality of textures</td>
</tr>
</tbody>
</table>
1. Logical, typical program layouts

a. Based on clear typologies
Building layouts that are used often are easy to understand because users can rely on memory to help them move through space based on past experiences. Traditional, clear typologies include the H, L, T, U, and O floor plans.

b. Series of simple, short connections
Linear hallways are preferred over curvilinear hallways because the trajectory of movement is easy to anticipate and there is the possibility for resting at intersections or corners. Limit the number of "additional" hallways that stem from the main path.

c. No unexpected moments
Spaces located outside of the peripheral view are inaccessible because they are hidden off of the regular path. Spaces or rooms "behind" the user as they move forward on a path are visually disconnected and thus unnoticeable.
2. Spaces and paths that embrace all

a. Access of main spaces from primary circulation
Ensuring the main spaces of the building and public gathering areas are located directly on the main circulation path ensures that they are not hidden. Spaces tucked away or at the end of special hallways are inaccessible because they are not obvious and difficult to find.

b. Accessible circulation overlaps normal circulation
Elevators and stairs should be located in direct proximity to each other, preferably with their destination at the same location so that there is no hierarchy between them.

c. Informal social spaces at strategic points
Informal gathering areas located in interesting places on the main circulation path offer gathering areas that are highly visible and accessible to all. Main social spaces on main circulation paths allows for social interaction.
1. Integration of aesthetics and necessity

1. Objects or spaces with frequent utilization shall demand more consideration

Vision loss makes it hard to go to a new place - for example a museum - adapt to the new environment and enjoy the works on display, which intensely base on visual expression. In contrast, if aesthetics is integrated into everyday life and is combined closely with utility, the visually impaired people will have more opportunities to be exposed to and enjoy it.

Example

Furniture is an important component for us to get contact with the physical space. Everyone uses them all the time. An aesthetic piece of furniture can convey the joy of beauty directly to its users in everyday life.

The Chair, Hans Wegner

Example

Hardware is another component that physically links users with the architecture. The door handle shown in this picture has a bright color and a different finish than standard ones, providing people with vision problems clearer information and additional tactile feeling.

Plus-Up door handle, AIA Design

2. Barrier free for aesthetic experience

2. Ensure places providing aesthetic experience are accessible to everyone

Aesthetics is a significant need in human's mental life and everyone should has equal rights to achieve it. Places designed for providing aesthetic experience - museum, music hall, craft center, etc. - should be accessible to all potential users and invite various user groups to come.

Good example

Pottery is a nice educational and recreational activity for people with visual impairment. The craft center in EMU, University of Oregon has accommodated a couple visitors from this group.

EMU, University of Oregon, Eugene, Oregon

Bad example

However, the traffic system inside EMU is not clear even for people without visual problems. Puzzling ramps and stairs make it difficult for visitors of craft center to find their destination, setting barriers for aesthetic experiences.

EMU, University of Oregon, Eugene, Oregon
3. Mixed function as motivation

3-a. Include facilities for special groups to attract diversified users in various public buildings.

3-b. Disperse facilities to various locations so that the users have chances to learn about other parts of the building.

4. Activate other senses

4. Sensations other than vision matter a lot for visually impaired people. To activate these sensations helps to enrich their experience with aesthetics.
Healing Design Elements for Adolescent Patients: Promoting Holistic Quality of Life

Eun Young Kim & Allison Carll-White
University of Kentucky

ABSTRACT

Healthcare settings are supposed to be healing places that provide patients with environmental stimuli that support relaxation, restoration, autonomy, and sense of belonging. Healing elements within hospital environments can provide a way of reducing stress and enhancing patients’ quality of life (Shepley, Fournier, & McDougal, 1998; Sherman, 2005). In recent decades, the focus of healthcare providers and hospital environment planners has been toward patients’ experiences and their satisfaction, both of which impact quality of life. This patient-centered healthcare approach has influenced new healthcare physical settings as well as their medical service quality in positive ways. Ulrich (1991) proposed a supportive healthcare design theory that emphasizes understanding the needs of patients, visitors and staff in hospital environments. Research on patient-centered healthcare design has produced some evidence of healing design guidelines (Ulrich, 1984; Ulrich & Zhu, 2007). Although hospital environments may impact the healing process of adolescents differently from young children and adult patients, little research on healing environmental intervention on adolescent patients has been conducted.

The goal of the study was to discover healing design elements that may encourage adolescent patients’ emotional well being and positive healing processes in order to promote their quality of life based on their environmental desire and cognitive characteristics. To investigate adolescents’ environmental preferences for autonomy and social connections, the images of patient rooms and hospital activity rooms were examined along with their emotional states and environmental preference values.
The health-related quality of life (HRQOL) concept was adapted to this study as a theoretical framework. Promoting the healing process is affected by adolescents’ internal factors such as demographics, emotional states, values and preferences of design. Hospitals’ physical environments include external factors in this framework that also affect an adolescent patient’s healing process.

The present study examined adolescent patients’ emotional states by testing their preferences of patient rooms and activity rooms to determine healing design elements. Thirty-two adolescent outpatients, aged 15 to 18, participated in the survey. Data collection consisted of three different instruments on an emotional state survey with demographics, photo analysis with semantic differentials, and environmental preference value survey. The results indicated adolescent patients’ emotional states affected their environmental preferences and perceptions of hospital rooms. The findings also revealed that surface finishes, room layout, and interior components of hospital rooms could promote sense of hominess and a sense of enjoyment in adolescent patients. These hominess and enjoyment factors of the hospital rooms suggested predictive design attributes for favorite rooms that were related to adolescent patients’ restoration by reducing stress and encouraging positive moods and feelings (Korpela & Hartig, 1996; Scopelliti & Vittoria, 2004).

REFERENCES (APA)


APPENDIX I: Theoretical Framework

Figure 1. Theoretical Framework: Health-Related Quality of Life
APPENDIX II: Data Collection Instruments

Figure 1. Photo Analysis: Patient Rooms (Blue)

Figure 2. Photo Analysis: Patient Rooms (Orange)
APPENDIX III: Results & Conclusion

Figure 3: Influential Internal Factors for Adolescent Patients’ Healing

Figure 4. Healing Design Attributes for Promoting Adolescent Patients' Quality of Life
Establishing Classroom Design Criteria for Children with Autism Spectrum Disorder

Caren S. Martin
University of Minnesota

ABSTRACT

In 2010, the Centers for Disease Control (CDC) reported a 1,600% increase in the number of children and young adults with Autism Spectrum Disorder (ASD) since 1993; 1 in 88 children have ASD (CDC, 2013). Children with ASD are challenged by individualistic impairments in social interaction, communication, and behavior (Guldberg, 2010). The majority of US children with ASD are mainstreamed into the general education classroom. Inclusion, challenges the classroom teacher to meet needs relying primarily on “instinct, hearsay, or teacher, parent, or Internet recommendation” (Lembke & Stormont, 2005, p. 762). Also, it is unclear if advocates for children with ASD are aware of the impact of the classroom’s design on children with ASD.

The National Professional Development Center on Autism Spectrum Disorders (2013) has 43 evidence-based modules for educators working with persons with ASD, but only one (visual supports) addresses the physical environment. The recommendations of the Autism Spectrum Disorder Task Force (ASDTF, 2012) convened by the [State] legislature was primarily education-based. They advised interventions should “follow evidence based data or expert consensus guidelines [and] recommendations from reputable peer reviewed...sources” (p. 6), noting little existed.

The purpose of this study was to identify and analyze design criteria (DC) (i.e., interventions) from a literature review, document the research methods used, and determine if the DC resulted from testing. This design/human behavior relationship linkage between the classroom’s design and the physiological, social, psychological, and educational needs of children with ASD needs to be rigorously established.
The review examined literature from 2000-2012. Journals (23) related to ASD, psychology, design, and related foci were explored, yielding a total of 20 articles. A matrix documents research method, focus of investigation, sample description, variables studied, key findings, DC, and commentary, as well as DC testing, inclusion focus, and themes evident from the research (Table 1). Researchers faced the challenge of working with a special population. Single-stage, non-probability sampling and small sample size was typical, limiting reliability and generalizability of the findings (Babbie, 2009). Generally, adults were surveyed.

Literature reviews (3), referenced position papers (4), and qualitative (8), mixed-methods (2), and quantitative (3) research were evaluated. Design criteria identified were organized within seven themes: space; visual sensory aspects; lighting (daylight/artificial); auditory aspects; furnishings, fixtures, and equipment (FF&E); flexibility; and design process. Then, specific recommendations from researchers were categorized (see Table 2). Space definition and organization and visual sensory aspects were the most often identified. The majority of the DC had not been tested on children with ASD.

Research rigor is critical, as stakeholders want to apply these findings about classroom design as so little evidence is available. The substantial effects of ASD on a child’s ability to learn and thrive are daunting. Researchers must empower design practitioners and teachers with evidence-based DC to support these children and their teachers via the classrooms where they build a future. This study can inform future studies intended to provide quantifiable outcomes to move our design efforts forward in meeting the needs of this ever-expanding, at risk population.

REFERENCES (APA)


Table 1. Overview of Characteristics of Literature Reviewed

| 1st Author & Date | Study Type | Design Criteria | Included Focus | Inclusion Focus | Space Definition and Organization | Circulation and Movement | Safety | Sensory Strategies | Visually-Based Strategies | Visually Simplistic | View Outside (Y/N) | Lighting Quality | Lighting Quantity | Noise Control | FF&E Comfort | Materials/Supplies Accessible (Y/N) | Materials/Supplies Visible (Y/N) | Technology (Y/N) | Durability/Maintenance | Flexible to Modify | Design Process |
|-------------------|------------|-----------------|---------------|----------------|-----------------------------------|--------------------------|--------|-------------------|------------------------|-------------------|----------------|----------------|----------------|--------------|----------------|-----------------------------|-----------------------------|----------------|----------------|----------------|-------------|-----------------|
| Doctoroff 2003    | ROL        | ?               | ?             | ?              | N/A                               | ?                        | ?      | •                 | •                      | •                 | N              | •              | •              | •            | •              | Y                          | N                          | N              |                  | •              | •            | N/A             |
| Ganz 2007         | ROL        | ?               | ?             | ?              | N/A                               | ?                        | ?      | •                 | •                      | •                 | N              | •              | •              | •            | •              | Y                          | Y                          | N              |                  | •              | •            | N/A             |
| Guldberg 2010     | ROL        | ?               | ?             | ?              | N/A                               | ?                        | ?      | •                 | •                      | •                 | N              | •              | •              | •            | •              | Y                          | Y                          | N              |                  | •              | •            | N/A             |
| Delmolino 2012    | REF        | N               | N             | N              | N/A                               | N                        | •      | •                 | •                      | •                 | N/O            | N              | •              | •            | •              | •                          | N                          | N/O            |                  | •              | •            | N/A             |
| Friedlander 2008  | REF        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Meadan 2011       | REF        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Vakil 2009        | REF        | N               | N             | N              | N/A                               | N                        | N      | •                 | •                      | •                 | S              | N              | N              | N            | N/A           | •                          | Y                          | N              |                  | •              | •            | N/A             |
| Reszka 2012       | REF        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Tufvesson 2009    | REF        | N               | N             | N              | N/A                               | N                        | •      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Conroy 2007       | REF        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Khare 2009        | REF        | N               | N             | N              | N/A                               | N                        | N      | •                 | •                      | •                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| McAllister 2010   | REF        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| McAllister 2012a  | REF        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| McAllister 2012b  | REF        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Scott 2009        | S/O        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Smith 2009        | S/O        | N               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Ludlow 2006       | EXP        | Y               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Mostafa 2008      | QE         | Y               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Schilling 2004    | QE         | Y               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |
| Woodcock 2007     | QE         | Y               | N             | N              | N/A                               | N                        | N      | N                 | N                      | N                 | N/O            | N              | N              | N            | N/A           | N/O                         | N                          | N/O            |                  | •              | •            | N/A             |

Key: ROL=review of literature; REF= referenced position paper; S=survey; O=observation; EXP=experiment; QE=quasi-experiment; Y=yes; N=no; ?=unknown; N/A=not applicable.
Table 2. Design Criteria (DC) Themes, Recommendations, and Sources

<table>
<thead>
<tr>
<th>Theme</th>
<th>DC (Qty. of Sources)</th>
<th>Specific Recommendations</th>
<th>*Sources (by 1st Author)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space Organization (12)</td>
<td></td>
<td>Clearly defined areas; visible boundaries (visual cues); maintain sightlines for observation by staff; order the space.</td>
<td>Doctoroff; Ganz; Khare; McAllister (2010); Mostafa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Include physical boundaries, such as tape markers on the floor (Ganz) or placement of storage cabinets (McAllister, 2010) to designate spaces or room dividers to minimize distractions.</td>
<td>Ganz; McAllister (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Separate group from independent work areas; create separate learning zones and spaces of various sizes; compartmentalize space.</td>
<td>Conroy; Ganz; McAllister (2010, 2012b); Mostafa; Scott; Tufvesson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide a visually secluded area with minimal visual wall decorations (posters) and limited view of the rest of the classroom for independent work.</td>
<td>Ganz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Do not isolate the quiet spaces used for one-on-one instruction or refuge (withdrawal space) or children will feel isolated.</td>
<td>Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organization can reduce staff supervision and increase independence.</td>
<td>Meadan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some areas will be more popular (books, snack); plan space accordingly</td>
<td>Reszka</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limited number of doors and window locations (not on multiple walls) to avoid distractions.</td>
<td>Tufvesson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide a lower ceiling in areas to increase a sense of calm and comfort (2010, 2012b) and higher ceilings in larger spaces for more high energy learning activities (2012b).</td>
<td>McAllister (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Simplicity in planning increases comprehension and make the structure and order evident.</td>
<td>Friedlander; Khare; McAllister (2010); Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct access into adjoining restroom facilities and provide a cloak (coat) room.</td>
<td>McAllister (2010, 2012b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct, controlled access to outside playground; provide a kitchen in or adjacent to the classroom.</td>
<td>McAllister (2012b)</td>
</tr>
<tr>
<td>Circulation and Movement (6)</td>
<td></td>
<td>Provide circulation paths, accessible to all; eliminate narrow spaces and remove obstructions.</td>
<td>Doctoroff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generous space standard; include additional space for persons assisting the child.</td>
<td>Khare; McAllister (2010, 2012b); Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide ample circulation space around the visual schedule.</td>
<td>McAllister (2012b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Children with ASD have a need for a larger ‘personal space’ area than other children, so provide additional space.</td>
<td>Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>One-way circulation should be evident in the design and avoid “open plan” classrooms.</td>
<td>Mostafa</td>
</tr>
<tr>
<td>Safety (5)</td>
<td></td>
<td>Provide a ramp where ever floor height changes occur.</td>
<td>Doctoroff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximize safety relative to risk management.</td>
<td>Khare</td>
</tr>
<tr>
<td>Theme</td>
<td>DC</td>
<td>Specific Recommendations</td>
<td>Sources (by 1st Author)</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Space (cont.)</td>
<td></td>
<td>Non-threatening; avoid sharp edges; limit climbing opportunities (onto book shelves, etc.); utilize hardware for leaving the classroom accessible only to staff.</td>
<td>McAllister (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sightlines for staff to observe the children at all times from anywhere in the classroom or on the playground.</td>
<td>Doctoroff; McAllister (2010, 2012b); Scott</td>
</tr>
<tr>
<td>Sensory Escape (6)</td>
<td></td>
<td>For children who need physical stimulation, provide weighted belts or a squeezing machine (Grandin, 1995), inflated or rice-filled chair, exercise band, or “fidget toy.”</td>
<td>Friedlander</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide a withdrawal space or sensory integration room to lessen stress; create the space with screens or walls and a door.</td>
<td>Khare; McAllister (2010; 2012b); Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide an escape space as a “baseline neutral sensory environment.”</td>
<td>Mostafa</td>
</tr>
<tr>
<td>Sensory Aspects (Visual)</td>
<td></td>
<td>Visually-Based Strategies (11)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visually-Basic</td>
<td>Label storage with graphic (including color) or tactile elements.</td>
<td>Doctoroff; Ganz; Guldberg; Friedlander; McAllister (2010; 2012b); Meadan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide visual supports/elements, i.e., visual representations (real objects, photographs, drawings, or words) to aid in comprehension and communication; provide a visual schedule.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Include “social stories” to enhance social skills.</td>
<td>Friedlander</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support visually-based instruction.</td>
<td>Khare; Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use physical elements (storage, visual schedule) in the classroom to block distractions from children entering the classroom.</td>
<td>McAllister (2012b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incorporate good wayfinding and signage, visual cues (color, light, and texture increase visual hierarchy), and landmarks.</td>
<td>Mostafa; Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Children with autism read at a greater speed when using a color overlay then without one.</td>
<td>Ludlow</td>
</tr>
<tr>
<td>Visually Simplistic</td>
<td>(6)</td>
<td>Eliminate extra clutter by removing objects from surfaces.</td>
<td>Ganz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wall decorations are visually distracting.</td>
<td>Tufvesson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avoid use of a large quantity of doors and windows into the classroom.</td>
<td>Tufvesson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide a calm and least distractible environment; patterns (e.g., brickwork) and color variations should be avoided.</td>
<td>Khare; McAllister (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avoid complexity in detailing and color palette.</td>
<td>Scott</td>
</tr>
<tr>
<td>View to the Outside</td>
<td>(4)</td>
<td>Provide window coverings to remove distractions that occur with a view outside.</td>
<td>Ganz; McAllister (2010; 2012b); Tufvesson</td>
</tr>
<tr>
<td>Lighting (daylight</td>
<td></td>
<td>Provide natural daylight with artificial light.</td>
<td>Doctoroff; McAllister (2010)</td>
</tr>
<tr>
<td></td>
<td>(daylight and artificial)</td>
<td>Eliminate light fixtures that strobe or hum.</td>
<td>Friedlander</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide clerestory windows to allow for daylight when eye-level windows are covered to minimize distractions.</td>
<td>McAllister (2010)</td>
</tr>
<tr>
<td>Theme</td>
<td>DC (Qty. of Sources)</td>
<td>Specific Recommendations</td>
<td>Sources (by 1st Author)</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Lighting</td>
<td>Quality (cont.)</td>
<td>Incorporate window coverings to control for glare and solar gain.</td>
<td>Doctoroff; McAllister (2012b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avoid natural daylight on the learning worksurface to eliminate glare.</td>
<td>Tufvesson</td>
</tr>
<tr>
<td></td>
<td>Quantity (3)</td>
<td>Increase lighting in task areas (puzzles, reading).</td>
<td>Doctoroff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide lighting that can be dimmed, multiple circuits, and a range of task lighting options.</td>
<td>McAllister (2010); Scott</td>
</tr>
<tr>
<td>Auditory Aspects</td>
<td>Noise Control (7)</td>
<td>Use acoustical tiles, draperies, and carpet to minimize noise.</td>
<td>Doctoroff; Scott</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use light fixtures that do not emit repeated noises.</td>
<td>Friedlander</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eliminate noise filtering into the classroom from outside or other building spaces; create a buffer space into the classroom from outside or from the hallway.</td>
<td>McAllister (2010; 2012b); Tufvesson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide in floor heat to avoid noise created by heating equipment (blowers, radiators).</td>
<td>McAllister (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control (reduce) noise and echo in speech rooms or other spaces that provide activities that require a longer attention span.</td>
<td>Mostafa</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>Comfort (3)</td>
<td>Pillow seats</td>
<td>Tufvesson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cloak (coat) room with a seat for each child for removal of outerwear.</td>
<td>McAllister (2012b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide a minimum of three workstations with direct access to supplies.</td>
<td>McAllister (2012b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of therapy balls can increase seated time, but fit the size of the ball to the child so that feet can remain flat on the floor and knees and hips are at a 90 degree angle; feet on the ball are available to prevent rolling when unoccupied.</td>
<td>Schilling</td>
</tr>
<tr>
<td></td>
<td>Materials/Supplies:</td>
<td>Storage is to be accessible by children, at lower heights; especially favorites.</td>
<td>Doctoroff</td>
</tr>
<tr>
<td>Accessible by</td>
<td></td>
<td>Have needed supplies at hand.</td>
<td>Ganz</td>
</tr>
<tr>
<td>Children (4)</td>
<td></td>
<td>Children should not have access to materials.</td>
<td>Conroy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accessible in some conditions, not in others, depending on the children.</td>
<td>McAllister (2010)</td>
</tr>
<tr>
<td></td>
<td>Materials/Supplies:</td>
<td>Use visual displays of materials/supplies to organize the space.</td>
<td>Doctoroff</td>
</tr>
<tr>
<td>Visible by</td>
<td></td>
<td>Visible in some conditions, not in others, depending on the children.</td>
<td>McAllister (2010)</td>
</tr>
<tr>
<td>Children (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology (3)</td>
<td></td>
<td>Computers provide distractions (negative influence).</td>
<td>Tufvesson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide space for minimum of two computers, orienting monitors so as to not be distracting to other children.</td>
<td>McAllister (2012b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Design the space to accommodate technology (computers and hand-held devices).</td>
<td>Scott</td>
</tr>
<tr>
<td>Durability/Mainte. (1)</td>
<td>Durability and easy maintenance of finishes and furnishings.</td>
<td></td>
<td>Khare</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Modifications to</td>
<td>Modify areas to accommodate the needs of individual children, changing them as needed.</td>
<td>Delmolino; Ganz; Khare</td>
</tr>
<tr>
<td></td>
<td>Meet Individual Needs (6)</td>
<td>Provide a flexible environment through placement of storage and screens that can be moved.</td>
<td>McAllister (2010)</td>
</tr>
<tr>
<td>Theme</td>
<td>DC (Qty. of Sources)</td>
<td>Specific Recommendations</td>
<td>Sources</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Flexibility (cont.)</td>
<td>Modifications (cont.)</td>
<td>Teachers should have the ability to customize lighting and other factors and to reduce noise to help them meet the individual, changing needs of the children. Consider the individual needs of the child when providing seating (chair, bench, carpeted floor, or therapy ball) to extend engagement with learning.</td>
<td>Scott</td>
</tr>
</tbody>
</table>

**Design Process**

| Approach (5) | Integration of information from all stakeholders; incorporate input from end-users (especially teaching staff) in programming. Importance of “interior-oriented decisions…specifically furnishings.” Stakeholders involved in the design process may have difficulty understanding drawing/modeling conventions and language used by design professionals. The space will change over time as the user interacts with it. |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|

**Sources:**


Design as Social Prosthetic: Exploring Emerging Housing Communities for LGBT Elders

Carl Matthews, Debbie Frederiksen & Caroline Hill
University of Arkansas, Texas State University

ABSTRACT

Introduction
In 2009, persons 65 years or older numbered 39.6 million in the U.S and that number is expected to reach 72.1 million by 2030 (Administration on Aging, 2013). With this growth, interior designers will find themselves increasingly engaged in the design of elder housing. Additionally, the projects are becoming as diverse and varied as the populations they serve. Affinity communities, or special interest senior living residences, are more common in the marketplace. One emerging niche is focusing on the needs of the LGBT (lesbian, gay, bisexual, transgender) population which is estimated to be between 3.4% and 10% of the population (9 - 25 million people) (Gates, 2011). However, limited data is available about the elderly LGBT population. “Buffeted on all sides by stereotypes, ageism, and anti-LGBT bias, LGBT elders have remained an invisible minority” (Knauer, 2012, p.4).

Institutional heterosexism and fear of discrimination for being open about one’s sexuality can create anxiety for elders exploring group housing options and the acceptance and support they seek extends to social relationships as well. Aging individuals often experience social isolation and withdrawal, but LGBT elderly do so at much higher rates.

Powell Lawton, a pioneer in the design of elderly care settings, established theoretical design principles centered on understanding the physical environment “as a prosthetic, created to maximize competence in terms of individual orientation and socialization” (Weisman & Moore, 2003, p. 33). To date, very little research has focused on the social design needs and spatial preferences of LGBT elderly. “The importance of the social context of one’s living
environment and the potential for social relationships that are affirming (as opposed to judgmental) to sexual minorities may provide an understanding for the rise of LGBT retirement communities” (Sullivan, 2011, p. 30). The purpose of this study is to address this void in the literature through the exploration of niche senior housing concepts and, in particular, the physical and social considerations involved in the design of facilities intended for LGBT seniors.

Methodology
A mixed methods approach was utilized for this study. Quantitative assessment includes expanding demographics, housing costs, income levels, etc. The qualitative research component comprised a series of focus groups and interviews with 21 elderly residents from two LGBT retirement communities in the U.S. Areas of exploration focused on elder concerns, the reasons cited for choosing specific communities, and lived experience. Interview notes were coded by topic and dominant themes emerged from the interview texts.

Conclusions
The authors will present the findings, extensive literature review, as well as original research at extant facilities. Data will include participants’ key considerations when selecting housing, social activities and public spaces utilized, and the community’s overall impact on their social network. The study reveals that design for seniors does not adhere to one-size-fits-all mentality. As one study participant stated, “The clubhouse here is sized appropriately for a regular senior housing complex, but it is not big enough for a lesbian community. Our social space needs are different.”

REFERENCES (APA)


Placemaking: Enhancing Purpose and Character Through Six Parallel Walls

Angela McKillip
South Dakota State University

ABSTRACT

Problem Statement
At an increasing rate, today’s interior designers command the holistic development of interior space. Yet, many experience difficulties with spatial design, and seldom reach beyond simplistic plan development to the skillful manipulation of interior space, crucial to establishing place (Rengel, 2003). Place, as defined by Robert Rengel, is a clearly recognizable entity with identifiable purpose and character.

Program faculty noticed a similar theme amongst project outcomes in upper level studios. Students excelled with evidence gathering, identifying goals and objectives, and space planning; they could define purpose in terms of function while shaping interior space. However, students struggled to fully exploit the developed concept in three dimensions through the creation of place with purpose and character. We turned to a lower level studio, where concept and spatial development is paramount, to introduce a placemaking model exploration.

The objective of this teaching forum is to present a project and process that can be utilized to improve spatial thinking and placemaking in interior design studio projects during the conceptual form-making and character defining phases. The appendices illustrate the process, perceived benefits and limitations of this project through examination of student work.

Methodology
Phase 1: Six Parallel Walls
The Six Parallel Walls project introduces students to a ‘generate and test procedure’, as presented by Peter Rowe in Design Thinking, where the results of the iterative model process are utilized to guide subsequent attempts and generate solutions. It is through the meaningful articulation of the programmatic requirements: entry, passage, place, orientation and hierarchy (Ching, 2007), that spatial configurations attain significance. Simultaneously, students develop a system, or set of rules, to approach the manipulation of the base model; and by which the approach is critiqued.

Exploration continues until a point is reached where there is little to no discrepancy between a proposed arrangement of programmatic requirements and the rules/logic in place. Purpose and character development are studied in combination as interconnected parts of the whole; students engage in placemaking.

Phase 2: Enhanced Sense of Place
While space and its enclosing surfaces begin to form the character of place, the complete experience includes other important environmental elements such as lighting, color and detail (Rengel, 2003). The students must assess the spaces created in the modeling exercise, and then self select a retail product to unite, creating an enhanced sense of place. The placemaking composition from the first phase of the project becomes the metaphor, or inspiration, from which the students further explore interior environments.

Analysis of Outcomes
The benefits of using this approach to teaching and learning were significant and immediate; students successfully created place with purpose and character. The process became a tool for students to understand, reason and critique their logic for placemaking and successful implementation thereafter.

One drawback that emerged, this strategy raises the question of how a problem solver determines whether the best solution has been found. It is the case that several different arrangements, even as variations of an idea, are plausible.

REFERENCES (APA)

Appendix A: Phase 1 Model Making

Program Components

Entry: Entry is a threshold that makes aware entrance into a space. It marks the change from one place to another (Ching, 2007).

Passage: Passage draws us, compels us to move towards another space or state of mind, either physically or mentally (Ching, 2007).

Place: Pace is that space within which we can dwell, reside or come to settle in, a destination (Ching, 2007).

Orientation: In nature, we orient toward the horizon, to light and to notable artifacts. Explore issues of focus, enclosure, opening and light (Ching, 2007).

Hierarchy: Some places are more important that others. Some are more public, some are more private; some more formal, some more casual. What is imbedded in the space or form that brings about this understanding of relative importance to place (Ching, 2007).

Model and Drawing Process

Model: Using the spatial requirements listed, students must manipulate a base model to construct different types of experience. First, they develop a concept or logic to test moves made when modeling. The must determine what is the over arching scheme upon which moves are made?

Next, students construct several base models to quickly move through a series of explorations. The material should be consistent to begin.

Base: 21” x 21”
Walls: 3”x15” Six Total, Spaced 3” on center

Photography: Students explore spatial development through photography, sketch and iteration. They consider how they want people to move through and experience the programatic elements.

Photoshop: Photoshop is used to further detail the photographs taken of the models for the final presentations

Plan and Section: Final presentations will be accompanied by plan and section demonstrating the program requirements.
Appendix B: Student Process and Outcomes Six Parallel Walls Model Study

Student Sample 1: Phase 1
Appendix B: Student Process and Outcomes Six Parallel Walls Model Study

Student Sample 2: Phase 1
The student combined the Phase 1 spatial language with the program of a digital art gallery. Enhancing the sense of place through the creation of a holistic experience in which the individual spaces are utilized for interaction with the art and personal reflection.
How Ergonomics Contributes to the Health and Wellbeing of Corporate Employees

Katelyn Nigus & Vibhavari Jani
Kansas State University

ABSTRACT

In the corporate environment, many employees do not get the choice of selecting the chair they spend long hours sitting in, given the financial constraints of the employers. Even today, many businesses do not spend their financial resources on purchasing ergonomically designed office systems which affect the physical health of their workers. This short-sightedness results in the reduction of productivity and in the long run, profitability of the business. Fortunately, many corporations are starting to see the correlation between the long hours their employees spend sitting in the office and how it affects their well-being including an increase in work injuries related to carpal tunnel syndrome and chronic back ache. Carpal tunnel syndrome has become the most common injury and also requires the most days away from work than any other condition ("What is Carpal Tunnel Syndrome", 2013). While some corporations are making strides to create healthier workplace, others want to provide different options to help with their employee’s health. These authors posed a question: can an ergonomically designed furniture system promote the well-being of the user?

To find the answer, these authors employed both quantitative and qualitative research methods for this study including: literature reviews, surveys, and observational research. Based on their preliminary findings, the authors are working on collecting additional data using surveys to determine employee’s general work habits and health consciousness within the office to see how often they spend sitting as well as their overall well-being and productivity in the office. The observational research will be implemented in examining the ergonomics and anthropometrics of different office systems to identify potential health risks and options for healthier work habits. The survey results can prove if their work habits are harmful to the employee’s health or
not. The authors will also test the office systems to see if they can provide ergonomic benefits not only physically, but to also give employee’s the chance to prosper into a healthier lifestyle.

REFERENCES (APA)

From Shape To Form | Bridging the 2D to 3D Spatial Gap in Design Thinking

Kathleen Ryan & Dana Vaux
Washington State University

ABSTRACT

THEORY
This study investigates the design thinking process in novice designers as they transition between two-dimensional and three-dimensional space. The design process as ‘design thinking’ is described as a cyclical process involving identifying a problem, testing perceptions, proposing solutions, and then reinterpreting the problem and solutions until an acceptable result is derived (Zeisel, 2006). The transitions between each step in this process pose a challenge to novice designers with under-developed spatial thinking skills. This study identifies a workflow strategy to bridge the gap in spatial thinking by activating the processes of design thinking through specific tactics.

Design thinking and the design process: Previous understanding of the creative thought process has focused on differences between left-brain and right-brain thinking. The left-brain versus right-brain approach has been exposed as misdirected in studies using functional MRI results (Aziz-Zadeh, Liew, & Dandekar, 2013). In recent years new research revealing changes in spatial and cognitive thinking processes shows employing problem-solving strategies using thought processes from both brain hemispheres is most effective. Applying this knowledge is useful in helping novice designers in their design process. Designers acquire knowledge through engaging and reflecting on design activity, using and reflecting on the "artifacts of the artificial world" (Cross, 2001). Developing effective spatial understanding skill relies on a re-interpretation of how spatial skills are developed and applied to the design process.
FRAMEWORK | METHOD
In the first segment of the study novice designers began the design process with the selection of an appropriate piece of writing on the topic. The stages included: 1) analysis of the writing into development of a series of two-dimensional drawings; 2) translation of the series of two-dimensional drawings to a series of three-dimensional representation; 3) and finally, translation of the three-dimensional abstraction to a three-dimensional inhabitable space. In the second segment of the study the initial stage was adjusted to include a three-dimensional actual object (visual) in conjunction with the writing (verbal). In both studies the shapes and forms that resulted were evaluated using the Consensual Assessment Technique (CAT)(Amabile, 1982).

At the conclusion of the ideation process each novice designer prepared a written reflection on their thinking process to elicit the self-perceived level of spatial understanding, thought process and level of synthesis at the later stages of process development. Each participant identified specific successes and challenges in the process of re-conceptualizing the two-dimensional abstract shape into a novel three-dimensional form. An analysis was performed to understand congruency between the CAT assessment and a content analysis of the reflection.

IMPLICATIONS |
Novice designers are concurrently developing their spatial understanding and design thinking skills when focused on the transition between two-dimensional to three-dimensional thinking. Spatial outcomes for novice designers improved when visual and verbal strategies were combined. The novice designer benefits from access to the right tools, strategies for an enhanced process, experience using the process, and reflective thinking throughout the process. Using both physical objects and abstract ideas engages critical thinking processes and aids designers in transferring spatial knowledge from 2D shapes to 3D forms.

REFERENCES (APA)


Fighting Fire with Fire: 
Identifying Cases of Harm

Katherine S. Setser
Miami University

ABSTRACT

This study provides definitive evidence that regulation of interior design practice is imperative. Contrary to positions advocated by most allied licensed professions against the recognition and licensure of professional interior designers, the practice of interior design has significant impact on the health, safety, and welfare (HSW) of the public that utilizes new metrics for the profession to articulate its value.

Except in few locations where it is regulated, interior design practice is presumed not to impact the public HSW either because a) interior design services are perceived as aesthetic in nature only or b) the aspects of interior design which might precipitate harm are being adequately overseen by other qualified persons (code and fire-safety officials, architects, engineers). Not unique to the public or its representatives, these misconceptions are also common among allied professionals (architects, engineers, interior decorators) and are often driven by lack of knowledge, perspective, institutionalized beliefs, and protectionist motives.

Actually, the life-safety obligations of interior design are paramount and the dangers very real. With respect to fire, the U.S. is among the deadliest of industrialized nations, despite the fact that it outspends all others on building fire protection by a factor of ten or more. The National Fire Protection Association (NFPA) and numerous fire commissions consistently find that proper selection, specification, arrangement, and/or installation of interior finish materials and other interior space content such as furniture, fixtures, and equipment – the very issues with which interior designers grapple – are significant contributors to the loss of life and property.
Yet, the interior design profession has not succeeded in making an effective jurisdictional claim to public protection of HSW in interior environments. This failure is not for lack of effort; the interior design profession has made significant strides in defining itself and its specialized expertise, documenting and disseminating its body of knowledge, and linking specialized tasks and research outcomes to the expertise of the profession. Rather, the obstacle appears to be a failure to articulate its expertise in concrete, demonstrable terms that reflect marketplace culture: behavior, delivery systems, vernacular language, and values of its various audiences. In short, it is a failure to recognize an existing and distinct cultural gap between interior design and other allied design practices, a gap that permits – even promotes – misperceptions or misinterpretations of its value.

This study explores the practice-related and cultural gaps that prevent the presentation of evidence of harm most recognized by allied licensed professions in their own path to licensure, and investigates alternative data that provides compelling evidence of causal relationships between interior space content and irreparable harm to the occupants in public and high-risk occupancies. Such comprehensive and correlative data includes case study analyses of select NFPA fire investigations, detailed analysis of NFPA annualized fire data, as well as a comparative analysis of preliminary data published in 2010 for a) validation and b) an extension of the initial study time frame for trend analysis.

This presentation will include a discussion of select findings as well as implications for future investigation.

REFERENCES (Chicago)


Case Study Fires Implicating Interior Space Content as a Contributor to Fire Loss

Design tragedies: proof of interior space content as a contributor to fire loss. NFPA fire investigations indicate interior finish and content are consistent, direct contributors to loss of life and property in these and other fires.

<table>
<thead>
<tr>
<th>Significant Fire Incident</th>
<th>Date of Incident</th>
<th>Civilian Deaths</th>
<th>Civilian Injuries</th>
<th>Primary Interior Issue(s) Cited as Contributing Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Station, West Warwick, RI</td>
<td>Feb 2003</td>
<td>100</td>
<td>200</td>
<td>Highly combustible interior finishes; expanded foam plastic insulation on walls</td>
</tr>
<tr>
<td>Fraternity House Fire, Chapel Hill, NC</td>
<td>May 1996</td>
<td>5</td>
<td>3</td>
<td>Highly combustible interior finishes; extensive use of soft-wood paneling and trim; combustible ceiling tile</td>
</tr>
<tr>
<td>Board and Care Fire, Mississauga, ON</td>
<td>Mar 1995</td>
<td>8</td>
<td>12</td>
<td>Very high fuel load in individual spaces, primarily result of occupants bringing inappropriate upholstered and other furniture from home</td>
</tr>
<tr>
<td>Stadium Fire, Atlanta, GA</td>
<td>Jul 1993</td>
<td>0</td>
<td>0</td>
<td>Significant fuel loading from combustible interior furnishings and finishes; plastic vision panels allow rapid flame spread between suites</td>
</tr>
<tr>
<td>Stadium Fire, Irving, TX</td>
<td>Oct 1993</td>
<td>0</td>
<td>0</td>
<td>Significant fuel loading from combustible interior furnishings and finishes; plastic vision panels allow rapid flame spread between suites</td>
</tr>
<tr>
<td>Private Club Fire, Indianapolis, IN</td>
<td>Feb 1992</td>
<td>1</td>
<td>4</td>
<td>Highly combustible interior finishes; wood paneling; multiple layers of wallcovering; decorative cabinetry; double ceiling assembly</td>
</tr>
<tr>
<td>Board and Care Fire, Colorado Springs, CO</td>
<td>Mar 1991</td>
<td>25</td>
<td>8</td>
<td>Combustible ceiling material</td>
</tr>
<tr>
<td>Hotel Fire, Miami Beach, FL</td>
<td>Apr 1990</td>
<td>9</td>
<td>21</td>
<td>Combustible ceiling material</td>
</tr>
<tr>
<td>Fraternity House Fire, Berkeley, CA</td>
<td>Sep 1990</td>
<td>3</td>
<td>2</td>
<td>Combustible interior finish materials; folding wall panel; extensive wood paneling – especially in the corridors and open stair</td>
</tr>
<tr>
<td>Fatal Board and Care Fire, Bessemer, AL</td>
<td>Sep 1990</td>
<td>4</td>
<td>-</td>
<td>Polyurethane cushioning of upholstered furniture; multiple layers of wallcovering</td>
</tr>
<tr>
<td>Fatal Office Building Fire, Atlanta, GA</td>
<td>Jun 1989</td>
<td>5</td>
<td>20</td>
<td>Multiple layers of highly combustible interior finish on walls of access corridors; wood veneer plywood paneling</td>
</tr>
<tr>
<td>High Rise Apartment Fire, Manhattan, NY</td>
<td>Jan 1988</td>
<td>4</td>
<td>9</td>
<td>Significant fuel loading by interior furnishings, finishes and contents as part of incremental building alterations</td>
</tr>
<tr>
<td>First Interstate Bank Building, Los Angeles, CA</td>
<td>May 1988</td>
<td>1</td>
<td>40</td>
<td>Combustible nature and geometric arrangement of open office furnishings in a large open floor plan</td>
</tr>
<tr>
<td>Rooming House Fire, Massapequa, NY</td>
<td>Aug 1986</td>
<td>5</td>
<td>1</td>
<td>Highly combustible interior finishes; cellulose-based ceiling tiles; extensive use of combustible wood paneling and wainscot</td>
</tr>
<tr>
<td>DuPont Plaza Hotel Fire, San Juan, PR</td>
<td>Dec 1986</td>
<td>97</td>
<td>140</td>
<td>Very high fuel load and smoke toxicity in area of incident due to storage of furnishings and packaging materials (including upholstery pieces containing urethane foam); combustible moveable partitions separating meeting/ball rooms</td>
</tr>
<tr>
<td>Haunted Castle Amusement Fire, Jackson Township, NJ</td>
<td>May 1984</td>
<td>8</td>
<td>0</td>
<td>Highly combustible and toxic interior finishes; synthetic foam, various fabrics and plastics, plywood, and tar paper; poorly lit, convoluted passages; disconcerting, nonconventional environment of a haunted house</td>
</tr>
<tr>
<td>Boarding House Fire, Beverly, MA</td>
<td>Jul 1984</td>
<td>15</td>
<td>9</td>
<td>Highly combustible interior finishes; wood wainscot and plywood paneling with cardboard underlayment; exposed fiberboard on ceiling</td>
</tr>
<tr>
<td>Hotel Fire, Paterson, NJ</td>
<td>Oct 1984</td>
<td>15</td>
<td>50</td>
<td>Highly combustible interior finishes; extensive use wood paneling; cellulose fiber ceiling tile and other suspended ceilings</td>
</tr>
<tr>
<td>Central Community Home Fire, Worcester, MA</td>
<td>Apr 1983</td>
<td>7</td>
<td>1</td>
<td>Highly combustible interior finish in exits and exit access corridors; wood paneling</td>
</tr>
<tr>
<td>Annandale Village Fire, Gwinnett County, GA</td>
<td>Aug 1983</td>
<td>8</td>
<td>0</td>
<td>Wide use of highly combustible wood paneling in lower level interior wall assemblies (in some cases, the paneling was applied directly to the wood studs in lieu of gypsum board)</td>
</tr>
<tr>
<td>Motel Fire, Dayton, OH</td>
<td>Nov 1983</td>
<td>1</td>
<td>20</td>
<td>Highly combustible interior finish materials in the exit access corridor; plywood/pressed board paneling; carpeting with foam underlayment</td>
</tr>
<tr>
<td>Hotel Fire, Las Vegas, NV</td>
<td>Feb 1981</td>
<td>8</td>
<td>350</td>
<td>Highly combustible interior finishes; carpeting as wall and ceiling finish; concentrated combustible drapery and upholstery materials promoted vertical spread of fire</td>
</tr>
<tr>
<td>Hotel Fire, Kearney, Nebraska</td>
<td>Jan 1981</td>
<td>0</td>
<td>22</td>
<td>High concentration of combustible interior materials, especially multiple layers of wallcovering in egress corridor</td>
</tr>
<tr>
<td>Hotel Fire, Las Vegas, NV</td>
<td>Nov 1980</td>
<td>85</td>
<td>700</td>
<td>Extensive use of highly combustible and thermo plastic interior finish materials; multiple layers of wall finish (wallcovering and paneling in Del); elaborate decorative trim (simulated marble, wood, plastic reflective ceiling panels in the Casino); extensive free-standing foam-padded furnishings (booths, gaming tables, restaurant and lounge seating in the Casino)</td>
</tr>
<tr>
<td>Hotel Fire, Cambridge, OH</td>
<td>July 1979</td>
<td>10</td>
<td>82</td>
<td>Highly combustible interior finishes; combustible wallcovering in stairway; multiple layers of wallcovering</td>
</tr>
<tr>
<td>Hotel Fire, Greece, NY</td>
<td>Nov 1978</td>
<td>10</td>
<td>34</td>
<td>Highly combustible interior finishes; plywood paneling – especially in stair</td>
</tr>
<tr>
<td>Beverly Hills Supper Club, Southgate, KY</td>
<td>May 1977</td>
<td>165</td>
<td>70</td>
<td>Concrete combustible ceiling tile; highly combustible interior finish; extensive use of wood paneling and drapery; exitways decorated to appear as window dressing; extensive use foam padding in furnishings and carpeting treatments</td>
</tr>
<tr>
<td>Night Club Fire, New Orleans, LA</td>
<td>Jun 1973</td>
<td>32</td>
<td>12</td>
<td>Highly combustible interior finishes; wood paneling; wood ceiling; combustible cellulose and fabric wall-coverings paper wall decorations; substandard carpeting</td>
</tr>
</tbody>
</table>
Annualized Fire Data in Public and High-Risk Occupancies

Proving a causal relationship between interior space content and fire loss: annual averages for fires in public and high-risk occupancies indicate the relative frequency of incidents; fires in which interior space content is a first ignition source are a small percentage of total fires, but a high percentage of those that cause damage, injury, and death.

<table>
<thead>
<tr>
<th>Occupancy Type</th>
<th>Total Annual Fires (Avg)</th>
<th>Total Annual Deaths</th>
<th>Total Annual Injuries</th>
<th>Total Direct Property Damage (in millions)</th>
<th>Fires Involving First Ignition of Interior Space Content (Annual Average)</th>
<th>Extent of Damage (Loss Beyond Floor of Origin)</th>
<th># of Fires</th>
<th>% of Total</th>
<th># of Fires</th>
<th>% of Total</th>
<th># of Fires</th>
<th>% of Total</th>
<th># of Fires</th>
<th>% of Total</th>
<th># of Fires</th>
<th>% of Total</th>
<th># of Fires</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels/ Motels</td>
<td>3,700</td>
<td>12</td>
<td>143</td>
<td>$127.0</td>
<td>600 17% 6 50% 150 29% $12.0 10% 250 7% 3 30% 25 18% 100 80%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dormitories, Fraternities/ Sororities, Barracks</td>
<td>3,840</td>
<td>3</td>
<td>38</td>
<td>$20.9</td>
<td>240 6% 0 0% 0 0% $0.3 1% 60 1% 0 0% 4 12% 15.9 76%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious and Funeral Properties Public Assembly Occupancies</td>
<td>1,890</td>
<td>1</td>
<td>12</td>
<td>$102.0</td>
<td>150 8% 0 0% 1 4% $8.0 7% 340 18% 0 0% 3 25% 82 80%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating and Drinking Establishments</td>
<td>4,910</td>
<td>1</td>
<td>52</td>
<td>$94.3</td>
<td>330 7% 0 0% 6 11% $11.9 13% 580 12% 1 100% 7 14% 74 78%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Properties</td>
<td>7,640</td>
<td>2</td>
<td>115</td>
<td>$246.0</td>
<td>320 4% 0 0% 8 8% $5.0 2% 980 13% 0 0% 22 19% 201 82%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Homes</td>
<td>6,290</td>
<td>0</td>
<td>85</td>
<td>$112.0</td>
<td>90 13% 0 0% 0 6% $0.9 20% 320 18% 0 0% 7 0% 19.3 83%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital or Hospice Facilities</td>
<td>2,840</td>
<td>5</td>
<td>110</td>
<td>$13.0</td>
<td>420 15% 2 40% 41 36% $1.9 12% 40 1% 1 23% 8 8% 7.7 59%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health and Substance Abuse Facilities</td>
<td>1,600</td>
<td>1</td>
<td>29</td>
<td>$5.5</td>
<td>100 7% 0 38% 10 35% $0.4 8% 20 1% 0 0% 0 0% 0.3 5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinics and Doctors Offices</td>
<td>1,450</td>
<td>1</td>
<td>23</td>
<td>$2.7</td>
<td>70 33% 0 100% 6 26% $0.8 32% 30 2% 0 31% 2 8% 1.4 52%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Board and Care Facilities</td>
<td>700</td>
<td>0</td>
<td>6</td>
<td>$18.7</td>
<td>80 11% 0 0% 2 27% $4.1 20% 80 11% 0 0% 0 0% 0 12.7 68%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Store/ Mercantile Facilities</td>
<td>1,920</td>
<td>10</td>
<td>61</td>
<td>$8.0</td>
<td>240 14% 0 0% 25 34% $1.2 15% 60 3% 0 0% 17 28% 4.3 53%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Properties</td>
<td>2,840</td>
<td>16</td>
<td>32</td>
<td>$648.0</td>
<td>1,260 8% 0 0% 14 5% $59.0 9% 3,200 20% 0 0% 86 35% 501 78%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Family Properties</td>
<td>108,400</td>
<td>410</td>
<td>4,280</td>
<td>$1,248.0</td>
<td>11,500 11% 210 50% 780 17% $155.0 12% 6,900 7% 200 48% 1000 23% 873 70%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>163,340</td>
<td>463</td>
<td>5,233</td>
<td>$2,754.1</td>
<td>15,500 9% 218 47% 1,043 20% $263.5 10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. These are national estimates of fires reported to U.S. municipal fire departments and so exclude fires reported to Federal or state agencies or industrial fire brigades and included in NFPA statistical reports. The data, based on NFPA analysis, are estimates and are generally rounded. Fires are rounded to the nearest ten, civilian casualties are rounded to the nearest one, and direct property damage is rounded to the nearest million dollars. Direct property damage has not been adjusted for inflation. An entry of zero may be a true zero or it may mean that the value rounds to zero. Percentages are calculated from unrounded values. It is quite possible to have a percentage entry of up to 100% even if the rounded number entry is zero. Because percentages are expressed in integers and not carried out to several decimal places, percentages that appear identical may be associated with slightly different values.

Continued next page
2. Hotels/Motels include reported fires for the four-year period of 2006-2010. This category does not include residential hotels that serve as primary domiciles.

3. Dormitories, Fraternities, Sororities and Barracks include reported fires for the four-year period of 2006-2010, and include school, college and university dormitories, fraternity and sorority houses, monasteries, bunk houses, barracks, and nurses’ quarters or related properties.

4. Religious and Funeral Properties include reported fires for the four-year period of 2007-2011.

5. Public Assembly Occupancies include reported fires for the four-year period of 2004-2008, and include the following occupancy types: club; variable and fixed use amusement or recreation; library, museum, or court room; passenger terminal; theatre or studio; and unclassified or unknown-type public assembly property. Eating and drinking establishments and religious and funeral properties are excluded from these tallies and are included as separate line items in the chart.

6. Eating and Drinking Establishments include reported fires for the four-year period of 2006-2010.

7. Educational Properties include reported fires for the four-year period of 2005-2009, and include primary through high schools, college classroom buildings or adult education centers, day care centers, and unclassified educational properties. Although no detailed information was provided on first ignition of materials or extent of damage for unclassified educational properties, annualized data with regard to total number of fires, civilian fatalities, civilian injuries, and direct property damage are included in the first three columns.

8. Nursing Homes include reported fires for the four-year period of 2002-2005. Here, “nursing home” refers only to nursing homes licensed by the state providing 24-hour nursing care for four or more persons. Assisted living facilities and residential board and care facilities are not included here, but rather are listed in this chart “Residential Board and Care.” Similarly, elderly housing, where people cook for themselves and maintain their own apartments are considered residential and are therefore included under the heading “Multi-Family Properties.”

9. Hospital and Hospice facilities include reported fires for the four-year period of 2003-2006.

10. Mental Health and Substance Abuse facilities include reported fires for the four-year period of 2003-2006.

11. Clinics and Doctors’ Offices include reported fires for the four-year period of 2003-2006.

12. Residential Board and Care Facilities include reported fires for the four-year period of 2006-2010, and are defined by NFPA 101: Life Safety Code® as occupancies “used for lodging and boarding four or more residents not related by blood or marriage to the owners or operators for the purpose of providing personal care service.” In general usage, this property type can go by several names, including assisted living.

13. Store and mercantile properties include reported fires for the four-year period of 2004-2008, and include facilities providing personal services such as barber and beauty shops, laundry or dry cleaning shops, service stations, vehicle or other repair shops and businesses selling professional supplies or services.

14. Office properties include fires reported for the four-year period of 2004-2008. Office properties include general business offices, banks, veterinary or research offices, engineering, mailing firms and post offices.

15. Multi-Family Properties include fires reported for the four-year period of 2007-2011. The NFPA data identifies 210 civilian deaths in multi-family properties associated with the first ignition of upholstered furniture, cabinetry, and interior wall covering (excluding draperies). The author included these numbers in the column recording civilian deaths. However, since additional data on the total number of fires, civilian injuries, and property data as a result of the first ignition of these items was not included in the NFPA analysis and, therefore, is not included in the chart in the associated columns.

©2013. Data compiled from various statistical reports by occupancy, published by the National Fire Protection Association. See Bibliography for detailed listing of those reports.
2002-2005 Avg Annual Fires Involving the First Ignition of Interior Space Content

Even though they represent a small number of overall fires in public and high-risk occupancies, when interior space content is a first ignition source, the risk of death and injury increase dramatically.

Average Annual Fires Involving the First Ignition of Interior Space Content: Nursing Homes

Nursing home fires that begin with the first ignition of interior space content represent 16% of the annual nursing home fires yet are responsible for 40% of the annual civilian fire deaths, 36% of the injuries to civilians, and 12% of direct property damage.
2004-2008 Extent of Damage: Loss Beyond the Floor of Origin: Public Assembly Occupancies

Although 88% of annual public assembly occupancy fires are contained within the floor of origin, a full 100% of civilian deaths, 14% of civilian injuries, and 78% of direct property damage occur on other floors or beyond.

2007-2011 Extent of Damage: Loss Beyond the Floor of Origin: Multi-Family Properties

Although 93% of annual multi-family property fires are contained within the floor of origin, 48% of civilian deaths, 23% of civilian injuries, and 70% of direct property damage occur in spaces or on floors beyond.
Misalignment of Public Protection: A Tale of Two Cities

Katherine Setser
Miami University

ABSTRACT

There is a common belief that, even though interior space content may pose a hazard to the health, safety, and welfare of the public in high-risk occupancies, the risk of harm is mitigated by the participation of licensed professionals and code officials within the existing regulatory environment. The typical and customary regulatory path for new construction and substantial building renovation is based on this assumption. Yet, new construction and/or significant renovation projects comprise a small percentage of new interior content added each year. For example, new office construction completed in the United States commercial office market during the first quarter of 2013 made up slightly less than one percent of all available office square footage. Over the life of a building, incremental change to interior space content is a frequent occurrence that is driven by changes in ownership, tenancy, occupancy, and capacity or motivated by aesthetics, deterioration, obsolescence, and a desire for flexibility and responsiveness to the workforce.

Because of their frequency and incremental nature, unregulated modifications far outnumber new or significant renovation projects overseen by licensed or highly trained professionals. According to the Federal Emergency Management Agency (FEMA) and the U.S. Fire Administration, it is precisely these unregulated and incremental modifications that are responsible for the high fire mortality rate in the United States. Two of the five most critical issues identified focus squarely on the issue of incremental change of interior space content: 1) a failure of standards to control building content, particularly when incremental occupancy or use changes occur, and 2) modifications to interior space.
REFERENCES (Chicago)


Interior Design in the Event-City

Igor Siddiqui
University of Texas at Austin

ABSTRACT

More than ever before, the knowledge and skillsets specific to interior design are applicable to project typologies that exceed the limits of the architectural “box” that conventionally defines the scope and extent of the interior. Contemporary interior design expertise not only exceeds such spatial constraints, but also challenges how a project’s temporal scope and duration are defined. In addition, an expanded understanding of what makes something functional, useful, or programmatically sound is needed as the discipline encounters these new opportunities as a part of its repertoire. The design studio, titled “SXSW: Temporary Design and the Event-City,” offered in the Spring 2013 semester, sought to examine how interior design may operate in such an expanded context. The advanced-level course was offered to a total of 12 upper-level undergraduate and graduate students (8 undergraduate and 1 graduate in the Interior Design program; 2 undergraduate and 1 graduate in the Architecture program).

The basic premise of the design studio was as follows:

Large-scale, temporary events (including art fairs, music conferences, food festivals and others) play an increasingly important role in the experience and economy of contemporary cities. Such events require a high volume of designed environments, typically temporary in nature but often with a lasting impression. They are designed by event planning companies, branding agencies, and exhibition designers, and could readily be absorbed into the practice of interior design. As a case study, the studio considered the annual music festival South by Southwest (SXSW) and its allied conferences that take place in Austin, TX. The event is a premier showcase for innovative work in numerous industries from music and film to a wide range of digital technologies. It also serves as a launching pad for new products from energy drinks to electric vehicles. In this spirit,
the studio examined how SXSW can be the site of spatial design innovation, in particular in relation to interior design.

The studio was divided into three phases. The first phase focused on research through which the students collectively compiled comprehensive information about the event, from demographic data and revenue to its programming and experiential characteristics. In the second phase, the students focused on five areas of cutting-edge innovations that are currently redefining how we design spaces: 3D printing, robotic assemblies, smart materials, biodegradable materials and pollutant-neutralizing finishes. The final 7-week project invited each student to design a temporary environment, event or installation that introduces the public to the potential of those innovations, while relating to the existing programs of the larger event as well as the city’s infrastructure.

The studio was a unique learning experience for the students as it allowed them to examine the following issues that are ordinarily not central to our interior design curriculum: (1) site selection in relation to the city; (2) the application of latest technological innovations at full-scale; (3) design for short-term uses with explicit emphasis on lifecycling and product afterlife; and (4) the development of a programmatic brief for environments that are not only functional, but also didactic.

REFERENCES (Chicago)


**SMART ALLEYS**

**SITING STRATEGIES**

My installation seeks to develop a relationship between the alleyways running parallel to sixth street and 6th street. By siting my installation in these dark spaces, I hope to transform the alleys into more vibrant public spaces.

**POSSIBLE PROGRAM**

- Small performances by street artists
- Seating / bar / circulation
- Street closures
- Official venues
- Unofficial venues

**STRUCTURE AND COMPONENTS / MATERIALS / LIFE CYCLE**

- Scale: 1/2" = 1' - 0"
- Structure: PVC plastic with welded connections
- Material: recycled tulle fabric
- Sound: piezoelectric materials will be used at the end of the structure, cables will pass on top of them
- Light: LED lights
- Smell: The hose through which the odor neutralizing liquid is sprayed is oriented towards the dumpsters.

Possible program:

- Small performances by street artists
- Seating / bar / circulation

**Student work sample #1: Installation proposal featuring smart materials**
South by South West is the only festival in the world that encompasses three of the world’s largest leading industries: music, film, and interactive technologies. During the ten day event, which starts with interactive, leads into film, and then concludes with music, there are few overlaps that highlight and merge the three events in a spatially cohesive and compelling manner. One of the most cutting edge technologies of our time is 3D printing. This technology, as President Obama has stated, “has the potential to revolutionize the way we make almost everything.” Of the 3D printers currently available, the D Shape printer is the largest with a maximum print size of 20 feet x 20 feet x 25 feet. The machine operates by depositing a liquid binder onto a powder bed made of a solid reactant and aggregate of either local materials (crushed rock, sand, gravel etc.) or recycled material.

During SXSW 2014, 4dscape will be constructed on East Cesar Chavez Street, right across from the Austin Convention Center. The aim is to celebrate the construction site as an event space during the interactive part of SXSWWeek by showcasing the technology, while also using ready made construction components. During the music part, 4dscape becomes a place where all participants can coalesce in a neutral territory: a place for leisure, lounging, and hydration.

The 3D printed pods embody the multi-materiality capability of 3D printing: sand, biodegradable foam (for insulating the walls), and rebar (at stress points in the structure). The pods are designed to provide shading, places to sit, and insulated coolers and cup holders for the Tytan water bottles. The process of merging people in time and space celebrates the temporality SXSW and the additive process of 3D printing.
Student work sample #3: Installation proposal featuring biodegradable materials
Student work sample #4: Installation proposal featuring robotic assembly
This installation seeks to address pollution problems during SXSW and showcase the pollutant-neutralizing technology of titanium dioxide infused finishes. The site chosen is the perimeter of the streets that are closed during SXSW, which create a pedestrian-only zone for the week. The threshold between this pollution and car-free zone is defined by a screen which is supported by a bamboo scaffolding. The fabric, which has been washed in a titanium dioxide solution, not only removes carbon dioxide and nitrogen oxide from the air, but also provides extra shading to SXSW goers, defines new venues, and helps direct traffic away from street closures.

Titanium Dioxide works as a catalyst to break down pollutants, such as carbon dioxide and nitrogen oxide, from the air. When exposed to sunlight, the TiO₂ breaks those pollutants down into their basic components, such as nitrates and oxygen. When fabric is washed with a solution containing titanium dioxide, it retains the ability to neutralize pollution.

PRECEDENTS

INSTALLATION COMPONENTS

POLLUTION FROM 6,594 CARS REMOVED

PROJECT AFTERLIFE
Preparing for Practice:  
CIDA Program Graduates Perceptions of Their Career Readiness

Elizabeth Tarver & Lisa Waxman  
Florida State University

ABSTRACT

Introduction
Interior design education is continually evolving along with the profession of interior design. It is essential that students in the field have the best preparation possible to lead the industry into the future. This research explores the experiences of interior design students who graduated in the last five years from CIDA accredited programs, and examines their perceptions of their preparedness to practice.

Background
Interior Design is a complex profession impacted by many regulations and codes, along with rapidly changing technologies and advancements. In an effort to prepare interior design students for their future in the profession, much effort has been expended to develop and update the Council for Interior Design Accreditation (CIDA) standards (CIDA, 2013). Aided by research studies, surveys and collaborative efforts with allied design professionals, CIDA standards are generally accepted as the measure of the quality of an interior design education (Busch, 2008).

Methodology
An online survey was sent via email to 764 interior design undergraduate and first professional graduate student alumni who had completed their degrees in the last five years (2008-2012). They were chosen from five regionally diverse CIDA accredited interior design programs in the United States. A total of 101 responses to the on-line survey were received. In addition, ten designers, from various regions, were interviewed for deeper insight into their early practice experiences.
Findings
Responses revealed that 75% of graduates were working in the interior design profession. Ninety-three percent indicated that they were not NCIDQ certified (likely due to their short time in practice), but 70% indicated that they planned to pursue certification. When asked about internships, 66% indicated that they were required to complete an internship as part of their degree program, while 22% were not required to intern but opted to complete an internship. Seventy percent of those who participated in an internship indicated they felt more prepared for practice as a result and 45% of those were offered positions at their internships locations upon graduation see Tables 2-5). Fifty-one percent indicated they practiced commercial design, followed by sales (15%) and residential design (15%) (see Figure 1). Generally speaking, students felt prepared for practice. The skills learned in school that were reported as most valuable included space planning (47%), selection of appropriate materials and finishes (44%), programming (42%), creation of two and three-dimensional designs (41%), and collaboration with allied professionals (32%) (see Table 6). However, eighty-eight percent of graduates identified some areas and/or skills that should be further emphasized in education. The areas they felt need further emphasis included more exposure to software programs (23%), budgeting (21%), preparation of construction documents (17%), preparation of specifications (16%), the ability to interact with allied professionals (15%), and contract administration (14%) (see Figure 2).

REFERENCES (APA)


Appendix A

Figure 1: Professional Practice Categories of Recent Graduates

Table 1. Students Participating in Internships

<table>
<thead>
<tr>
<th>Answer</th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>64</td>
<td>88%</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2. Internships Required by Interior Design Program

<table>
<thead>
<tr>
<th>Answer</th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>48</td>
<td>66%</td>
</tr>
<tr>
<td>No</td>
<td>25</td>
<td>34%</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 3. Perceived Value of Internships by Students

<table>
<thead>
<tr>
<th>Answer</th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>45</td>
<td>70%</td>
</tr>
<tr>
<td>Uncertain (Please provide any comments you wish on your internship experience - Optional)</td>
<td>13</td>
<td>20%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4. Student Perception of Preparedness to Practice without Internship Experience

<table>
<thead>
<tr>
<th>Answer</th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>3</td>
<td>33%</td>
</tr>
<tr>
<td>Uncertain</td>
<td>4</td>
<td>44%</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>22%</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 5. Internships Leading to Job Offers

<table>
<thead>
<tr>
<th>Answer</th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>23</td>
<td>36%</td>
</tr>
<tr>
<td>A job offer was made, but not accepted.</td>
<td>6</td>
<td>9%</td>
</tr>
<tr>
<td>No</td>
<td>35</td>
<td>55%</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 6. Top Five Most Valuable Knowledge Categories

<table>
<thead>
<tr>
<th>Answer</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create space plans &amp; design concepts that are safe, functional, aesthetically appropriate</td>
<td>47%</td>
</tr>
<tr>
<td>Selection of appropriate colors, materials &amp; finishes</td>
<td>44%</td>
</tr>
<tr>
<td>Research &amp; analyze client goals &amp; requirements (programming)</td>
<td>42%</td>
</tr>
<tr>
<td>Formulation of preliminary space plans</td>
<td>42%</td>
</tr>
<tr>
<td>Formulation of two &amp; three dimensional design concept studies and sketches</td>
<td>41%</td>
</tr>
<tr>
<td>Coordinate and collaborate with other allied design professionals (i.e. architects; structural, mechanical &amp; electrical engineers, &amp; various specialty consultants)</td>
<td>32%</td>
</tr>
<tr>
<td>Coordinate designs with existing conditions (building shell, physical locations and social context of the project)</td>
<td>30%</td>
</tr>
<tr>
<td>Selection &amp; specification of furniture, fixtures &amp; equipment to facilitate pricing, procurement &amp; installation</td>
<td>30%</td>
</tr>
<tr>
<td>Preparation of construction documents (consisting of plans, elevations, details &amp; specifications, power &amp; communication locations, reflected ceiling plans &amp; lighting designs, material &amp; finishes, &amp; furniture layouts)</td>
<td>27%</td>
</tr>
<tr>
<td>Project Management</td>
<td>27%</td>
</tr>
<tr>
<td>Confirm that plans meet all public health, safety &amp; welfare requirements (Including code, accessibility, environmental and sustainability guidelines)</td>
<td>23%</td>
</tr>
<tr>
<td>Encourage or include the principles of environmental sustainability into designs</td>
<td>16%</td>
</tr>
<tr>
<td>Selection &amp; specification of millwork, including layout drawings &amp; detailed descriptions</td>
<td>14%</td>
</tr>
<tr>
<td>Preparation of project budgets</td>
<td>14%</td>
</tr>
<tr>
<td>Preparation of project schedules</td>
<td>12%</td>
</tr>
<tr>
<td>Preparation of construction documents to adhere to code and regulatory requirements</td>
<td>11%</td>
</tr>
<tr>
<td>Observing &amp; reporting on the implementation of projects while in progress &amp; upon completion</td>
<td>4%</td>
</tr>
<tr>
<td>Contract Administration</td>
<td>4%</td>
</tr>
<tr>
<td>Conducting post-occupancy evaluation reports</td>
<td>4%</td>
</tr>
<tr>
<td>Administration of contract documents, bids &amp; negotiations on the client’s behalf</td>
<td>1%</td>
</tr>
</tbody>
</table>
Figure 2. Areas or Skills Graduate Felt Needed More Emphasis
Interior Skins

Lois Weinthal
Ryerson University

ABSTRACT

Introduction
The Bauhaus textile designer, Anni Albers wrote about textiles as second and third skins. By placing textiles within this context, she referenced them to the body and interior. She wrote: “...if we think of clothing as a secondary skin we might enlarge on this thought and realize that the enclosure of walls in a way is a third covering, that our habitation is another "habit".” (1) Albers’s interpretation guided an advanced interior design studio where students undertook the design of second and third skins. The properties of skins were the primary focus, in combination with integrating alternative methods of fabrication that span analog to digital.

Problem Addressed
The question brought to the studio was how can interior design students explore layers of ‘skin’ to produce a project that has a purpose embedded in it, such as mediating light, privacy, or structure. The studio design problem was established to have students explore material properties guided through a set of steps in combination with categories. While the steps were methodological, the outcomes were at times unexpected.

At the start of the semester, students undertook research on textile-based designers in order to better understand the multiple ways in which we experience layers of skins and the concepts and ideas that generate them. The selection of designers spanned historical to contemporary, handcraft to digital, in order to provide a range of examples for fabricating skins.

Strategies Used to Address the Problem
The studio was organized where the outcome of one phase helped further the outcome of the next (see course overview in appendix). In preparation for the final project, students undertook
an intermediate assignment focused on material translations. Students were asked to work with the following five categories: precedent, program, material, tools, and formwork in order to emphasize purpose and form-making (see 'Purpose and Form-Making Examples' below). The combination of these attributes led to form-making processes (ex. curtain + site + pliable + laser cutter + vacuum press). The work produced from this assignment sought to expand the students’s knowledge of shaping materials by considering the overlap between purpose and form-making as seen in the following:

Purposes – Examples
Precedent – curtains, screen, clothing, upholstery
Program – function, fit, light, structure

Form-making – Examples
Material – pliable, cast-able, form-able, drape-able
Tools – sewing machine, drill press, laser cutter, CNC router
Formwork – mannequin, molds, vacuum press, plaster form

Outcomes
The above organization resulted in each student producing a project that made reference to a skin – denoting whether it was a second skin for the body or a third skin for the interior. Discussions about these layers resulted in students identifying in-between areas, such as upholstery, which is close to the body but part of a room, concluding that it is a layer at two-and-a-half. The installation of the projects at full-scale resulted in a critique by external reviewers that brought an alternative dialogue – one based in materials, function and form-making rather than traditional program types.

REFERENCES (Chicago)

APPENDIX: INTERIOR SKINS

SEMESTER PROJECT OVERVIEW

Assignment 1: Precedent Studies

Each student will select a designer from a list of examples that include clothing designers, textile designers, artists, interior designers, and architects. Present your research to the studio.

Assignment 2: Cast-able Impressions

This short ‘warm-up’ exercise uses a textile or other forms of ‘skin’ and plaster in order to:
1. translate a characteristic of one material into another
2. become comfortable working with a cast-able material

Assignment 3: Felt Workshop

A week-long workshop with an invited guest will introduce hand-made and industrial felt techniques.

Assignment 4: Material Translations

The precedent studies undertaken in the first week emphasized the results of successful and insightful works when materials and methods of fabrication are translated across scales. This assignment will now put these types of exploration in your hands by working with the following as a few examples:
- materials that are pliable, cast-able, form-able, drape-able
- tools such as sewing machines, drill press, laser cutter
- formwork that includes mannequins, molds and vacuum press
- determining programs for site, function and fit

Assignment 5: Construct a second skin

Using one of the methods developed above in the material translations, construct a skin for the body. The project should grow from a technique, material, detail or some part of the process developed in the previous assignment to give you direction for the second skin.

Final Project

Construct a skin at the second, third and/or fourth layer. The previous assignments should act as a foundation in establishing the questions and areas of interest that you wish to pursue for this project. The final project should grow from your previous studies. When you constructed a second skin for the body, you looked at the body as a ‘site’ for constructing a new skin. If you choose to work at the scale of interiors and architecture (or a hybrid of any of these), then consider the campus as a continuation of your site. Choose a location (body, interior or exterior) that resonates with you. What is driving your decision for a site, materials and form of fabrication?
Example of work from ‘Student 1’

The following pages include examples of student work:

Student 1: Soft Corner
Student 2: Second Skin
Student 3: Inside Outside Wall
Student 1: Soft Corner

Project Description by Student:

“The intention for these form works was to produce a fluid-looking form captured in the solidity of plaster. A piece of spandex was suspended from the walls of a foam core box, and came into contact with wooden dowels of differing heights once the weight of the wet plaster made its impact. In the initial studies, the differing wooden dowel heights either caused very little relief, or enough to puncture a hole all the way through the tile. My intent for this part of the project was to create modules that could be repeated, allow for the creation of patterns and waves, and become part of a larger wall system. This process created bulges and ripples across the surface, and the result has an almost tufted quality. The larger installation tests this type of surface relief’s ability to visually soften a corner as it wraps a column.”
Student 2: Second Skin

Project Description by Student:

“My work throughout this past semester, was focused on examining the creation of stretch in materials that are otherwise stretch-free. By cutting a regular pattern of slits, a predictable amount of stretch can be produced in an otherwise homogenous, rigid, material. The location of this stretch can also be controlled by placing slits more frequently or in a larger scale in the material where more stretch is needed. Trial and error with placement, size, and frequency was the main method of experimentation regardless of the product I was working towards in the end.

I generally focused on creating stretch in industrial felt, but these same principles can be applied to other homogenous materials such as metals, leather, and paper which could potentially provide more opportunities for organic building skins and interiors. This same slit pattern and method can already be found in expanded steel mesh, however the pattern is unchanging and thus there is no variation to the material’s surface. The lack of variation does not allow for the material to respond to specific situations.

The concept I worked with was a simple one; easy to make and use as it only requires a repeated pattern of lines. The results, however, were surprisingly complex as the slits were combined and then applied to specific programs.”
Student 3: Inside Outside Wall

Project Description by Student:

“The installation of suspended hydrocal ‘bricks’ intends to negotiate layers of space: interior, exterior, and the space between the two. These layers of space that define our built environment are compressed into a singular plane.

An investigation into the transitional moments between different layers of skins and in particular the space in between the 3rd and 4th skin serve as the foundation for the project. Building and material memory are investigated through the choice of materials as well as through the overall form of the project. The form of the standard brick is borrowed and crafted through casting. This process of making is an inversion of the tradition of painting plaster over structural brick in order to decorate/mask the true materiality of the brick as an act of uncovering and peeling away.

The bricks are formed by casting against used exterior and interior building materials (wood, wallpaper, lace, felt) which act as lining within the structural form-work. These particular materials and their connotations (ie: wood indicates exterior, wallpaper indicates interior) leave their impressions, assigning appropriate identities to the different faces of each unique brick.”
Let the Future Begin for Haiti:
A Study of Safe Orphanage Environments

Amanda Lee Krueger & Jim Dawkins
Florida State University

ABSTRACT

Haiti’s 2008 hurricane season destroyed 22,702 homes and damaged another 84,625, for a total of 107,327 homes and 800,000 people left homeless during this season (DCHA & OFDA, 2009). The startling effects of parent death and child separation relative to emergency crisis in Haiti were additionally highlighted as a national tragedy in the March 2010 statistics following the 7.0 magnitude earthquake where 103,000 cases of children without parental care were documented (ALNAP, 2010). These factors have since intensified, and similar to the start of 2010, 2013 began with a sense of urgency in Haiti magnifying the global need for help from the fields of architecture and interior design.

The operation to rebuild Haiti remains one of a kind, and it was therefore the focus of this research to determine the relationship between homeless Haitian children’s safety and emergency response orphanage interior environments. This was created by first exploring the specific factor of safety related to orphanage design in Haiti through the framework of Denise A. Guerin and Caren S. Martin’s health, safety, and welfare paradigm in the interior design profession (Guerin & Martin, 2010). Second, primary research questions were determined by utilizing three means of design knowledge areas - building construction, space planning, and identifying materials appropriate for constructing a series of design solutions.

This research coupled with a series of detailed orphanage case study surveys conducted over a period of 13 weeks yielded non-parametric data, which was then structured into a scale to determine the most appropriate design elements and principles for safe orphanage environments. Results culminated in the production of print-based booklets incorporating annotated illustrations and sketches demonstrating the application of such data to provide the
foundation for the development of self-sustaining orphanage environments in Haiti and other disaster affected regions of the world.

REFERENCES (APA)


Psychological Constructs of Homeless Shelter Living Spaces and Their Implications for Shelter Design

Jill Pable & Kenan Fishburne
Florida State University

ABSTRACT

Researchers agree that people’s physical environment can affect their overall wellness for better or worse (Myers, Willse & Villalba, 2011). Disadvantaged populations such as the homeless may particularly need support because they are in physical and/or mental crisis. Overall wellness matters for this population, as it may lead to enhanced self-esteem, which in turn can help a person locate a job and permanent housing (Burn, 1992).

A study was conducted in 2013 that gathered built environment perceptions of mothers with children living in transitional homeless shelter bedrooms (See Figure 1). Because shelter environments also affect and are affected by the larger context of the shelter’s policies and employees, the perceptions of case workers and shelter directors were also gathered. Study findings revealed consistent intersections of the shelter’s built environment qualities with psychological factors related to these residents’ overall wellness.

As part of an ongoing study, the authors interviewed 22 individuals who were mothers living in the shelter, case workers and shelter directors at four southeast U.S. shelters. Approximately 20 hours of interviews were recorded and transcribed. This data was examined for emergent themes and regrouped as necessary to strengthen cohesiveness of categories. Study protocol dictated that an idea must be referenced by three or more interviewed individuals to be considered a finding.

This analysis suggests that shelter bedrooms, the only private quarters residents have, are not just a physical place, but also may be associated with residents’ and case workers’ mental perceptions of the residents’ larger homelessness situation. The findings revealed eight...
psychological constructs (some using multiple, related title descriptors) that shelter bedrooms may signify for residents and/or staff:

- Security/Fear
- Organization/Peace
- Control/Empowerment
- Discipline/Reward
- Self Esteem/Identity
- Stress
- Acknowledgement by others
- Creativity/Play

As a measure of preliminary crosscheck for these conclusions, the authors confirmed these constructs are also present in an established holistic wellness theoretical model, the Indivisible Self Model of Wellness (Myers & Sweeney, 2005). Extended examination of these psychological constructs in future research is necessary to build a case for their validity and reliability.

Understanding and acknowledging these constructs could influence the future design of shelter bedrooms because these representations reference residents’ fundamental experience of the space. Further, there appear to be intersections amongst these representations that carry further implications for future design decision-making. For example,

- Providing residents with the ability to organize their possessions (Organization) can lend support to the residents’ sense of self-determination (Control/Empowerment). Figure 2 shows the efforts of residents seeking to organize their belongings without the support of bedroom features to help them do so.
- When case workers assign a recently renovated ‘better’ room to a resident for good behavior (Discipline/Reward), this can have the effect of boosting the resident’s sense of self worth (Self-Esteem/Identity). See Figure 3.
- Bedrooms without locks permit bed checks by case workers (Security/Fear) and emphasize shelter policy rules (Discipline), but also heighten anxiety in residents (Stress).

This presentation will discuss these findings, show images from the study that support these conclusions, and discuss further implications for shelter design.
REFERENCES (APA)


Figure 1. A homeless shelter bedroom represents the only private quarters that a family has for the three to 12 month occupancy period permitted by most transitional shelters. The authors observe that the visual and functional quality of these rooms vary by shelter, but often do not exceed the minimums of codes and a basic level of subsistence. The authors sense that these rooms’ appearance and function may be associated with larger psychological representations of the condition of homelessness for residents and others. (Photo by authors)

Figure 2. Residents demonstrate the desire to organize their many belongings within their bedrooms, even if the room’s design does not provide support for this action. (Photo by authors)
Figure 3. Case workers identify that having a bedroom with enhanced features (such as lighting for reading and ventilation fans) can be attractive to residents, and are therefore useful as an incentive for good behavior or to reward progress toward residents’ goals. (Photo by authors)
Enhancing International Experiences: Gaining Collaboration and Global Understanding

Rebekah Ison Radtke
University of Kentucky

ABSTRACT

Theory/ Question
International experiences provide students with the ability to experience the global context of design outside of the classroom. According to Asojo (2009), “Students have to understand the cultural, social, economic and political circumstances of the people they are designing for.” This discourse necessitates providing opportunities for practice beyond the campus to encapsulate community-engaged design abroad. Although we can encourage our students to participate in study abroad programs, how can we validate the learning outcomes beyond the intuitive? This presentation seeks to share a framework that illustrates how to effectively measure the benefits of studying abroad by engaging in community-based projects. Based on a study abroad program to Brazil, the author will discuss the measures and results of a study conducted in the summer of 2013.

Framework
A study abroad program to Brazil prompted research with nine students from interior design and architecture who participated in a community-engaged design build project with a local village outside of Sao Paulo. The research was comprised of multiple levels of engagement; methodologies required students to complete a survey about global citizenship and academic development prior to departure, immediately upon arrival home, and ten weeks after their return. The study required students to complete exploratory sketching, responsive writing, and an independent research project to chart learning based on CIDA standards for global understanding and collaboration. This data was analyzed to assess how well students met
learning objectives for the course and how they were impacted both personally and professionally by the international experience.

Conclusions
Systematic assessment of the data collected reveals how education abroad can enrich the learning experience and provide evidence for interior design program accreditation. Data showed students exhibited understanding of working with multiple stakeholders and a whole systems approach to sustainability by participating in design processes abroad. Students showed evidence of awareness to varying socio-economic conditions within other cultures through active engagement with community members. Ideas will be shared to assist educators in making student travel more meaningful and to demonstrate evidence of how CIDA guidelines can be met to assess designing within a world context.

REFERENCES (APA)
FOR YOUR KINDNESS present us with 50 BEAUTIFUL THINGS OUR HEART TOUCHING!
Residences of East Coast American Elites and Architectural Theories of the French Academie: Elucidating Precedents of Late-Gilded Age Beaux-Arts Capitols

Diane Al Shihabi
Iowa State University

ABSTRACT

Preceding the design of state capitols in the late Gilded Age (1890-1917), American Beaux-Arts architects developed mansions for East Coast nouveaux riches. The most influential private residences were conceptualized, and designed for display, through the architects’ interpretation of monumental forms promulgated at the Ecole des Beaux-Arts in Paris, France. Located largely in Newport and New York City, they were in centers of American high society (Craven, 2009). Some historians speculate that Beaux-Arts capitols emanated from these estates. David Brain contends that this antecedent work, comprised of the Beaux-Arts architects most visible and prestigious commissions, precipitated their winning rigorous competitions for statehouses (Brain, 1989). Henry Russell Hitchcock and William Seale suggest that capitol interiors may be tied stylistically, noting seemingly similar applications between New York salons and Beaux-Arts capitol reception rooms (Hitchcock and Seale, 1976).

This study builds upon, and broadens, contentions by Brain, and Hitchcock and Seale, to construct a more complex understanding of the relationship between residences of East Coast elites and American Beaux-Arts capitols. It asks how the architects’ cultural values and academic training impelled, and is evidenced in, interior forms and finishes of each monumental building type. It argues that late Gilded Age American society associated specific forms and behaviors with status, and that the architectural forms and finishes appropriated by Beaux-Arts architects for residences of America’s nouveaux riches, became new cultural markers of high taste, replacing those of the old-moneyed. It argues further that French academic
architectural traditions, rather than salons of East Coast elites, caused the similarities in interior styles between the architects’ private and public commissions.

To comprehend the complexity of late Gilded Age American society, the research methodology amalgamates sociological, material cultural (Prown, 1982), and art historical approaches (Panofsky, 1955). Hence, it analyzes taste and tastemakers from the perspectives of status, economic ability, possessions, and hierarchies of social relations. It discerns architectural taste by assaying the physical and aesthetic dimensions of buildings, and evaluates finishes and collections within mansions and capitols through direct analysis. The research process considers the modes through which notions of European high taste were transmitted to America during the period, and identifies influential people and the types of ideas being transferred. It examines how industrialists and Beaux-Arts architects construed and transmuted these sentiments materially in residences, and later in capitols. Lastly, it analyzes similarities between the two building types from the perspective of the French Académie’s architectural tradition.

The study finds that Beaux-Arts architects interpreted ideas about status from America’s nouveaux riches, and manifested them materially in their designs. Drawing on their tutelage in the French Académie, the architects created American artistic and aristocratic semiotics, yet subordinated them within the French design system. French Classical styles and artistic hierarchies found within mansions and capitols were similar because Beaux-Arts architects designed both building types, which shared a mutual basis in French academic architectural theory.

Importantly the study’s findings complement prior art historical and sociological perspectives on Beaux-Arts Classicism. Moreover, they expand upon them by adding viewpoints from the interiors’ specialization.

REFERENCES (Chicago)


Third Place Characteristics: Predictors of How Well Social Spaces are Liked and Used

Nichole Campbell
University of Florida

ABSTRACT

Since many adults meet a portion of their social interaction needs in the workplace, retirees often find they left behind fulfilling social relationships along with their work. Research indicates the influence of social interaction on older adults’ health is greater than it is on the health of younger adults (Lee, Jang, Lee, Cho, & Park, 2008). More specifically, many studies exist indicating a positive association between quality social interaction and health and well-being outcomes such as decreases in depression as well as increased longevity in a study of older adults (Glass, Mendes De Leon, Bassuk, & Berkman, 2006). These studies emphasize the importance of why older adults need to meet social needs without telling us how to support quality social interaction among older adults.

To help support resident social needs, Continuing Care Retirement Communities (CCRCs) provide many spaces intended for resident social use. Consequently, CCRCs offer fertile ground for the study of social spaces. Not only do CCRCs offer lounge areas and lobbies for resident social use, but also these communities are designed like small towns, providing commercial services (i.e. coffee shops and cafes) which can serve as social venues as well. The question that needs to be answered is how do we design these CCRC social spaces to support quality social interaction and foster relationships?

One type of venue known to provide rich social interaction is the third place. Third places are vital and lively social hubs where various individuals can visit alone or in groups for the purposes of conversation. Oldenburg’s (1999) study of third places indicated the social importance of these spaces among the general public. Even so, research on supporting social
needs and more specifically third places in CCRCs has been studied little. Extending from Oldenburg’s work, studying CCRC social spaces presents the opportunity to understand how to design interior social spaces to support social interaction for older adults.

To further understanding, this research question was addressed: to the extent social spaces in the CCRC studied have atmosphere and décor characteristics of third places as defined by Oldenburg (1999), are these characteristics predictors of how well liked and used the social spaces are? A correlational research strategy was used to investigate Oldenburg’s third place atmosphere and décor characteristics in communal social spaces in a Southeastern CCRC. Resident ratings collected via surveys were the primary data source. Serving as confirmation of findings from an earlier study, this research (n= 179) found social spaces in the CCRC studied that had third place characteristics were better liked and more used than spaces without those characteristics. Applicable to research and design practice, these findings suggest designing retirement community social spaces with third place characteristics may support the success of these social spaces and foster social interaction among CCRC residents.

REFERENCES (APA)


Exploring the Role of Interior Design as a Support for Intimacy and Human Wellbeing in Long-term Care

Migette Kaup & Gayle Doll
Kansas State University

ABSTRACT

Long-term care environments are increasingly giving more attention to features that support a “home-like” setting. This is especially true of newer models of long-term care, often referred to as “households,” which have been identified as an innovative design strategy for serving the clinical and social needs of the frail and elderly (Rahman & Schnelle, 2008). It is unclear, however, what efforts are being made to plan interior environments with the design features that would support natural intimate relationships that are typical of consenting adults. This presentation shares the results of a pilot study that explores the dimensions of interior design in supporting both privacy and intimacy for older adults living in long-term care.

An on-line survey instrument was distributed through five professional associations; International Interior Design Association’s Health Care Forum, American Society of Interior Designers, American Institute of Architect’s Environments and Aging Network, the Society of Gerontological Environment’s list-serve, and the Health Care Design’s on line newsletter distributed though Vendome Group. Sixty-nine professionals responded to the survey and provided their perspectives on the need to support intimacy for adults in long-term care, the distinctions between privacy and intimacy, and specific interior design strategies that supported intimate relationships.

Survey results demonstrated a wide variety of perspectives and awareness of this topic. Survey participants were asked to identify their top five programmatic criteria for designing residential-based long-term care settings. Twenty-seven responses to this question were aggregated and the top five categories included attributes that supported privacy, autonomy, access to nature, pleasurable dining experiences, and positive social interactions. Specific design strategies were
focused on spatial factors associated with private rooms. When asked to define the distinctions between designing for privacy versus intimacy, responses were more varied. Comments revealed assumptions about the need for older adults in long-term care to experience intimacy, and in some cases, designers assumed that such acts should be “discouraged” amongst older adults.

The significance of this first phase is in what was learned about the expectations of designers who are instrumental in developing and enacting the architectural and interior design program. Designing long-term care environments to be authentically homelike should be a priority in order to support a true quality of life and human well-being (Lustbader, 2001). Autonomy, privacy, and choice are best reflected when adults have a setting that affords them their need for building and supporting relationships with others, including physical intimacy with a partner of their choice. Acknowledging this natural human expression and behavior will continue to become increasingly important as social expectations continue to shift for aging cohorts (Reingold & Burros, 2004). Rooting design in the foundational environment and behavior theories as well as the physiological needs of frail adults will be critical. This presentation will discuss further methodologies that explore and reveal the multiple layers of designing for human well-being derived from these initial findings (Creswell, 1994) and will provide the necessary context for other empirically based research that focuses on measuring important variables such as intimacy and quality of life.

REFERENCES (APA)


Too Recent for the Books: 
Teaching Contemporary Design History in a Multidisciplinary Format

Mark S. C. Nelson
University of Wisconsin-Madison

ABSTRACT

Problem addressed: While interior design students in an accredited program must have a firm grasp of the history of interiors, it is quite possible for students to graduate knowing more about designers and styles from the 19th Century than from the 21st Century. Contributing to the difficulty of teaching current design is the need to essentially write the history that is too recent to be included in books; a 2005 book accompanying a museum show prides itself as being the first to really examine design from over 20 years earlier.[1] Interior design history books might offer contemporary examples, but these are often mature works that were conceptualized several decades earlier.[2] This paper describes a course that looks at contemporary design in a way that is useful for both designers and those working with designs.

Methodology: A basic pedagogical premise of the course was that students should learn to discover current designers for themselves and engage in the higher orders of Bloom’s Taxonomy such as analysis and synthesis.[3] To encourage patterns of lifelong learning, each student made weekly postings to an online course repository so that at the end of the course, there was a document with literally hundreds of references for current designers. An overview of design history over the last 150 years prepared students to be able to critically evaluate current designs within the context of their historical precedents. Similarly, the course included furnishings, textiles, apparel, accessories and architecture in addition to interiors (a substantial number of the students in the course were retailing or textile and apparel designers, giving interior design students an interdisciplinary experience that met the need to situate themselves within a broader milieu).[4]
Course description: In a lecture format, class periods began with an overview of the day’s topic. Examples were drawn from Web links, underscoring the currency of the information, and students received a sheet with the links. The first part of the semester was an overview of 150 years of traditions in design, situating those traditions within their cultures and documenting globalization of design ideology. With the lectures starting about 1985, designs were organized into groupings that associated designers with either Modern or Postmodern traditions. In the last part of the course, design was addressed within topical groups such as subculture design (for instance tattoo subculture or street design), socially conscious design, nationalistic design or virtual design. Throughout, lectures addressed the design processes as well as the design products.

Outcome: After weekly postings of Web links on current designs and designers, students became adept at situating designs within one of the historical traditions, combining critical thinking aspects of CIDA Section II with the history aspects of CIDA Section III.[5] Students also presented numerous times to a large group, developing their verbal and written presentation skills. The downside was that faculty preparation time for each class meeting was quite high, as all of the material essentially needed to be generated from scratch. In the future, Pinterest will be used as an online delivery method.

REFERENCES (Chicago)


DS 501, Design Trends: Current Designers & Issues

Paper B

Project Introduction
During the first part of the semester, you looked at a Postmodernism and its roots in Victorian design and Modern design. In the last part of the semester, you should look beyond both Postmodernism and Modernism, thinking about what is in store for the future of design. Furthermore, you should try to imagine what you might be doing as a designer 20 years from now and how that differs from what designers were doing 20 years ago.

Assignment:

1. Choose a designer that you feel an affinity with, who was born after 1970 (or a firm whose primary designers were born after 1970). This should be someone who continues traditions from the 20th Century, such as Modernism or Postmodernism. Research the designer and address the issues noted below. Include visuals as well as verbal description, whenever possible. Devote two double spaced pages (excluding illustrations) to this portion.
   Issues:
   - What are a few brief details about the person’s life?
   - Does their work critique a social issue?
   - Is the work mass produced, one of a kind, or a hybrid?
   - What is the work’s relationship to craft?
   - What are some ways that the work and the ideas that generate it can be useful to you?
   - Is technology an important part of the designer’s work? If so, in what ways?
   - What are examples of the person’s creative work (it could also be a firm or design group)
   - What are some of the major ideas that are communicated through the creative work
   - What is the designer’s milieu? Are they part of a movement, group or historical period? Who are they working with, or who are their friends? For instance, what kind of music do they go with?

2. Choose a designer that you feel an affinity with whose work does not really continue traditions of either Postmodernism or Modernism. Look especially for designers who incorporate elements such as new technologies in the design process or in the designs themselves. Research the designer and address the issues noted below. Include visuals as well as verbal description, whenever possible. Devote two double spaced pages (excluding illustrations) to this portion.
   Issues:
   - What are a few brief details about the person’s life?
   - Does their work critique a social issue?
   - Is the work mass produced, one of a kind, or a hybrid?
   - What is the work’s relationship to craft?
   - What are some ways that the work and the ideas that generate it can be useful to you?
   - Is technology an important part of the designer’s work? If so, in what ways?
   - What are examples of the person’s creative work (it could also be a firm or design group)
   - What are some of the major ideas that are communicated through the creative work
   - What is the designer’s milieu? Are they part of a movement, group or historical period? Who are they working with, or who are their friends? For instance, what kind of music do they go with?

3. Compare and contrast the two designers you have chosen. How are they different? What do they have in common? Discuss things like whether one (or both) of them will be remembered 100 years from now, and why. Explain why one continues the traditions of Modernism or Postmodernism and the other one doesn’t. Discuss why you have paired these two particular designers. Devote one double spaced page to this analysis.

4. Pretend that you have been put into a time machine and were able to travel to the year 2030 and spy on yourself. What will you be designing then? How will you be using technology in a different way? What are new ways that you will interact with clients or users/wearers of your designs? Will your designs be sleek and minimal, or will they be fuzzy and wrinkly? Why? Write a one page biography of your future self in 2030.

5. Create a short (5 minutes or less) PowerPoint presentation to use while presenting your paper to the class. Focus especially on the “future” part of paper and where you think design will be in 2030.

End result: A six page double spaced paper (not counting illustrations) and a PowerPoint presentation.

What to Hand In

Turn in a printed copy of your paper, turn in the digital file for your paper to the dropbox, and turn in your PowerPoint presentation to the dropbox. Include your references and/or links as well as credits for your images and text.

Suggestions
Since each designer is probably living, try contacting them directly to get more information. They may be willing to do a telephone interview that you can use for quotes.

Turn in a draft or outline ahead of the due date to get feedback.

Due Date

The PowerPoint presentation is due at the beginning of class on Thursday, April 28.
The paper (printed and file) is due at the beginning of the final exam period.
The class will present their PowerPoint beginning April 28.
Lecture:

Subcultures and Design

Many major movements start as subcultures and then move into the mainstream (Think Modernism in 1920)

Subcultures have strong inertia, as they often integrate all of the arts within a lifestyle

When looked at in the present, or as a participant, there are often fine shades of difference between subcultures, while looking backwards they are often grouped into a larger unit with common characteristics.

When moving into the mainstream, themes become diluted or stylized

Often pull from blocks of speculative literature or science fiction

- Board and Tattoo Culture
  - Cut across many of the more detailed subcultures noted below.
  - Especially tied to music and clothing, but cut across many genres
  - Especially tied to Graffiti and Street Cultures
  - Started as an outsider movement, but today are more in the mainstream
  - Board culture often tied to commercial sports as well as graphic design and advertising
  - Tattoo culture participants becoming upscale and more affluent (tattoos are expensive)
  - Tattoo culture portrayed in mainstream media
    - TV shows such as LA ink
      - Magazines:  http://www.inkedmag.com/
      - http://www.tattoofurniture.co.za/
      - http://www.rockandrolldoctor.co.uk/tattoo-inspired-furniture/
      - http://www.tednemethdesigns.com/
  - Tattoo especially inspires design ideas
    - http://www.google.com/search?q=giger+hr+images
    - http://www.myspace.com/heavyredclothes
  - http://www.antidesignfestival.com/disinformation/
  - http://www.flylyf.com/anti-design/

- Goth Culture
  - Celebrates darkness as the way to light
  - Often uses imagery associated with death, such as skulls or skeletons
  - Moving more to the mainstream, evidenced by main character on TV show NCIS
  - Sub-subcultures include variations such as vampires and other supernatural leanings
  - Often mixes materials such as leather and metal, and strongly overlaps with tattoo culture
  - Integrates clothing and design, with ties to musical genres
  - Often translates clothing and other design elements from Victorian times
  - Often distorts body proportions or uses designed objects that distort the body
    - Artist as well as designer and interior designer
    - http://www.google.com/search?q=giger+hr+images
  - http://www.myspace.com/heavyredclothes
    - http://www.flylyf.com/anti-design/

- Pop Surrealism
  - Mostly an art movement that melds the ideas of surrealism with a look back at ’60’s pop art.
  - Often distorts the human figure, but body centered
  - Relies on odd juxtapositions (see Juxtapoz magazine, http://www.juxtapoz.com/ )
  - Also intermixed with Lowbrow (the opposite of Highbrow)

- Anti-design
  - Originally a movement in the ’60’s
  - In more recent incarnation, some call for changing the act of design from something that professionals do to something that everyone does (meaning the end of design as a profession)
  - Tied to Postmodern Conceptual, or part of Postmodern Conceptual
  - May celebrate the everyday or the grotesque
  - http://www.antidesignfestival.com/disinformation/
  - http://www.flylyf.com/anti-design/

- Miscellaneous Subcultures
  - Nationalist or Folk Culture Revivals
    - Icelandic Sample Version
      - http://rff.is/designers-2011/birna.php
      - http://rff.is/
      - http://rff.is/music/legend.php
      - http://rff.is/music/sin-fang.php
  - Neo Rockabilly
    - http://www.google.com/images?q=rockabilly+furniture
      - http://rockabilly-style.com/
  - Generally Post-Industrial or Post-Apocalyptic
    - Cybergoth http://en.wikipedia.org/wiki/Cybergoth
Catalog Description: DS 501, Section 007: Design Trends: Current Designers & Issues Special Topics

Meeting Time: Lecture: Tuesday and Thursday, 9:30-10:45 am
Final Exam: Tuesday, May 10, 2011 12:25-2:25 pm

Classroom:
Instructor:
Office:
Telephone:
Email:
Office Hours: Tuesday and Thursday, 1:30-2:30 & by appointment

Course Description
The Design Trends course examines contemporary design and designers in the ever more closely related practices of interior design, textile/apparel design, architecture, and product design. These practices are tied together through their attention to the relationship between objects, environments, human bodies, sensory experience and culture. The course begins with a look back at 20th century design, putting current designers into context. Then, the course is divided into thematic sections based on stylistic and theoretical intentions as well as broad topics that include socially conscious design, virtual design (including technologically/digitally driven design), critical design/art, anti-design/lowbrow design, subculture design and guesses about the future of design.

Lectures address these thematic sections and incorporate examples from each of the practice areas, studying ways that they overlap as well as diverge, and are augmented by discussion and student presentations: over the course of the semester, students find and report on designers from each of the thematic sections, with the option to choose designers from their own practice areas. Additionally students find and post links referencing current designers on a weekly basis, and complete readings on a regular basis. For a final project, students choose the work of a designer and construct a critical analysis; in addition to written text, students may develop a visual narrative using multimedia or creative work.

Course Objectives:
The course is designed to develop students’ ability to identify and critically analyze designs that are current and may not have been studied or written about extensively. Specific areas that will be addressed include:

- A broad exposure to the breadth of designers and design trends both within and outside the commercial arena
- The ability to research contemporary designers and relate the designers’ ideas to those of other designers
- The enrichment of students’ design skills outside of their standard education and discipline
- The ability to write about, create and discuss abstract design ideas and concepts
- An appreciation of the overlap between disciplines within design
- An appreciation of the overlap between design and other disciplines
- An appreciation for the possibilities of design as an activist endeavor

Content/Methods:
Lectures, demonstrations, guest presenters, slides, film presentation, video presentation, laboratory exercises, reports and projects.

Course Textbooks and Materials
- Required: Course handouts and notes – keep in 3-ring binder
- Reading materials on library electronic reserve

Attendance Policy
- Attendance and participation are required at all class sessions, as well as at assigned special events. Late arrivals and early departures are unacceptable. Attendance is essential to the learning process.
- It is always in your best interest to notify the instructor in advance if you must be absent from class. You are responsible for obtaining information if you must be absent from class. You may have a classmate pick up any handouts and take notes for the day that you are absent. Ask a classmate at the beginning of the semester to be prepared to do this in the event that you are absent. Assignments are still due on due dates.
- Field trips may be required during this course.
- Students are expected to check their email messages regularly. Information will be transmitted by email in between class meetings.
Course Evaluation and Grading

- The course instructor will do grading of student work. All assignments must be handed in on time. Late assignments will be accepted only in well-documented cases of illness or other extenuating circumstances.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper A</td>
<td>250</td>
</tr>
<tr>
<td>Paper/Project B</td>
<td>400</td>
</tr>
<tr>
<td>Report 1</td>
<td>50</td>
</tr>
<tr>
<td>Weekly References (Minimum Ten)</td>
<td>50</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>50</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
</tr>
<tr>
<td>Participation and Professionalism including attendance at three arts events</td>
<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1000</td>
</tr>
</tbody>
</table>

- Course letter grades will be given according to the following percentages of Total Points at the end of the semester:
  100-95% = A; 94-90% = AB; 89-85% = B; 84-79% = BC; 78-70% = C; 69-60% = D; 59-0% = F

Students are strongly encouraged to ask questions when they do not understand the assignments or course expectations.

Notes on Grading and Expectations

- Class participation and involvement includes class and review session attendance, professional attitude and other class events as assigned.
- Late work is not accepted for a grade, and incompletes are not given (unless there is a medical excuse or extreme circumstances).
- Critiques and presentations are held regularly during the course. Students will be expected to present in a professional manner.
- Due dates will be announced at the time of the assignment. Projects are due at the beginning of the class period on the due date, unless noted otherwise. Projects must be turned in "as is" on the due date. It is expected that students will use laboratory time effectively – it is your opportunity to work closely with your faculty and peers.
- In the professional world, design is a collaborative activity. Collaborating with, and learning from your colleagues is an important part of your educational experience.

Schedule of Activities

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Lecture Topic/Project</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-1/18</td>
<td>Introduction to Course</td>
<td></td>
</tr>
<tr>
<td>R-1/20</td>
<td>Overview of Design Trends Since 1985</td>
<td></td>
</tr>
<tr>
<td>T-1/25</td>
<td>Seminal Modernism: A Look at the Past and Where the Present Originated</td>
<td></td>
</tr>
<tr>
<td>R-1/27</td>
<td>Seminal Modernism: A Look at the Past and Where the Present Originated</td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-2/1</td>
<td>Postmodernism: A Break with the Past Decorative Design: Traditional Decorative Design: Baroque Decorative Design: Industrial</td>
<td></td>
</tr>
<tr>
<td>R-2/3</td>
<td>Postmodernism: A Break with the Past Decorative Design: Vernacular</td>
<td>Report 1 group A</td>
</tr>
<tr>
<td>Week 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-2/8</td>
<td>Postmodernism: A Break with the Past Expressive Design: Punk Expressive Design: Sophisticated Expressive Design: Technological</td>
<td></td>
</tr>
<tr>
<td>R-2/10</td>
<td>Guest Lecture: Flash forward to Critical Design</td>
<td></td>
</tr>
<tr>
<td>Week 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-2/15</td>
<td>Socio-culturally Conscious Design: Cutting Across Categories and Ideologies</td>
<td></td>
</tr>
<tr>
<td>R-2/17</td>
<td>Design and Installation Art: Liminal Environments and Actions</td>
<td>Report 1 Group B</td>
</tr>
<tr>
<td>Week 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Activity</td>
<td>Details</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>R-3/3</td>
<td>Modernism Resurges&lt;br&gt;Neo-Pop Design: High Tech Revival</td>
<td>Midterm Review</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Report 1 Group D</td>
</tr>
<tr>
<td>Week 8</td>
<td>T-3/6&lt;br&gt;R-3/10&lt;br&gt;Postmodernism Revisited&lt;br&gt;Conceptual Design: Reinterpreting Found Objects and Environments</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Report 1 Group E</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Spring Break</strong></td>
</tr>
<tr>
<td>Week 9</td>
<td>T-3/22&lt;br&gt;R-3/24&lt;br&gt;Postmodernism Revisited&lt;br&gt;Conceptual Design: Reinterpreting Everyday Objects and Environments&lt;br&gt;Conceptual Design: Reinterpreting Archetypal Objects and Environments</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paper A Presentations Group 1</td>
</tr>
<tr>
<td>Week 10</td>
<td>T-3/29&lt;br&gt;R-3/31&lt;br&gt;Postmodernism Revisited&lt;br&gt;Neo-Dada/Surreal: Anthropomorphic or Zoomorphic Forms&lt;br&gt;Neo-Dada/Surreal: Found Objects&lt;br&gt;Neo-Dada/Surreal: Ordinary forms and Environments used in Unorthodox Ways</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paper A Presentations Group 2</td>
</tr>
<tr>
<td>Week 11</td>
<td>T-4/5&lt;br&gt;R-4/7&lt;br&gt;Postmodernism Revisited&lt;br&gt;Neo-Decorative Design: Industrial Production&lt;br&gt;Neo-Decorative Design: Limited Production and Handcrafted Design&lt;br&gt;Neo-Decorative Design: Blend of Industrial Production, Limited Production and Handcrafted Design</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paper A Presentation Group 3</td>
</tr>
<tr>
<td>Week 12</td>
<td>T-4/12&lt;br&gt;R-4/14&lt;br&gt;Virtual Design: Virtual Products, Environments and Money</td>
<td></td>
</tr>
<tr>
<td>Week 13</td>
<td>T-4/19&lt;br&gt;R-4/21&lt;br&gt;Subculture Design: Board and Tattoo&lt;br&gt;Subculture Design: Goth&lt;br&gt;Subculture Design: Steampunk&lt;br&gt;Subculture Design: Miscellaneous&lt;br&gt;Anti-Design&lt;br&gt;Pop Surrealism</td>
<td></td>
</tr>
<tr>
<td>Week 14</td>
<td>T-4/26&lt;br&gt;R-4/28&lt;br&gt;T-5/3&lt;br&gt;R-5/5&lt;br&gt;Final Exam&lt;br&gt;Review&lt;br&gt;Final Exam Period – Room 2335 Sterling</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paper/Project B Due. Presentations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paper/Project B - Presentations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td>Final Exam&lt;br&gt;Tuesday, May 10, 2011 12:25-2:25 pm&lt;br&gt;Final Exam Period – Room 2335 Sterling</td>
<td></td>
</tr>
</tbody>
</table>

Note: Schedule may be revised to accommodate needs of the course and participants. Any revisions will be made in writing or via email.
Transformations through Time: Teaching the Past, Present and Future of Furniture History

Dave Richter-O’Connell & Neal Hubbell
Kansas State University - Interior Architecture & Product Design

ABSTRACT

Design History is a fundamental and foundational component of any design curriculum. To effectively incorporate lessons from the past, students need familiarity and fluency in: major design movements and traditions; social, political and aesthetic influences; awareness and application of precedents; vocabulary and nomenclature; and, accuracy and authenticity of material, construction, structure and detail. The council for Interior Design Accreditation (CIDA) and the National Association of Schools of Art and Design (NASAD) accreditation guidelines each acknowledge the value of design history.

An on-going challenge for design educators is how to make the learning of history more relevant and compelling to students. As traditionally taught, history courses tend to stress a narrative approach with an emphasis on chronological, style-based categorization, social, and contextual issues. While undeniably important, it is nevertheless a challenge to engage students and help them to overcome their pre-conceived notions about the relevancy of design history to their lives as designers. To address this problem, a History of Furniture course in a CIDA- and NASAD- accredited program has undergone recent re-structuring in an attempt to better engage students in seeing design history as a potential well-spring of inspiration.

With the intent of exploring relevance and applicability of historic furniture forms and attributes to modern furniture design, the first stage introduces a project termed Transformations. Through a process of abstraction and transformation, the historic pieces are re-envisioned and transported through time as completely new and unique pieces of furniture. The first step in the exercise challenges students to explore and develop a profound
understanding of an iconic and historically-significant piece of furniture. The second step further challenges them to abstract the piece’s tangible and intangible attributes into a contemporary design solution free from historic references or pastiche imagery.

Based on Amos Rapoport’s “constancies and change” discussed in his book House Form and Culture (Rapoport 1969), the second stage introduces students to two thematic issues. ‘Constancies’ refer to those timeless characteristics that transcend periods and epochs and are unassociated with stylistic appearances. ‘Change’ refers to step changes in the flows of constancy attributes that evolve over time. ‘Constancies’ can be identified throughout humankind’s history of built environments from biological, perceptual and behavioral points of view. Theoretically significant ‘constancies’ are introduced as topics of classroom discussion, including concepts of: behavioral functions such as ‘prospect and refuge’ (Appleton 1975) in seating and positioning choices; relationships between furniture pieces and the spaces they occupy that suggest their purpose and performance; the establishment of intimate, personal and social spaces through furniture (Hall 1966); the idea of a ‘sitio’ or ‘power spot’ that resonates with an individual’s expression of personal power (Castaneda 1968).

This presentation will chronicle the pedagogical evolution of the furniture history class, present the results of the Transformations project, and discuss how this approach can serve as a model for teaching not only furniture history but interior design history as well.

REFERENCES (Chicago)


Hall, Edward T., The Hidden Dimension, Doubleday, Garden City, N.Y., 1966

History of Furniture Design

how to increase relevency?

<table>
<thead>
<tr>
<th>Course Content</th>
<th>Course Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives, Organization, Strategies</td>
<td>Exams, Projects, Discussions</td>
</tr>
</tbody>
</table>

**past**
- chronologically based
- lectures
- images

- memorization of images & terminology
- term papers

**present**
- chronologically based
- lectures
- images
- discussion

- Transformations project
- form, proportion, function, features, ornament, materiality, construction...

**future**
- chronologically based
- lectures
- images
- bi-weekly thinkabouts

- Transformations project
  + behavioral attributes, hierarchy, relationships, technology, portals..
Precedent

Transformation
Precedent

Transformation
Precedent

Transformation
The Ways We See the Slave Quarter Interior

William Riehm
Mississippi State University

ABSTRACT

In her dissertation “Rethinking Representations of Slave Life at Historical Plantation Museums: Towards a Commemorative Museum Pedagogy,” Julia Anne Rose (2006) reviews the current state of slave quarter representations as typically consumed by tourist and visitors to plantation museums and other commemorative cultural sites in the South. She states that “[c]ommemorative museum pedagogy encourages museum workers to gradually work through the difficult knowledge slave life presents, bit by bit, going from one dimensional, objectified representations towards multidimensional representations of historical persons that more fully commemorate enslaved populations.” Rose, working in the fields of curatorial science and education makes a markedly design related statement; she suggest that the dimensionality of the presentation effects the viewer’s perception. Certainly she is discussing this in terms beyond simple visual settings, but it does bring a question to the fore for the design and design history community: how do we view and imagine the slave quarter interior? This presentation explores that notion. Defined in this exploration are four types of slave quarter images that form two sets of opposing dialectic pairs, the archaeological ruin versus the house museum and the historical view versus the artist’s rendering.

Archaeological views, academic and popular, often display spaces as they are found, over grown and dilapidated. These images show spaces in ruin, often wistfully, nostalgically, and with the layering of time and sometimes referred to as “ruin porn” (Greco 2012). These archaeological images sit in direct contrast with preserved sites, building museums, where slave quarters become produced spaces of historical diorama or the gift shop. Both of these image types, although often in stark contrast, avoid the issue of the human condition of slavery. Typically void of persons or personality, these images muddy or sanitize the direct impact of slavery, and
they show a material culture frozen in time, or abandoned to the havoc of time, leaving human suffering in the subtext.

Popular and collected historical images often capture the reality of the human condition. Although most photography is from the share cropper, postbellum, era, they still capture the toil and pain of slavery. They show spaces in use or people at work, they personalize, but they also objectify. In contrast, Artist renderings question that objectification - whether of person or material culture. Although taken from separate vantage points, both the historical image and the artistic image lay bare a sensitivity to human suffering.

Certainly this presentation, which reviews a series of images from archival sources, by the author, and taken from artists and museum collections, does not conclude that each image can be strictly categorized, rather it concludes that these are ways designers and design historians can study and construct the dimensionality that Rose calls for. Through this analysis a better commemorative understanding of historical persons and places can emerge.

REFERENCES (Chicago)


Figure 1. Archaeological image: Laurel Valley Plantation, Thibodaux, Louisiana, 2013. Digital image. (Photograph by the author.)
Figure 2. Museum image: Hampton National Historic Site, Towson, Maryland, n.d. Digital image. (National Park Service.)
Figure 3. Artist’s image: Annie Coggan, *Slave Quarters Re-imagined*, Arlington House, Arlington, Virginia, 2013. Pencil and watercolor on paper. (Image courtesy of the artist.)
Figure 4. Historical image: Jack Delano, *Interior of Negro Rural Home*, Greene County, Georgia, June 1940. Gelatin Silver Print. (New Orleans Museum of Art.)
Philip Johnson’s Design for an Art Collector: House for Art or Museum for Living?

Stephanie Travis
George Washington University

ABSTRACT
Philip Johnson’s 1968 design for the home of art collector David Kreeger in Washington, DC, is a synthesis of his finest residential and museum work. This paper asks the question: Did Johnson build the Kreeger residence as a ”house for art” or as a ”museum for living”? An exploration of the architect’s projects prior to the Kreeger House guides the effort to examine his design process, concepts, and architectural ideals in both building types to determine which came first in his goals for the project—the house or the museum. It concludes that the building is an integration of Johnson’s architectural evolution, signifying a turning point in his work from residential to commercial/institutional projects. This paper contends that this striking and architecturally significant building is among Johnson’s best works and thus deserves more prominence in his portfolio of preeminent works (e.g., the Glass House, the MoMA Sculpture Garden, and the Four Seasons Restaurant/Seagram Building). Based on research and in–depth analysis, the paper concludes that while the Kreeger House was originally a place of residence, Johnson designed it first and foremost as a museum for the client’s outstanding art collection. Thus the answer to the posed question is “a museum for living.” What was known as the Kreeger House did eventually become the Kreeger Museum.

REFERENCES (APA)


Advice for the Home: Scientific Management and the Kitchen in the designs of the Architects’ Small House Service Bureau

Lisa Tucker
Virginia Tech

ABSTRACT

The history of interior design has been woven over time as the history of home decoration as it intersected with household management at the end of the nineteenth century that then evolved into the early field of interior design. This article traces another thread of this complex fabric that consists of the history of architect as interior designer, in this case under the auspices of the Architects’ Small House Service Bureau (ASHSB) between 1919 and 1937. Although modernism introduced the notion of the architect as building designer, interior designer, industrial designer and graphic designer, the overlap between interior design and architecture predates modernism. The ASHSB demonstrates one example of this overlap.

Beginning in 1919, a group of Minnesota architects banded together to improve housing stock in the United States through good design. The ASHSB held as its mission to produce affordable, small and well-designed houses available to all. The commitment to good design included a vast educational campaign to educate builders and homeowners about the value of design and why a trained designer was needed for a successful, affordable, and comfortable residence.

Specifically, this research demonstrates the use of and the integration of principles of scientific management as outlined in Christine Frederick’s Household Engineering: Scientific Management in the Home (1915). Using plan content analysis of over 100 designs dating before 1921, all kitchen plans contained within the first major plan book—How to Plan, Finance and Build Your Home (1921)—of the ASHSB were analyzed. Each design (plans,
elevations, 3D views and written description) was compared to the principles of kitchen efficiency outlined by Frederick.

In addition to the production of hundreds of house plans that could be purchased and tailored to a specific site, the members of the ASHSB also dispensed a great deal of advice the design of the kitchen through articles. The kitchen designs of the ASHSB architects demonstrate the combination of current research of the day with an understanding of the work being done by Frederick as well as contemporaneous manufacturers such as Hoosier and General Electric. The articles written by member of the ASHSB along with the designs were also analyzed and coded for recurrent themes contained within the work to further examine the use of Frederick’s principles.

The significance of this research lay in the early adoption of Frederick’s principles, the use of this approach by architects (mostly male) and the wide dissemination of these concepts throughout the U.S. in the form of purchased house plan sets. What is perhaps the most significant about this finding is that many of these designs and ideas predate the Frankfurt Kitchen (1920s) that was seen as strongly influenced by Taylorism and the subsequent work of Frederick and as the best example of the application of scientific management to the kitchen (Bell & Kaye, 2002).

REFERENCES (APA)


Jack Lenor Larsen Oral History Project: A Work in Progress

Stephanie Watson Zollinger
University of Minnesota

ABSTRACT

In 1997, the studio of Jack Lenor Larsen Inc. was purchased by the English firm Colefax and Fowler, and the Larsen firm’s archives, covering 45 years of trendsetting innovation, was donated to a major Midwest University’s Museum of Design, the University’s Archive, and a major Museum of the Arts. The University’s Museum of Design’s portion of this shared resource contains approximately 860 items, representing a range of the firm’s textile exploration. The University’s Museum of Design, an internationally recognized museum and research center, is part of the College of Design, and its collection is studied by students, scholars, collectors, and designers. The entire collection includes costume, decorative arts, graphic design and textiles from the late nineteenth through twenty-first centuries. Within this context, the Larsen Collection forms a significant research opportunity for interior design students, design professionals and textile historians.

As a result of the Larsen acquisition, an oral history project has been undertaken to document the design legacy of Jack Lenor Larsen. Jack Lenor Larsen has been one of the most influential voices of the 20th century in the textile, craft, and interior design industries. Jack Lenor Larsen Inc. was founded in 1952 and quickly became one of the world’s leading textile producers, specializing in fabrics for use in the interior environment. He is most famous for his loomed fabric, textured random-weave upholstery fabrics, grainy batiks, tufted leather rugs, printed velvets, airy cotton, and Thai silks. For over 45 years, Jack Lenor Larsen has been one of the foremost surface designers and producers of high-end textiles in the United States (Guerin & Watson, 2001).
To document the Larsen legacy, in-depth interviews with Jack Lenor Larsen and his former designers, executives, employees, and colleagues are being conducted. The interviews are being audio-taped and transcribed. These oral histories are important as they allow one to capture and preserve aspects of the human experience that would otherwise go undocumented. The Larsen Oral Histories will be merged the University’s Museum of Design’s digital database and delivered via the web. As a result, these histories will be available to the public as research and teaching tools. This documentation will provide students, faculty, and the community at large greater access to the Larsen Collection and provide a case study of textile business and manufacturing in the latter half of the 20th century.

While design involves creativity, Jack Lenor Larsen Inc. was successful as a business, requiring scrupulous surveillance of costs, maintenance of trusting relationships with manufacturers on several continents and persuasive publicity. Through interviews with former Larsen designers and associates, I have begun to glean information on how the company was managed, structured and how decisions are made.

This presentation will discuss the online project, its value, and its use as a research tool.

REFERENCES (APA)

How Satisfied are Occupants with the Indoor Environmental Quality in LEED-Certified Higher Education Buildings?

Pamela N. Driza & Nam-Kyu Park
University of Florida

ABSTRACT

Over the last decade the U.S. Green Building Council (USGBC) has experienced an increase in certifications for higher education buildings, which now account for over 13% of all the projects qualified by the Leadership in Energy and Environmental Design (LEED) rating system (Galayda & Yudelson, 2010). This assessment tool focuses on reducing the ecological footprint of built environments and is purported to have positive impacts on occupant health and overall user satisfaction (Singh, Syal, Grady, & Korkmaz, 2010). This correlation between the LEED system and building users has provided additional impetus for campuses to continue to certify their new and existing buildings. However, despite the widespread adoption of this building standard, the actual impacts of these green environments on occupants are rarely assessed post-occupancy (Hadjri & Crozier, 2009). Thus, this study sought to assess occupant satisfaction within LEED-certified higher education buildings and determine the extent to which this type of certification helps designers to enhance indoor environmental quality (IEQ).

A web-based survey was conducted to collect data from both full-time and transient occupants of two LEED-certified higher education buildings. The instrument was adapted from the Center for the Built Environment’s (CBE) Occupant IEQ Survey which addresses issues within each of the following areas; Office Layout, Office Furnishings, Cleanliness and Maintenance, Thermal Comfort, Air Quality, Lighting Quality, and Acoustic Quality. Over one hundred responses from each building were collected and compared to the CBE’s extensive database of over 600 building and 65,000 individual responses (CBE, 2013). As an added measure of performance in this study, building satisfaction ratings were also compared to the standards outlined within the LEED rating system’s IEQ category. Finally, in-depth interviews were
conducted with both types of occupants to contextualize the Occupant IEQ Survey results and further understand issues identified by building occupants.

Findings revealed that occupants were generally satisfied with their built environments; however, there still remained room for enhancing indoor environmental quality. For example, while both buildings exceeded the CBE standards in each measurement area, neither met the 80% thermal comfort satisfaction rating recommended in the LEED IEQ category. Thus, if the points previously awarded during the LEED certification process were reevaluated for both buildings, one would not be eligible to receive a point under IEQ Credit-7.2 Thermal Comfort: Verification and the other would lose a point for this same credit (USGBC, 2013). Subsequent interviews, which further examined thermal comfort issues, revealed that occupants were unsatisfied with inconsistent temperatures and their lack of thermal controls. Based on these findings and supporting literature, suggestions are made for improving the LEED certification process and integrating post-occupancy evaluations (POEs) into the future development of higher education buildings.

This study’s findings may shed some light on how LEED certification and POEs aid in the production of exemplary higher education facilities. It is hoped that this research will help to inform sustainable practices in higher education settings and serve as a foundation for continued research in the field of sustainable design.

REFERENCES (APA)


Audio-visual Experience in Green Church Buildings: Objective and Subjective Assessments

Jung-hye Shin
University of Wisconsin-Madison

ABSTRACT

This study examines the relationships between the audio-visual environment and religious experiences by using a cross-case analysis of two innovative green church buildings in the same climatic zone of Wisconsin. The visual environmental factors examined in the study included window views, illumination levels, and glare. The audio environmental factors included room reverberation rates, which dictate the intelligibility of speech, and musical reverberation within the spaces. The first goal of the study was to objectively describe the aforementioned factors within the space by using state-of-art measurement techniques. The second goal was to test whether those factors individually and collectively influenced the users’ overall satisfaction with the space, perceived adequacy for prayer, and feelings attached to nature from inside.

This study is theoretically informed by Humphreys’ (2005) argument that building types and the unique social and cultural activities they accommodate require different emphases on various functional aspects of buildings and that global concepts of satisfaction are not likely to be appropriate indicators of building success. Therefore, the study focused on the audio-visual environment as the key effector of the experiential dimensions of religious activities during the worship services. While the existing body of literature reveals glare and acoustical inadequacies as commonly found issues in green buildings (Abbaszadeh, Zagreus, Lehrer, & Huizenga, 2006; Lee & Guerin, 2009), the literature also points to a strong need for further research on green buildings in religious contexts with the intended building functions in mind. The need for the structural integration of lighting into the spatial representation of the religion (Antonakaki, 2007) and careful considerations about acoustical properties suitably designed for intended religious activities (Ramakrishnan & Dumoulin, 2011) are highlighted.
Methodologically, the study combined: (1) field measurements that include developing a full illumination matrix, a luminance map coupled with a calculation of the Unified Glare Index and Daylight Glare Probability, and a general identification of glare sources (Table 1, Figure 1 & 2); (2) an analysis of architectural drawings coupled with a sun path analysis and acoustical calculation of reverberation time (Figure 3 & 4). Then, these objective assessments were compared to the subjective assessments by the actual users, which were completed through questionnaire surveys. To test the set of hypotheses about the relationship between audio-visual environmental factors and religious experiences, a series of hierarchical regression analyses are employed.

The study findings revealed high levels of overall subjective ratings in all three outcome variables of overall satisfaction, perceived adequacy for prayer, and place attachment. However, the subjective ratings also revealed significant glare and acoustical issues. The objective assessment strongly supported the subjective ratings and provided a tool for further scrutinizing those issues. Second, audio-visual environmental factors critically shaped all three major outcome variables. However, factors such as acoustics and window views played more significant roles, while the glare issue was not a significant factor. Therefore, the initial research hypotheses were partially accepted. The study suggested various ways to solve the issues through building design and retrofits and to further enhance users' worship experiences.

REFERENCES (APA)


Table 1. Environmental parameters examined and methods of measurements.

<table>
<thead>
<tr>
<th>Parameters measured</th>
<th>Method of measurement (tools used)</th>
<th>Source of data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Window view</td>
<td>Percent of greenery present in the view (photographs taken from three different viewpoints from three different sections of audience seats)</td>
<td>Field measurement</td>
</tr>
<tr>
<td>Lighting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illuminance</td>
<td>Full grid illuminance measurement (Illuminance meter, Sper Scientific, 850008)</td>
<td>Field measurement</td>
</tr>
<tr>
<td>Glare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luminance ratio</td>
<td>Spot measures (Luminance meter, Minolta LS-110)</td>
<td>Field measurement</td>
</tr>
<tr>
<td>Discomfort glare</td>
<td>Full grid luminance measurement (HDR photography)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unified Glare Rating (UGR)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daylight Glare Probability (DGP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(HDR photography and &quot;hdrscope&quot; glare analysis software for further calculation of indices)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Areas exposed to direct sunlight</td>
<td>Architectural plans</td>
</tr>
<tr>
<td></td>
<td>Sun-path analysis (Polar sun-path chart program*)</td>
<td></td>
</tr>
<tr>
<td>Acoustics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligibility of speech</td>
<td>Room reverberation rate</td>
<td>Architectural plans</td>
</tr>
<tr>
<td>Musical reverberation</td>
<td>Room reverberation rate</td>
<td>Architectural plans</td>
</tr>
</tbody>
</table>

* [http://solardat.uoregon.edu/PolarSunChartProgram.html](http://solardat.uoregon.edu/PolarSunChartProgram.html)
Figure 1. Field measurement using the luminance map method.
Figure 2. Analysis of architectural drawing with sun-path analysis for the case one.
Figure 3. Analysis of architectural drawing with sun-path analysis for the case two.
Leading with LEED: Making Sustainability Real in a Studio Environment

Lisa K. Waxman
Florida State University

ABSTRACT

The Problem
As the world’s resources shrink and energy needs increase, many interior designers are focused on environmental responsibility (Tucker, 2010). In practice and education, there is a growing focus on examining the full life cycle of buildings including programming, design, building construction, and operations (Bunz, Henze, & Tiller, 2006). These issues are at the heart of the Leadership in Energy and Environmental Design (LEED) rating system (USGBC, 2013).

The Strategy
This paper presents a positive outcome that was achieved by linking a sustainability class with a junior level studio to make the LEED process as realistic as possible. The goal was not simply to incorporate sustainability into a studio project, but to have students complete the project as if they were part of a real LEED design team. Students were required to achieve at least a LEED Silver rating with final project deliverables including a project book with every earned credit documented with any necessary support materials provided.

Students used the Commercial Interiors rating system that includes sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation and design process. A surprising number of LEED prerequisites and credits could be met in this hypothetical studio project. However, some credits were more challenging to earn because they required the use of allied professions (engineers, electricians, etc.), or because the project was hypothetical. The key to making this work was to allow students an alternative to research and report on the role of the allied professionals they would use on a real project. For
example, all real LEED projects require Fundamental Commissioning as a prerequisite. In this case, students were required to research the appropriate consultant and then explain the service they would provide and LEED benchmark they would need to achieve. The other key modifications occurred in situations where a hypothetical project simply could not provide real context. For example, in the Materials and Resources category of construction waste management, credit is earned when a certain percentage of waste is diverted from a construction site. Since it was not possible to weigh actual construction waste, students could earn this point by identifying a construction waste hauler and determining where the waste would be taken and recycled. These are just two examples of a number of modifications that will be shared that allowed students to explore all aspects of the LEED process. It is in these modifications for the student experience that fellow educators can glean ideas for similar projects.

The Outcome
At the end of the semester, students were given a sample LEED-GA exam. The class average was an 86%, which greatly exceeded (by 24 percentage points) the score from the year before when this project was not incorporated into the class. Overall, students better understood the interior design aspects of a sustainable project, but also the role of other allied fields who often work on LEED projects.

REFERENCES (APA)


**Sustainability Class—LEED Project**

**Goal:** The goal of the project is to provide the opportunity for students to understand and apply the LEED certification process.

**Objective:** Students will simulate, as closely as possible, the process of certifying a building following the LEED certification process. Students will use the project they are designing in Studio III as the basis for completing this project and achieve at least LEED Silver certification.

**Requirements:**
- Students must reach a minimum of 50 LEED points (LEED Silver).
- Students should use LEED-CI (Commercial Interiors) as a basis for their submission.
- Students must meet all prerequisite requirements—just as they would on a real LEED project. (These are the ones listed as “required”—although they earn no points).
- Student must specify the credit earned as well as the path chosen (if there is more than one choice). For example, under Sustainable Site Options 2, there are 12 different paths. You might use several of them, but be sure to note which ones you used.
- Students must earn at least 6 points in the Materials and Resources category. (Because this is an area interior designers often impact and I want you all to get experience in this category).
- Students must earn at least 10 point in the Indoor Environmental Quality category. (Again, because this is an area interior designers impact).
- Students are allowed to “hire” a consultant up to 6 times for LEED prerequisite (required) items or other point categories that are outside your realms of expertise. This simulates a real project situation because you would be hiring a consultant unless you were part of a very big firm with many experts. In situations where a student “hires a consultant”, the student will specify the type of consultant they would hire, research the firm they would use, and state LEED benchmark must be met.
- Students may share information with others in their group when appropriate. However, many points will be unique to each student due to the unique finish materials selected and different space plans, etc. Also- please do not directly cut and paste materials from others in your group into your document. Each student should add shared information into his/her LEED document on his/her own, so each student is more likely to understand what they are including. I do not want to see identical submissions—the university honor code applies in this class as in all of our classes.

**Resources:**
- Students should reference the USGBC web site for more information about credits. This link will take you to the details associated with each LEED-CI credit: [http://new.usgbc.org/credits/commercial-interiors/v2009](http://new.usgbc.org/credits/commercial-interiors/v2009)
- The teacher will provide information on the level of detail you will need to provide for each point. This will be provided for each of the categories.
Assembling the LEED Submission:

- Please use the template provided as a basis for the organization of your submission. You may recreate it in your own software if that works better for you—as long as everything remains in the same order and it is easy to follow.
- Please put together in the following order:
  - Cover Page identifying your project, your name, etc.—make it look professional
  - LEED Checklist identifying the points you have earned listed
  - Templates with details for every prerequisite and point you have earned
  - Assembly it in this order: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Innovation in Design

Grading Criteria:

- LEED points total at least 50, thereby achieving LEED Silver status
- Work is accurately documented
  - Necessary calculations are shown when part of the point requirement
  - Necessary materials/finishes/fixtures/furnishings/etc. are specified when part of the point requirement with additional manufacturers information provided when necessary
  - Necessary graphic depictions are shown when part of the point requirement
  - Another other documentation required by LEED is shown
- Proper consultants are hired when necessary and their scope of work clearly stated
- Document is well-organized and professionally assembled

Examples of pages from Student LEED Project books are shown below.
LEED-CI: STUDENT PROJECT
LEED FOR COMMERCIAL INTERIORS

BUILDING: Runway Magazine
CREDIT: SSc3.2: Alternative transportation - bicycle storage and changing rooms
POINTS: 2

I, (student’s name), of (school name) verify that the information provided below is accurate, to the best of my knowledge.

CREDIT COMPLIANCE:

An existing bicycle rack for up to eight bikes is located within 100 feet of the front entrance of the building, which exceeds the requirement of accommodating 5% of the occupants. Locker and shower rooms will be implemented into the design as well.

Bicycle racks right in front of the main entrance:
SUSTAINABLE SITES
SSc3.1 Alternative Transportation: Public Transportation Access
(Locate the Project within 1/4 Mile Walk as Measured from the Bus Stop)
## Design Case - Flush Fixture Data

<table>
<thead>
<tr>
<th>Baseline Fixture Type</th>
<th>Gender</th>
<th>Number of People (FTE)</th>
<th>Fixture Type (name and model #)</th>
<th>Flush Rate</th>
<th>Use FTE (how many times used per day)</th>
<th>Gallons Used per day</th>
<th>Days of Operation (from above)</th>
<th>Annual Water Use (baseline flush)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional Water Closet</td>
<td>Female</td>
<td>6.5</td>
<td>TOTO CST48CEMFG</td>
<td>1.28</td>
<td>1</td>
<td>8.32</td>
<td>260</td>
<td>2163.2</td>
</tr>
<tr>
<td>Conventional Water Closet</td>
<td>Female</td>
<td>6.5</td>
<td>TOTO CST48CEMFG</td>
<td>1.09</td>
<td>2</td>
<td>14.17</td>
<td>260</td>
<td>3684.20</td>
</tr>
<tr>
<td>Conventional Water Closet</td>
<td>Male</td>
<td>6.5</td>
<td>TOTO CST48CEMFG</td>
<td>1.28</td>
<td>1</td>
<td>8.32</td>
<td>260</td>
<td>2163.2</td>
</tr>
<tr>
<td>Conventional Urinal</td>
<td>Male</td>
<td>6.5</td>
<td>SLOAN WES-100</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>260</td>
<td>0</td>
</tr>
<tr>
<td>Grand Total Flush Fixture Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8010.60</td>
</tr>
</tbody>
</table>

Total Design Case - Flush Fixture Data Usage: 8010.60 gallons/year
Interiors in the Traditional “Sky Well” Houses in Fujian: Integrating Bioclimatic Design and Cultural Symbolism

Jiangmei Wu
Indiana University

ABSTRACT
There has been an increasing interest in traditional buildings in sustainable design and research in recent years, particularly in regard to an integrative approach that encompasses the ecological, social, and cultural dimensions of buildings. Traditional buildings that were built before the age of petroleum often possess sustainable attributes that not only fit well in green building design frameworks, but also provide meaningful support for social quality and cultural continuity. This ‘return to tradition’ is not done in the manner of an idealization of traditional buildings, but instead, it attempts to understand the qualitative values of these buildings in terms of cultural continuity and natural stability over long historic durations.

This paper focuses on case studies of two traditional “sky well” houses that were built during the Ming and Qing Dynasties in Fuzhou of Fujian Province in China. Fieldworks based on observation, field measurements, interviews with local experts on ancient building preservation and rehabilitation, and archival studies were conducted in Fuzhou between May 2010 and July 2012. In particular, photos, sketches, architectural drawings from local ancient building research institutes, notes from interviews, and transcriptions of interviews were used to describe and analyze the bioclimatic and symbolic qualities of the interiors of the selected courtyard “sky well” houses.

Focusing on issues pertaining to interior space planning and design, including orientation, spatial organization, placement of rooms, placement of doors and partitions, material, colors and ornamentations, this paper examines the relationship between interior design, and bioclimatic design and cultural symbolism. There are common concerns between traditional
dwelling design and green interior design with such factors as passive solar, increased
ventilation, daylight penetration, outdoor views, operable doors and interior partitions, natural
and low-emitting materials, materials reuse and recycle, etc. However, there seems to be a
disconnection between ecological design and the cultural symbolism in current green interior
design and research. Instead, in a traditional “sky well” house in Fujian, bioclimatic design and
cultural semiotics are fully integrated through the orientation, spatial organization, placement
of rooms, placement of doors and partitions, material, colors and ornamentations. In order to
achieve a fuller sense of sustainability it is imperative to integrate ecological sensibilities with
cultural semiotics. While bioclimatic design is site specific, cultural symbolism can be varied
depending on populations, classes, ethnic groups, and most importantly, the belief systems and
the social norms that one adheres to. While technical and formal analyses, by themselves, are
always incomplete in sustainable interior design, specific social, cultural, and historical
considerations must be fully engaged and must be adapted for a particular population and their
beliefs and social norms.

REFERENCES (APA)

York: Oxford University Press.

Ornamentation*. Honolulu: University of Hawaii Press.

Green Building Council.


Liu, Q., & Tao, F. (2010). Ecological technology of Chinese traditional patio houses based on
climatic adaptability. Paper presented at the 2010 Architecture Ecology Science and
Technology International Conference, Nanjing, Jiangsu, China.
Utilitarian Aesthetics: An Interdisciplinary Inclusive Design Graduate Seminar

Kyuho Ahn and Molly Rogers
University of Oregon

ABSTRACT

One of the notable criteria of professional architectural design programs in the U.S., both architecture and interior design, is to educate students that architects and interior designers are to protect public health, safety, and welfare via architectural practices. Accessibility is one notable issue in this regard. However, while we acknowledge that accessibility is an important part of architectural design practice, it is minimally treated in architectural education (Monaghan, 2010), and information such as ADA (Americans with Disabilities Act) Standards is taught in isolation (i.e., course only) as a mandate regulation that requires compliance (Ostroff & Hunter, 2003). As a consequence, professionals and design students see accessibility issues as obstacles to creativity, and ADA issues are treated minimally and passively in architectural projects (Sherman & Sherman, 2013). A design response of passive code compliance, as a result, may discriminate or segregate users with and without disabilities. To overcome this, we should consider the inception of inclusive design that not only satisfies the intended functionality of the architectural environment but also strengthens its aesthetics for all users, regardless of their abilities. The goal of this paper, therefore, is to disseminate pedagogic aspects of a graduate seminar that engaged architecture students, interior design students, and community members with disabilities in exploration of inclusive design issues beyond the ADA Standards.

This course was offered for graduate students in architecture and interior design majors at a northwest university in the U.S. in collaboration with a local ADA center, a government agency, and the university’s Accessible Education Center. The goal of this seminar was to enhance the graduate research experience by engaging students in participatory research
exploring design opportunities for improvement of architectural accessibility beyond ADA. Each team of architecture and interior design students was assigned to one of the following disability categories: mobility, hearing, vision, or autism. Reading discussions, guest lectures, role-play exercises, field trips, and a series of community discussion meetings were arranged to facilitate the participatory research. Students worked with community members (mentors) within each disability category to develop a design practice guideline for the assigned disability typology. Students disseminated their findings to the general public in the final.

Students’ outcomes and feedback revealed key pedagogic implications. First, participatory learning strengthens students’ understanding of social issues of accessibility and of human centered design as a foundation of the design process. As one student stated, “This seminar has radically changed how I design. It grounds every (design) decision I make with something I have learned in this class.” Second, proper methods of communication among community members become critical for the success of participatory learning, and involvement of local advocate agencies is crucial to overcome the communication issues that are unique in each disability typology. Finally, the seminar revealed that the ADA Standards have limitations in addressing all aspects of accessibility, particularly social accessibility. Also, this paper suggests further investigation of design conflicts that exist between different disability typologies.

REFERENCES (APA)


Appendix 1. Overview and Description

Course Description

Accessibility is one notable issue when addressing public safety and welfare in architectural design. However, while we acknowledge that accessibility is an important part of architectural design practice, we often treat accessibility as a mandate to comply with and/or an obstacle to our creativity. A building we design may satisfy the Americans with Disability Act (ADA) Standards, but our design response of passive code compliance may discriminate or segregate other users with/without a disability from ‘normal and abled majority individuals.’ Our designed space may create a statement of a ‘separate-but-equal’ kind of access. In this seminar, we will advocate a notion that inception of universal/inclusive design not only satisfies the intended functionality of the architecture but also strengthens its aesthetics for all users regardless of their abilities. This advanced seminar explores inclusive design issues beyond the ADA Standards. Students will collaborate with a local ADA center, a government agency, and community members with disabilities.

In this seminar, students will be engaged in research and interactive dialogues with guest lecturers and community members to explore opportunities for improvement of design equity in built-in environments and architectural products. The seminar activities will include but not be limited to role-play simulations, self-directed case studies, reading discussions, presentations, field trips, and guest lecture(s). Students will also be encouraged to disseminate their research findings by preparing their work to be accepted in a professional conference setting. The final outcomes of this seminar will be a book regarding the best practice guidelines of universal design and a research paper.

Goals of this course:

1. To understand important issues of accessibility
2. To explore universal design issues pertaining to architectural design beyond ADA regulations
3. To unveil design considerations for people with varied disabilities and backgrounds
4. To develop a set of design guidelines of universal design
5. To engage students in research and interactive dialogues with guest lecturers and community members with disabilities
6. To engage students in opportunities to disseminate their research

Organization of Course

A primary outcome of this seminar will be a booklet titled “Best Practical Guidelines of Inclusive Design,” which outlines and discusses the design needs of different disability groups. Assigned readings, assignments, and activities are organized to advance research development. Therefore, each assignment, discussion, and activity component builds a foundation for the next. The project is a team project that requires a high level of collaboration and participation. However, individual performance and contributions to the project will also be evaluated.

During the research, every student will be engaged in community interviews, round-table discussions, and/or meetings with consultants. Therefore, it is very important to maintain the highest professional standards.

Required Readings


Appendix 2. Samples of seminar activities

1. Role-play exercise of disabilities

2. Meetings with community members with disabilities and advocates
Appendix 3. Student work samples

1. Short design guidelines for Autism Spectrum Disorders

![Proposed Design Guidelines]

2. Short design guidelines for Visual Impairments

![A TOOL FOR CONSCIOUS DESIGN FOR VISUALLY IMPAIRED]

592
3. A sample of design guidelines for Hearing Impairments

4. A sample of design guidelines for Mobility Impairments
Connecting Academia with Industry: Pedagogical Experiences from a Collaborative Lighting Design Project

Abimbola O. Asojo
University of Minnesota

ABSTRACT

Introduction
This presentation discusses an academia and industry collaboration where interior design students designed and built light fixtures that exemplified a company’s product line. The design challenge was to conceptualize and build fixtures using reclaimed materials that exemplified Groovystuff’s product line and complement art work by Dick Idol. Groovystuff provided the class with a bill of materials kit and feedback via social media. Students’ fixture prototypes were informed by research, collaboration with Groovystuff via social media, parametric modeling, and digital fabrication techniques.

Literature Review
Current trends in the design industry demand the development of new competencies in collaboration in academia. Therefore, in order to expose Interior Design students to multiple view points, the 2014 Council for Interior Design Accreditation (CIDA) Standard 5 now requires “interior design program includes learning experiences that engage students in c) multi-disciplinary collaboration, leadership, and team work, d) interaction with multiple disciplines representing a variety of points of view and perspectives” (p.15). Matthews and Weigand (2001) reinforce the notion of collaboration in academia by emphasizing “the need for educators to present multifaceted collaboration as a realistic and constructive model for achieving design solutions” (p. 46). Similarly, McCoy (2012) notes collaboration creates a “dialogue with the specific goal of strengthening our positions within the university and with the public” (p. viii-ix). These trends imply that design programs must prepare students for future collaborative roles in practice.
Process
The design challenge for the light fixture project was to collaborate with Groovystuff and
design fixtures using reclaimed materials which exemplified their product line, as well as
complement the art and statues created by Dick Idol. Groovystuff sponsors a program titled the
University Hall of Innovation and Job Creation which focuses on connecting academia with
industry. The design project discussed here occurred in spring 2013 over a five-week period.
The goal was to have students’ designs and prototypes displayed to participate in High Point
Las Vegas and attendees vote most marketable and most likely to show profit. Groovystuff
provided the class with a raw materials kit at the inception of the project to help familiarize the
students with the reclaimed parts from their line. Students were required to join a Facebook
group created for the class to upload ideation sketches, renderings, technical drawings and
presentation drawings for feedback from Groovystuff founder and team of designers.

Conclusion
Overall this pedagogical experience illustrates numerous benefits from an academia and
industry collaboration. As the current rising trends of simultaneous design, engineering and
construction planning are forcing collaboration and constant communication throughout the
life cycle of a project, educational models must adapt to the demands of the profession and shift
towards teaching and encouraging academia and industry collaboration. The author will share
findings about pedagogy, outcomes, as well as, pros and cons of this industry collaboration to
serve as a model for other educators.

REFERENCES (APA)

Council for Interior Design Accreditation (2013). Council for Interior Design Accreditation:

for Beginners. Indianapolis, IN: John Wiley.


Appendix A

Project Schedule

Week 3:
February 4: Assignment 4: Light Fixture Design, due 03/06/13
Open and Review Kit Package from Groovy Stuff in Studio
Introduction
Project Description
Design Brief
Research Groovy Stuff Company
Company Research-Who are we as a company? How did the company start, what do they do? Where are they located, where do they manufacture?
Market Research- Who is your target audience? Who are your clients (The Company) customers? What are the market trends, styles, etc.
Ideation/Direction
Create a design purpose. Every designer should have a problem in mind they are trying to solve. Without the problem you don’t have a solution so without a problem a design does not exist. Clearly outline the goals you want to achieve with your design solution, as you go through the project these goals may change but it is good to have an initial direction.

February 6: Introduction to Digital fabrication in fabrication lab and workshop.

Week 4:
February 11: Concept Development in Studio.
Using the information you have gathered in the research phase and the direction you would like to pursue, begin sketching and creating rough concept ideas. Each student should post up to 15 different ideations sketches in the Facebook Group for comment, feedback, and direction.

February 13: Work day Conceptual Development in Studio.

Week 5:
February 18: Schematic Design
Mid Project Presentations: Getting feedback from other designers or the client is always important and very useful. Do you know if a ball is round before you look at it from all angles? Presenting your ideas to others will help in the evaluation process and lead to a better refined design direction. The 15 ideations sketches will then be refined to the best of 3 for consideration.

February 20: Design Development
Class meets in Digital fabrication lab. Refine and develop your final design choice and concept for final presentation.

Week 6:
February 25: Design Development/ Build Fixture/Presentation Drawings
Class meets in Digital fabrication lab.
February 27: Design Development/ Build Fixture/Presentation Drawings
Class meets in Digital fabrication lab.

Week 7:
March 4: Design Development/ Build Fixture/Presentation Drawings
Class meets in Digital fabrication lab.
March 6: Final Presentation due and requirements
20” X 30” Display Board – Concept, presentation drawings of fixture, breakaway axonometric, pictures of fixture.
1:2 Scale Model (Half scale Model) table model or 1:4 (Quarter scale Model) floor model
42” Pedestal
CAD Files – Technical drawings – plan, elevation, section, breakaway axonometric.

Figure 1: Conceptual sketches by student.
Figure 2: Light fixture design solution by student.

Figure 3: Light fixture design solution by student.
Figure 4: Conceptual sketches solution by student.

Figure 5: Light fixture design solution by student.
Figure 6: Light fixture technical drawing by student.

Figure 7: Light fixture design solution by student.
Weaving a Common Community Partner throughout the ID Student Experience

Jennifer Blanchard Belk
Winthrop University

ABSTRACT

The intent of this presentation is to offer information regarding a year-long integration of a single community partner throughout the coursework of a junior level cohort of Interior Design students. Projects, activities and discussions related to the client, Builders of Hope (BOH), were woven into 4 separate technical/professional classes throughout one academic year.

BOH is an innovative leader in affordable housing and urban development. They create and rebuild neighborhoods by providing workforce housing through the reuse of existing inventory ... seeking to increase the availability of high-quality, safe, affordable and workforce housing options. Through innovative reuse and rehabilitation, they incorporate economic benefits, environmental stewardship and social solutions (Herrick). Upon connecting with this community partner, I was encouraged by the applicability of the potential student engagement to the series of lecture/technology based courses I teach within our junior year.

Over the course of the year, students learned about the company and its leaders, researched poverty issues and geographic locations of concern, analyzed programming and codes implications, and produced marketing materials. Primary studio projects produced designs and construction documents for an adaptive reuse of portable classrooms into retirement housing using CAD and Revit. Courses and their typical format included:

- Contract Documentation (technical studio with lecture)
- ID Codes and Standards (lecture course with lab components)
- Professional Practices (lecture course)
• Advanced Computer Applications (technical studio utilizing direct instruction of Revit, SketchUp and Photoshop)

Although “real world projects” and service learning are not new concepts, they are often integrated into courses in a “studio vacuum”, with minimal ties to technical/professional course content, and are rarely used to create a common bond between co-requisite courses. However, there are multiple benefits to this type of extended community partner relationship including:

1. Avoiding “Hit-and-Run” service learning experiences creates a deeper understanding of the client needs; Benefits include increased empathy and student involvement
   - “students showed an inspiration to learn. This translates into higher attendance rates and increased academic performance. Service learning has a positive effect on interpersonal development, student comprehension, and teamwork” (Buck).

2. Students apply an integrated understanding of building concepts; Standard building methods can be demonstrated and discussed in context of a project they are already acquainted with
   - “focus should be on the core capabilities of creative thinking and design integration - an understanding of the process of problem solving - and away from the ... encyclopedic learning of information “ (Ridgway).

3. Instructors create engaging software training, allowing students to learn the programs in a pseudo-studio environment rather than primarily through direct instruction of technology
   - “active engagement of students within the context of the project increases student success and motivation. Providing step-by-step demonstrations projected on a screen lacks the interaction needed for enhanced learning” (Rose).

In this presentation, participants learn the methodology of the client integration into courses. Sample course assignments, discussion topics, pertinent content and projects will be shared. Both the hard (student performance, accreditation competencies identified) and soft (student reactions, continued student philanthropic efforts, and faculty satisfaction) implications will be discussed.
REFERENCES (APA)


Weaving a common community partner throughout the ID student experience - Appendix

Image 1: Students introduced to project via printed sources, conference call with Builders of Hope CEO and construction manager, and survey of before and after photos of sample “upcycling” projects (Fall Semester – INDS 329 – Project Documentation)
Image 2: Sample student construction documents utilizing Architectural Desktop 2013 (Fall Semester - INDS 329 – Contract Documentation)

Image 3: Sample student construction documents utilizing Revit 2013 (Spring Semester - INDS 425 – Advanced Computer Applications)

Image 4: Sample “featured home” flyer for BOH/ECB produced by students as part of marketing package (Spring Semester - INDS 429 – Professional Practices)
Image 5: Sample student project representing BOH satellite office and coworking space (Spring Semester - INDS 425 – Advanced Computer Applications)

Additional handouts to include:
- Abbreviated Syllabi
- Timeline for Courses/Projects
- Project Requirements
- CIDA Visiting Team Report excerpts pertaining to courses involved
The Return to the Digit: 
How Hand-Making is Fundamental to Digital Ideation

Nathan Bicak & Lindsey Ellsworth-Bahe
Radford University

ABSTRACT

“For centuries, the noun “digit” (from the Latin “digitus”) has been defined as “finger,” but now its adjectival form, “digital,” relates to data. Are our hands becoming obsolete as creative tools? Are they being replaced by machines? And where does that leave the architectural creative process?”

The faculty of University X is critically discussing the twenty-first century student, and the increasing need to reevaluate design curriculum. One trajectory of this pedagogical discussion centers around student’s growing reliance on digital methods in their design process.

It has been observed by the faculty that the affluence of digital tools has created a stagnant studio environment, and the glamor and ease of design software has cultivated lethargic students. As studio culture becomes internalized—dark rooms, headphones and a reluctance to produce tangible output—the process of design has shifted from a dynamic, creative and often chaotic activity to a linear, insular process defined, and contained, by a glowing screen. Sadly, in this mechanized atmosphere students discuss the limitations of their software more than the innovativeness of their ideas, or their processes of making. Resultantly, an emotional connectivity has been lost in presentations and critiques, and with it, a meaningful understanding of the themes and issues the design was meant to address. To the faculty at University X, the dependence on computerized processes is fostering a culture of passive learning. Our objective is to negate this mentality by ideologically shifting our pedagogy.

We propose that a return to hand-based making, and a corporal engagement with one’s materials is necessary. Accordingly, we introduced two opportunities for students to actively
learn with their hands. The ensuing projects encourage creative design ideation, and develop a physical connection to the built environment. Although these projects are not new ideas per se, they reinvigorate the craft of design by promoting the “digit” versus the “digital.” From idea to creation, these projects have a slower pace than their computerized counterparts, and this delay provides students the time to develop intimate, engaged connections with their design concepts.

“Trash to Treasure” inspires students to manipulate found materials into inventive, sustainable surfaces. By designing and testing ways to apply these surfaces onto a 2 x 4 stud wall frame, this project comprehensively combines a palpable knowledge of materials and interior architectural detailing (Appendix 1).

“One to One” occurs after a studio project on suburbia. In this project, students build one to one scale models of details proposed in their suburban intervention. Physically making the model allows students to understand the built implications of their digital designs, fostering a profound understanding of material limits and construction concepts (Appendix 2).

In the ever-evolving field of design—materials, methods and technologies—it is crucial that students understand both the potential, and limitations, of the tools of their profession. The built project, and the return to the “digit,” enhances confidence in student design courses, as it assures that digital ideas can become physical reality.

REFERENCES (Chicago)

Appendix 1: *Trash to Treasure*

A: Material development (process studies)
B: Completed framed walls with material panels installed
C: Details of material panels
Appendix 2: *One to One*
A: Construction process
B: Completed 1 to 1 scale detail models
   - above - exterior rainscreen with woodwall as interior deck railing
   - below - exterior wood siding and interior built-in shelving on blue wall
C: Details of completed models
Innovation by Empathetic Design: Narratives of Learning

Candy Carmel-Gilfilen & Maragret Portillo
University of Florida

ABSTRACT

Purpose
Interior designers can and should play a critical role in shaping the healthcare experience by creating solutions that foster a culture of care. This process calls for empathy. Empathy deepens knowledge about the human condition, design thinking, and the interior experience. Tim Brown describes key attributes of the design thinker as empathy, integrative thinking, optimism, experimentalism, and collaboration (Brown, 2008). Design Thinking for Interiors: Experience + Inquiry + Impact (Dohr & Portillo, 2011) names empathy as one of six milestones to creating human-centered design and makes the case for employing narrative inquiry to uncover the myriad meanings of designed spaces. Other evidence speaks to the power of using design narratives to enhance student awareness, responsiveness, and accountability, and thereby heighten user empathy (Danko, Meneely, & Portillo, 2006). Using narrative inquiry as a design tool, this case study will share strategies for promoting empathetic design within a healthcare studio project.

Toward Empathetic Design
A decade ago, the Institute of Medicine (2001) criticized the overall state of hospitals across the US as outdated. These facilities failed to adequately support the work of the clinical staff, and in worst-case scenarios were dangerous and stressful for patients and families. While some clear improvements have occurred, more focus should be placed on strategies to improve the end-user experience in healthcare design. Recent moves within healthcare delivery toward patient-centered care illustrate a link to empathy, and has been linked to greater patient satisfaction, lower rates of malpractice litigation, and reduced medical errors (Hojat, 2009). However, little precedent identifies specific design strategies for fostering empathy within healthcare design.
The intent of this case study is three-fold; (1) to explore the multiple dimensions of empathy from patient, family, and staff perspectives, (2) to explore, embrace, and incorporate insights on empathy through the use of narrative inquiry, and (3) to propose processes and strategies that lead to innovative solutions that contribute to the knowledge base on empathy in healthcare.

Method
This paper will share discoveries and processes from a senior-level studio focusing on empathy and healthcare design. This studio employed narrative strategies to sensitize students to the healthcare experience, specifically within an outpatient cancer care center. This studio engaged students in narrative techniques throughout the process by incorporating storytelling throughout the project. Benchmarking, observations, interviews with cancer survivors were merged with data drawn from scholarly literature reviews. This intensive evidence-based process informed the stories crafted verbally, visually, and in writing. As the process unfolded the student teams then created process books, and translated the central themes of their stories into a focused project solution, incorporating impactful story-telling in key presentation points during the process (Refer to Appendix A).

Conclusions
The healthcare environment is ripe with opportunity to improve interior environments for patients, staff, and visitors. A thoughtful understanding of varying viewpoints provides a holistic approach that can lead to transformative design. Strategies, discoveries, as well as failures, will be shared in this paper and will be paired with pedagogical strategies to enhance student learning experiences and promote empathetic design within education.

REFERENCES (APA)


Appendix A: Project Outline

Phase A: Pre-Design and EBD Research

1. EBD Healthcare Research Principles
   a. 40-50 Empirical Articles with Annotated Bibliographies
      i. Empathy in Healthcare
      ii. Cancer Care
         1. Physical, Psychological, Social, Spiritual Needs
         2. Stress Reduction and Reduction of Anxiety
         3. Patient Privacy and Dignity
      iii. Caregiver Needs
      iv. Patient Experience
      v. Environmental factors in healthcare (Furniture, Light, Materials, Color)
      vi. Safety, Security, Durability, Infection Control

2. Precedent Design Research
   a. Non-for-profit hospitals with specializations
   b. Outpatient Cancer Facility
   c. Design excellence in regard to Cancer Care

3. Benchmarking Leading Facilities
   a. Cancer Hospitals (Best Hospitals US News and World Report Rankings)
      i. 2 facilities in-state, and out-of-state
   b. Outpatient Cancer Centers
      i. 3 facilities (1) local, (2) regional
   c. Healthcare Showroom
      i. 2 facilities out-of-state
   d. Leading Healthcare Practice (Interior Design Magazine 100 Healthcare Giants)

4. Empirical Analysis
   a. Design analysis
   b. Behavioral mapping
   c. User interviews (current/former cancer patient, staff, family members)
   d. Participation in Cancer Group Art Session, Yoga/Community outreach

5. Creation of Evidence-Based Design Checklist
Phase B: Understanding Empathy

1. Design Charrette on Empathy
   a. Video at platform for designing
      http://www.youtube.com/watch?v=cDDWvj_q-o8
      i. If you had the knowledge presented in the video, would you design
         the spaces differently?

2. Readings on Narrative Inquiry
   a. Design Thinking for Interiors: Inquiry + Experience + Impact
   b. Story Corps: Every Voice Matters
   c. Kitchen Table Wisdom: Stories that Heal

3. Reflective Writing

4. Narrative Workshop
   a. Peer-review reflective writings
   b. Presentation and activity with narrative experts

5. Narrative Storyboarding

6. Application to Design

Phase C: Applying Empathy

1. Programmatic development
   a. Patient areas
   b. Family areas
   c. Staff areas
   d. Empathetic touch points

2. Conceptual development
   a. Design concept statement
   b. Design drivers
   c. Design goals

3. Design and drawing development
   a. 2D: Floor plans, Rcps, Sections, Elevations, Details
   b. 3D: Perspectives, Axonometrics, Models
   c. Materials and Furniture

4. Final presentation/deliverables
   a. Narrative essays
   b. Integrate design research via annotations/ EBD checklist
   c. Integrate all drawings
   d. Specialized deliverables in regard to empathy
   e. Innovative presentation strategy using narrative

5. Design Documentation
   a. Documentation using ibooks author
Phase D: Measuring Empathy

1. Design reviews with Industry Partner/Leading Design Firm
   a. Timeline
      i. Kick-off charrette review with Industry Partner
      ii. Research review with Research Director
      iii. Conceptual design review with Industry Partner
      iv. Mid-point design review with Industry Partner
      v. Final design review with Industry Partner and healthcare experts
   b. Jury
      i. Healthcare Design Researcher (3)
      ii. Healthcare Practitioner (2)
      iii. Clinical Strategist (1)
      iv. Cancer Survivor (1)

2. Data collection
   a. Questionnaires (pre/post)
      i. Knowledge of empathy
      ii. Impact of this project on design philosophy/outlook
      iii. Knowledge/Impression of healthcare design
   b. Standardized tests
      i. Interpersonal Reactivity Index
         1. Multidimensional approach to individual differences in empathy
         2. 28-items answered on a 5-point Likert scale
   c. Narrative essays
Game-Based Learning Used in Redesign of Lighting Design Course: Effective, Engaging + Fun

Stephanie A. Clemons & J. R. MacKenzie,
Colorado State University

ABSTRACT

Problem
With many distractions today, design students are challenged to stay engaged in learning, particularly in lecture-based courses. Gen Y students, in particular, struggle. Engagement and retention of students is also a primary concern on the campus-wide level today. The purpose of this presentation is to discuss strategies used for incorporating game-based learning (GBL) into a lecture-based, junior-level, lighting design course to encourage student retention, enhanced learning, creative exploration, and divergent thinking.

Significance and Relevance
Games are a series of interactions that provide challenges and goals which keep players actively motivated (Callaghan et al., 2013). Research indicates that games encourage better memory retention, mental engagement, and enhanced ability for visual-spatial perception (Oblinger, 2003). By definition, game-based learning (GBL) involves games that have defined learning outcomes. As a pedagogy, it assists students in applying subject matter to real world applications. Research indicates that cognitively, game-based learning reduces anxiety, builds confidence, and encourages divergent thinking in the classroom.

Method
A lighting design lecture/lab course with forty interior design students was selected for redesign using game-based learning strategies. Bloom’s Taxonomy (1956; 2001) was selected as the theoretical framework for structuring games and learning outcomes. Three games – The 100,000 Pyramid, Who Wants to be a Lighting Designer, and the Amazing Race -- were
developed and sequenced based on levels in Bloom’s cognitive, effective, and psychomotor domains. Students were placed in groups of four. The first game, offered after the first three weeks of class, engaged students in “remembering” facts about lamps and fixtures. The second game, six weeks into the course, invited students to demonstrate “understanding” through the summary of such topics as codes used for specific installations. The last game, broken into four stages, encouraged students to participate in the collaborative development of “creating” reflected ceiling plans based on client needs and developed lighting concepts. See Table 1 and Figure 1-3. Additional to the games, individual assessments (e.g. daylighting models and exams) were assigned to track student learning. Most lecture materials became reading assignments. Non-threatening in nature, games took place in a collaborative, competitive group environment where peers helped to uncover “final answers” and design solutions. Once games were completed, students were assigned final projects that assessed their individual understanding of the lighting design process – for both commercial and residential applications.

Analysis of Outcome
Assessment of student learning revealed that the use of games was attractive to all aged students. Games motivated the cognitive, emotional and social areas of students making them ideal channels for learning (Trybus, 2012). Prompt instructor feedback, possible when playing games, became a critical element in learning. Feedback targeted key course concepts, thus making learning more effective (Kapp, 2012). Games allowed the teacher to engage with students in ways that traditional media could not (Johnson, Adams & Cummings, 2012) and student engagement increased. Process and student impact of course redesign will be further discussed during presentation. Videotapes of students’ learning will be shared. Educators can use game-based learning for many course formats. Student engagement is critical in the classroom today.

REFERENCES (APA)


Table 1. Games link to Bloom's Taxonomy

<table>
<thead>
<tr>
<th>Domain</th>
<th>Bloom’s Domain Goal</th>
<th>Game Developed</th>
<th>Learning Objective Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remember</td>
<td>Retrieve relevant knowledge from memory</td>
<td>The $100,000 Pyramid</td>
<td>List lighting facts related to lamp types and lamp characteristics</td>
</tr>
<tr>
<td>Understand</td>
<td>Construct meaning from instructional messages</td>
<td>Who Wants to Be a Millionaire? Renamed to Who Wants to Be a Lighting Designer?</td>
<td>Summarize new features of LED lamps and clarify codes used for specific installations</td>
</tr>
<tr>
<td>Apply</td>
<td>Carry out or use a procedure in a given situation</td>
<td>Amazing Race: Stage 1 Completed in teams of 4</td>
<td>Develop a mini-program for lighting design project (residential or commercial); develop 4 lighting design concepts</td>
</tr>
<tr>
<td>Analyze</td>
<td>Break material into constituent parts and determine how parts relate to one another and to an overall purpose</td>
<td>Amazing Race: Stage 2 Completed in teams of 4</td>
<td>Analyze lighting concepts; select one given client needs and floor plan given; begin to develop lighting plan or reflected ceiling plan</td>
</tr>
<tr>
<td>Evaluate</td>
<td>Make judgments based on criteria and standards</td>
<td>Amazing Race: Stage 3 Completed in teams of 4</td>
<td>Evaluate lighting or reflected ceiling plan given site, concept, client needs, codes</td>
</tr>
<tr>
<td>Create</td>
<td>Reorganized elements into a new pattern or structure</td>
<td>Amazing Race: Stage 4 Completed in teams of 4</td>
<td>Create finished lighting or reflected ceiling plan. Assemble client book explaining specifications, codes, advantages of plan</td>
</tr>
</tbody>
</table>

Note: Amazing Race, Stages 1-4 must be completed within time constraints; “race” mentality
Figure 1. Bloom’s Taxonomy Revised + Games Played to Enhance Learning
Figure 2. Game pages developed to address “remembering” domain of Bloom’s Taxonomy
Figure 3. Game pages developed to address “understanding” domain of Bloom's Taxonomy
Students Come and Students Go: Results of a Multi-year Study of Attracting and Retaining Interior Design Students

Amy Crumpton & Dana Moody
Mississippi State University, University of Tennessee-Chattanooga

ABSTRACT
Attracting and retaining quality design students is a vital objective for interior design programs. Research reveals that only 21% of students entering college feel certain of their decision about their major course of study (Kazmer, 2004). An additional obstacle for design programs is the media induced image of interior design. Popular reality televisions shows like those on the Home and Garden channel influence students to pursue fun careers in interior design (Moody, 2012; Waxman & Clemons, 2007). Once enrolled in interior design courses, freshmen are often disillusioned by the technical and rigorous curriculum content upon which an interior design degree is based, leading many to change their major.

Framework of Exploration
The initial scope of this project was to determine how and why students select interior design as their major. The survey provided responses from first year students to questions such as ‘how students discovered the interior design program’ and ‘why they chose interior design as a major’. After several of years of collecting data, longitudinal data was generated to study the emerging trends as to why students remained or exited interior design programs. The goal of the second phase of the study is to ultimately help identify the factors that lead to success in the interior design major.

Findings
For this study, data was collected from 2 universities establishing the initial entering and retention patterns of freshman interior design students. The study shows that there are somewhat predictable, yet statistically significant differences in student retention based on
whether students selected a university first or selected interior design as a career first. Those that chose interior design as a major first were twice as likely to stay in the major as those that chose a university first. Additionally, interesting and significant findings about reasons students selected interior design as a major and their correlations with student retention will be presented.

Conclusions
By taking a look at the collected data, it is hoped that some predictive values can be gained. These findings can guide interior design programs as they make decisions toward determining where to apply recruiting funding, scholarship awards, or where to apply additional encouragement or support for students.

REFERENCES (APA)


Scholarship of Design Research; Presentation; 500 words

Example Data Charts

**Selection of University or Major First**

<table>
<thead>
<tr>
<th>Selection</th>
<th>Students who stayed in the major</th>
<th>Students who left the Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected the University then Interior Design</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
<tr>
<td>Selected Interior Design First then the University</td>
<td><img src="#" alt="Graph" /></td>
<td><img src="#" alt="Graph" /></td>
</tr>
</tbody>
</table>

**Reasons for Selecting Interior Design: Why Students Selected Interior Design as a Career**

- Interested in Architecture, but liked interiors better
- Parents used a designer (Architect, Interior Designer or Landscape Architect)
- Wanted to have a career that could help people
- Wanted to do something creative
- Thought Interior Design looked like fun
- Like art
- Like to design rooms at my house
- Had a friend in the major
- Saw student work and was excited
- Worked in a architecture/design office
- Went to a Summer Design Camp
- Researched ID careers/opportunities
- Like to watch HGTV
- Parent/relative in design and/or construction industry

[Graph](#)
Whole Systems Designing:  
A Card Deck for Developing Complex Problem-Solving Skills

Sheila Danko & Pranav Gupta  
Cornell University

ABSTRACT

Identify the Problem
We live in a world of increasingly complex, interrelated socio-ecological systems, which demands a new breed of complex problem-solver – one who understands systems thinking and design practice with equal agility. “Systems can’t be controlled, but they can be designed and redesigned,” argues Meadows in her landmark book, Thinking in Systems (2008, p169). But designing effective solutions for today’s complex or “wicked” (Rittel and Webber, 1972) problems requires a broader view of design impact and the interrelated, non-linear and layered nature of solution space—the emerging concept of “whole systems designing (WSD)”.

Whole systems designing (WSD) merges concepts of systems thinking with leadership and design practice. It fuses intellectual, emotional, moral and social issues with a whole person focus on design process and product(Danko, 2003). Education intended to nurture these skills requires individuals to develop both an inward comprehension of the complex problem solving process in principle and an outward experience of the WSD skills in practice. But how to teach such a wide array of principles and practices which demonstrate WSD?

This paper presents preliminary findings focused on developing a WSD teaching tool for use in the classroom/studio which (a) identifies key interdependent WSD skills (b) develops an easy to use learning tool and (c) develops analytical methods to assess the teaching tool to gather insight on how to teach whole systems design skills.

Method or Strategy
For pedagogical purposes, the goal was to not only understand the WSD in isolation, but also to explore the relationship between teaching the various skills students will need to master. By creating the “Whole Systems Designing Card Deck” (See appendix for images), the authors organized the WSD principles and practices into a playful tool which functions much like a combination of set of cards and a puzzle. An individual card provides insight into the particular skill while multiple cards can be laid out and connected like puzzle pieces to lend a deeper meaning to how different skills interact with each other. The authors used a modified method of network analysis to explore the interdependencies of concepts and the variations in the learning styles (measured by the Kolb’s LSI) and learning behaviors of students from design and non-design disciplines. (See appendix for sample maps)

Analysis of the Outcomes
Focus group feedback from using the WSD card set in combination with direct observation revealed that students were able to (1) quickly communicate concepts, (2) to collaborate as a team using this tool for learning and applying WSD concepts. The tool proved to be an effective framework for analyzing cases of design and policy interventions and served as a process guide for defining their roles in new multi-disciplinary problems. Further network analysis of disparate learning behaviors identified advanced teaching strategies based on student learning characteristics. In the future, the goal is to test if the scaffolding effect in learning can be leveraged to improve the learning outcomes.

REFERENCES (APA)


APPENDIX: “Whole Systems Designing: A Card Deck for Developing Complex Problem-Solving Skills”

Figure 1: Prototype of card faces depicting design elements. (a) Sample Card front. (b) Sample Card back.
Figure 2: Final design of card faces; Skill #18- Personal Mastery & Mentorship. (a) Card front. (b) Card back.
**APPENDIX:** "Whole Systems Designing: A Card Deck for Developing Complex Problem-Solving Skills"

*Figure 3:* Whole Systems Designing Card Set - Deck of 20 Cards. (a) Size relative to hand. (b) Spread out on back face as puzzle pieces.
Figure 4: Sample concept map for 18 Whole Systems Designing skills comparing design students with non-design students. The node color depicts the depth of understanding of an individual skill and the line thickness depicts the strength of co-occurrence of two connected skills.
What’s love got to do with it?  
The positive returns of emotional investments in student sketching competency

Jim Dawkins  
The Florida State University

ABSTRACT

Among the many skills that interior designers and architects must possess is the ability to visually communicate ideas quickly and effectively, ideas that often can only be felt or sensed - intuitive impressions requiring expressionistic representations. Design thoughts can be elusive, as intangible as the details of a dream from the night before. This can be frustrating for both instructors and students, especially when sketching efforts do not adequately describe the fit and feel of one’s design deliberations. For the maturing design student, if design thinking is delayed by reverting to rigid drawing construction rules and guidelines, he or she is in jeopardy of losing that “loving feeling”; an idea is lost before it can even be translated.

By analyzing students’ drawing effectiveness through the lens of expertise theory (Dreyfus & Dreyfus, 2005), this proposal advocates that when design students emotionally invest in their work, they will see a positive return on their ability to communicate not only an idea, but the emotive quality of that idea. Additionally, integrating expertise theory in teaching may help instructors better understand their student’s successes and failures as they practice sketching, and may help them adjust their classroom strategies to better ensure sketching competency in their students.

Expertise theory may explain why people who are experts in sketching can do so fluidly and without loss of speed, accuracy, or design intent (defined by the author as emotive content) while they engage in a second task simultaneously, such as explaining the scene they are drawing to someone else. Dreyfus & Dreyfus (2005) have developed a framework of expertise theory that identifies five stages of proficiency in tasks: 1) novice, 2) advanced beginner, 3)
competence, 4) proficiency, and 5) expertise. This proposal focuses on the third stage, competence – a point where the student can “own it” and decide to make their work very personal; willing to go through the successes and failures of quick sketching as they seek to communicate design ideas. It is here, “only at the level of competence is there an emotional investment in the choice of action” (Dreyfus & Dreyfus, 2005). Chances are that if a student gets involved and takes measured risks with their sketching – takes ownership of and becomes accountable for their idea communication – they will be better equipped to illustrate the emotive features of their design ideation.

Developing competency with quick sketch graphics requires the student to move beyond rules obedience and onto a level of intuitive action. What is in the back of one’s mind (all the rules, features, aspects, etc.) subtly moves to the front of the mind in support of a sense of what the student is drawing (Barry, 2013). It is in developing a sketching intuition through a rigorous process of skills building, situational understanding, and emotional involvement that a student’s sense of what to sketch and how to sketch it will lead them to quickly communicate design ideas at a competent level.

REFERENCES (APA)


Project Exercise 3
Adding Life to Sketch Perspectives

Examples shown are previous students’ work

Project Goals/Objectives

- Depict multiple interior scenes of your current studio project with further detail than explored previously.
- Apply tone, shade, shadow, and texture/materials to define depth and express a measure of realism.
- Begin defining the of a design through:
  - Developing quick composition study sketches defining one’s sense and feeling of a space,
  - Exploring the fit and feel of an interior environment from multiple view points,
  - Applying the full range of entourage to communicate a space’s believability.
  - Confirming design intent by analyzing the effectiveness of a sketch drawing’s ability to convey various elements and principles of design, the emotive qualities of a scene, and the expression of conceptual design ideas (in the mind’s eye) relative to the written

General

- Review the readings on Expertise Theory and be prepared to discuss them in class throughout the project’s duration.
- Review and understand all the deliverable requirements of your current studio project.

Process

- Examine your studio project floor plan. Using the quick eyeball method, develop 6-8 perspective composition studies. These should be index card size. This is so you can make decisions:
What are you trying to communicate with these sketch perspectives?

Will your scenes be portrait or landscape?

Will they be full bleed or vignette?

Where will light come from in the scenes?

What finishes will you be including?

How will you suggest depth (overlapping of items)?

Horizon line height

Placement of the vanishing point(s)

Positive-negative space

Foreground-midground-background development

How do you plan to zoom in and/or crop the scenes?

Work through the 6-8 compositional studies on 5”x8” notecards studying your interior space. These sketches will be utilized as view and composition studies and will require extra detail and entourage to make the view more realistic. Note that these drawings are still studies, which implies speed and looseness all the while maintaining accuracy and design intent. Examples are provided below.

Discuss these studies with your instructor/TA and create two (2) interior sketch perspectives of your current studio project. You should choose views that capture significant and meaningful portions of the space(s). Use marker and pen to describe tone, shade, shadow and texture. You will apply the overlay elements of tone, shade, shadow and texture to the scene, this time combining them into one physical sheet of paper. You will include more enhanced entourage in these larger scenes.

Choose two composition studies and then generate single line blowups on tracing paper at an approximate size of 11” x 17”. Use the quick eyeball or grid eyeball perspective method. Here you will show cleaned-up line detail and profiling lines on a second generation trace. Rely heavily here on the style and detail of objects in your Studio I project.

On a piece of trash paper laid on top of each of your single line blowups do several shade, shadow and tone studies. Experiment with light coming into the scenes from several directions.

On a piece of trash paper laid on top of each of your single line blowups do several texture studies. Most of your elements in the scenes should have texture in these studies, though you may not apply all these textures to your final submitted copies.

When you are satisfied with your tone, texture, shade and shadow studies, start fresh with your final presentation level drawings.

Deliverables

Your interior perspective views should be approximately 11” x 17” in size - your choice of full bleed or vignette style. Affix the loose sheets to stiff backings of a size and material suitable to your current studio project presentation requirements.

The plan view rendering should conform to the sizeSCALE requirements of your studio project. Render the plan view of your studio project utilizing marker and pen to describe tone, shade, shadow and texture. Apply labels to identify functional zones within the space. Annotation is required for objects that are not otherwise obvious.
• Render any and all other elevation and section views of your studio project utilizing marker and pen to describe tone, shade, shadow and texture. Annotation is required for objects that are not otherwise obvious.

• Submit the perspective composition studies you completed on a 5”x 8” index card. This should show all changes you make to the scenes as you develop the perspectives.

• Submit a file folder that contains the photos (of entourage, etc.) that helped you develop your perspective scenes.

Grading Criteria

Composition
  Focal point
  Positive/negative space
  Fore/mid/background development
  Perspective construction

Line quality
  Profiling
  Line consistency

Light, Tone & Shadow
  Tonal variation across planes
  Cast shadow

Texture & Materials
  Supports foreground/background
  Supports but does not overwhelm the scene

Detail and entourage
  People lend context and scale cues and are well placed
  Other included details that help to complete the scene

Fit and Feel
  Views effectively illustrate project concept
  Scenes express a sense of space and place
  The sketch perspective is able to convey a measure of ‘feeling’
Examples of composition studies and image perspectives

1. Strong architectural perspective creation utilizing the building themselves.
2. Building shows back acing perspective view and removes vertical elements and open sky.
3. Strong vertical element right in the middle open sky.
4. Building (church) is a PE center of the view gradient viewer will asking about what is around the corner.

http://flick.com/zoom/zoom/zoom/compositionudy_study.jpg
Examples of Student Work
Engaging with History: 
Student Perceptions of Team-based Service 
Learning in the History Class

Amy Huber 
Florida State University

ABSTRACT

“Our project helped others to learn.” student quote

Finding ways to peak student engagement is critical to their learning. Research tells us if students perceive information as mere transmission of facts they can question the value of that information (Ambrose, et al. 2010). Design history is an important requirement in interior design curricula (CIDA, 2011). Yet, to find value and purpose in design history, undergraduate students need to be engaged with design history. Stimulating activities in the design history class have been outlined in the work of Hadjiyanni & Zollinger (2010). Building upon these ideas and instructor goals of increasing engagement and providing knowledge application opportunities; this presentation documents student (N=17) self-reported pre and post project levels of interest in history and perceptions of “fitness” of the project to a design history course.

The benefits of service learning are many and are well documented. Service learning can provide students with opportunities for increased application of classroom knowledge utilizing real world skills, and for some students the experience can even be life changing (Calderon, 1999). Service learning has been implemented in the interior design studio and this project utilizes the corresponding Zollinger, Guerin, Hadjiyanni, and Martin (2009) service learning framework (see Table 1). During the semester lectures were interwoven with three projects; this presentation documents student perceptions following completion of the first project; a team-based service learning assignment.

Working for community’s town planner students were asked to development informational placemats to be used in restaurants during Historic Preservation month. These placemats were
aimed at increasing community awareness surrounding the significance of structures in town. After meeting the client, students applied for roles on the project and developed content themes. Using analysis skills and information from lectures all students were charged with scouting town identifying significant structures and becoming advocates for their selections during a student vote. After division of roles, students worked either on researching, editing, or graphically representing information for the placemat. A series of formative targets and checks and balances were devised to keep interim deadlines and meet client expectations.

To ascertain student perceptions of the project, anonymous quantitative data was collected via a 6 point Likert-type survey also allowing for open-ended responses. Assigned student reflections regarding perceived learning were open coded and are reported on another study. Data indicate that the students felt the project was a good fit for a history course with an average score of 4.6 of 5 (5= strongly agree) when asked if the project was a waste of time students reported an average score of 1.14 of 5 (0=strongly disagree). Pre and post project self-reported scores regarding overall level of interest in history (1 low; 10 high) went from 7 to 8.1. Qualitative data from the survey’s open-ended responses were coded and immersing themes of community engagement, benefit to others, interest in field research, connection to lectures, as well as time constraints will also be discussed.

This project provides evidence that may student’s value service learning opportunities in design history courses.

REFERENCES (APA)


Table 1. Service learning criterion

<table>
<thead>
<tr>
<th>criteria</th>
<th>project specific criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relate to course objectives</td>
<td>learning &amp; identifying historical styles</td>
</tr>
<tr>
<td>Apply course knowledge</td>
<td>application of class lectures to structures in town</td>
</tr>
<tr>
<td>Connect to community</td>
<td>developing literature for community; dissemination to local restaurants</td>
</tr>
<tr>
<td>Reflect on learning</td>
<td>team assessments, surveys, one page assigned reflection paper</td>
</tr>
</tbody>
</table>

adapted from Zollinger et al. (2009) Service-learning framework for interior design education
May is National Historic Preservation month. To celebrate we've been given the opportunity to design educational placemats to be used in restaurants during the month of May.

Our class will be working in groups to determine important locations, collect and compile information, photograph and design 2 versions of placemats to be used in the restaurants. Students will have the opportunity to learn identification skills, apply knowledge, and put design skills to use. Your class will help determine significant locations for our community to see and observe.

**Important Dates**

- **2.1.13** Guest Speaker Town Planner
- **3.1.13** Building Review Day
- **4.22.13** Placemat final design due to printer

(additional intermediate deadlines may be added to progress project)

**more information**

http://www.preservationnation.org/take-action/preservation-month/proclamation.html

http://www.mchistory.org/
## Roles

<table>
<thead>
<tr>
<th>Team 1</th>
<th>Team 2</th>
</tr>
</thead>
</table>
| Editor-in-chief (1) | **Copy Editor (1)**  
Charged with ensuring the highest quality design possible and content accuracy. Chief will meet with both groups to help develop standards and determine protocol for reviews, interim deadlines, and will maintain contact with client. Works with graphic and copy editors to maintain standards. |
| **Copy Editor (1)**  
Copy Editor will determine standard content template. Reviews both draft and final versions of all text. Copy editor will ensure no content errors or omissions and will work with other copy editor to ensure consistency of format and description length. Will also work with information scouts and graphic editors to obtain required information. | **Copy Editor (1)**  
Copy Editor will determine standard content template. Reviews both draft and final versions of all text. Copy editor will ensure no content errors or omissions and will work with other copy editor to ensure consistency of format and description length. Will also work with information scouts and graphic editors to obtain required information. |
| **Graphic Editor (2)**  
Find inspiration educational graphics to share with class for brainstorming session. Work with other graphic editors to design and implement both placemat iterations. Work with copy editors to format given information in appropriate design standards. Work with other graphic editor to design map and input project locations. | **Graphic Editor (2)**  
Find inspiration educational graphics to share with class for brainstorming session. Work with other graphic editors to design and implement both placemat iterations. Work with copy editors to format given information in appropriate design standards. Work with other graphic editor to design map and input project locations. |
| **Information Scouts (4-5)**  
Work with all information scouts to obtain information on building selections. Present 15-20 options for class discussion and classification. Work in teams of 2 to photograph and obtain building history and interesting facts from McClean County Historical Society, and/or Library. | **Information Scouts (4-5)**  
Work with all information scouts to obtain information on building selections. Present 15-20 options for class discussion and classification. Work in teams of 2 to photograph and obtain building history and interesting facts from McClean County Historical Society, and/or Library. |
### Rubric

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
<th>Exceeds expectations</th>
<th>Above expectations</th>
<th>Meets expectations</th>
<th>Below expectations</th>
<th>Incomplete</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>Design is clear, creative, and is appropriate for use. Photography is compelling and overall composition represents body of work extremely well</td>
<td>Design is clear, creative, and is appropriate for use. Photography is interesting and overall composition represents body of work well</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 pts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Content is informative, stimulating, and compelling. Free of any typos and grammar errors. Content was checked for accuracy</td>
<td>Content is informative, mostly stimulating and interesting. Free of any typos and grammar errors. Content was checked for accuracy</td>
<td>22 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Content is informative, stimulating, and compelling. Free of any typos and grammar errors. Content was checked for accuracy</td>
<td>Content is informative, mostly stimulating and interesting. Free of any typos and grammar errors. Content was checked for accuracy</td>
<td>22 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Team</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>Highest levels of contribution. You had a positive influence; the placemat would not have been the same without you</td>
<td>Good levels of contribution; minor areas can be improved. The placemat would not have been the same without you</td>
<td>Good levels of contribution although several areas could be improved. The placemat would not have been the same without you</td>
<td>Several contribution issues were noted. The team didn't always benefit from your work and contributions</td>
<td>Contributions were lacking in key areas. Please revisit your teaming skills for future projects</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 pts</td>
<td>22 pts</td>
<td>19 pts</td>
<td>17 pts</td>
<td>0 pts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reflection</strong></td>
<td>Observation (1 page) Reflection statement is clear, understandable, and free of grammatical errors. Statement clearly illustrates your contributions and what you've learned from the process</td>
<td>Reflection statement is understandable and contains only minor grammatical errors. Contributions and learning is demonstrated</td>
<td>Reflection statement contains some grammatical errors and/or contributions and learning isn't always clear</td>
<td>Reflection statement is weak and/or contains multiple grammatical errors and/or contributions and learning isn't clear</td>
<td>Incomplete and/or not of a professional quality. Contributions and learning is vague or not accurate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 pts</td>
<td>22 pts</td>
<td>19 pts</td>
<td>17 pts</td>
<td>0 pts</td>
</tr>
</tbody>
</table>

**Total points _____ out of 100**
Finished projects in use
Co-Design Methodologies in Design Studios

Robert Krikac & Kathleen Ryan
Washington State University

ABSTRACT

This presentation considers student-community interactions as a “doing-with” model for providing real-world design studio interaction. The “doing-with” approach allows community representatives to determine the direction that a project takes as well as assists students to situate the task of design in a much larger program of community building. This approach also motivates students to work harder than they had on previous “fictitious” design projects as they wanted their “real” clients to understand how interior design can contribute to projects at many levels.

Teams of interior design students employed co-design theory to engage with residents of two small rural towns in Washington to design a history museum and a community center. Co-design redefines the lines between the designer and user by directly connecting the user with the design process. Design using this process must combine the user's goals with the insight of design professionals. The qualitative methodology used site analysis, case studies and utilized a participatory design process. The student-led teams met and discussed viable options for the spaces with the communities. The community guided the parameters of the design decisions and students narrowed the focus and determined final designs.

The charge was to combine and condense the thoughts of the communities into solid and cohesive designs that reflected the community perspective. During the processes, the teams were able to utilize individual strengths to capitalize on design opportunities while moving the design forward. This project challenged the students to present ideas to others and the community in a way that creatively interpreted feedback into physical designs. The designs represented the communities’ needs and resulted in appropriate interventions for the spaces.
Analysis of the student designs showed a clear synthesis of a variety of theory and methods in their application. Students prepared for the charrettes through research of communities and project types to achieve a better understanding of place. The used oral, written and visualization skills to brainstorm with stakeholders to formulate broad and narrow views to direct outcomes.

The co-design process put students face to face with real clients in real buildings and facilitated the development of a place theory, seen through place attachment developed by the communities and the design teams who worked on these projects. The students were able to link their work to theory, methods and outcomes and presented this work in the university's Showcase for Undergraduate Research and Creative Activities. Both groups won awards in the Applied Sciences category for their research.

The students are able to clearly disseminate their work at many levels. Students immersed in this studio using the co-design method have begun to develop their ability to listen, observe, interpret and negotiate the complex process of working with diverse groups wanting to achieve an unknown common goal.

REFERENCES (Chicago)


SAVING MEMORIES

ST. JOHN HISTORICAL MUSEUM

Rural town history museum co-designed

A team of four interior design students employed co-design theory to engage with the residents of a small rural town in an immersive design process. The team became a part of their community by utilizing co-design to identify and understand the context and needs of the residents. Through interaction with the community, they discovered that the museum housed a collection of artifacts and documents, and that the residents had an interest in preserving and sharing their history. The team aimed to create a space that would engage the community and foster a sense of place.

Background

A gallery of pride and presentation

Social design is a complex process by which architects and designers within their communities engage in a research-driven journey to identify and understand the needs of their communities. The design process is guided by the insights of the community and is driven by the understanding of their needs and desires. The qualitative methodology included site analysis, case studies, and the development of a participatory design process. The student team was not only guided by the context of the design, but also by the insights of the community.

The team created a design that was not only driven by the needs of the community, but also by the insights of the design process. The design team was able to create a space that would engage the community and foster a sense of place.

The change to co-design and the concept of the community is a community in a community in a community (a complex). The change to co-design and the concept of the community is a community in a community in a community (a complex). The change to co-design and the concept of the community is a community in a community in a community (a complex).

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.

The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place. The design team was able to create a space that would engage the community and foster a sense of place.
REBUILDING THE CORE OF A SMALL RURAL WASHINGTON TOWN

ABSTRACT

Small rural towns in the Palouse are facing hardships due to a tough economy. Scattered throughout the state, many of these small farming and railroad communities, like LaCrosse, WA, continue to look for ways to repropelate and grow their cities to what they once were.

"Small towns on the Palouse are finding ways to combat the economy and thrive despite it."

In 2010, a census showed LaCrosse's population had dropped from 1000 residents to 318 residents, with the only grocery store and bank in town closing and leaving the remaining residents to drive 60 miles round trip to the nearest town for these amenities.

LaCrosse is by no means lacking in community support. Residents of LaCrosse are enthusiastic and motivated to rebuild the community. Two community groups, the LaCrosse Community Club (LCC) and the LaCrosse Community Pride (LCP), both have the goal to work together and make their vision a reality.

The LaCrosse Community Club recently purchased the old Masonic Hall, and currently this building serves as the only event center for the community. They wish to repurpose the building to be used for receptions, dinners, meetings, and hosted functions. But the building is in need of major updates and special allocations to accommodate 150-200 people.

"This building has incredible potential to be a multi-functional, income generating location for the LaCrosse residents."

Peggy Brian, community member

A team of interior design students and one faculty member met with the two community groups, and using the co-design process, worked to bring the groups together to discuss differences, other successful group projects, needed support and involvement and future project direction. The ultimate goal of this project was to unify the town, create growth, and rebuild the core of the community.

After the first initial planning meeting, "main-street visioning," the designers met periodically throughout the semester with key community stakeholders to share our vision for this building, receive comments and feedback, and create a solution to unify the community.

Co-Design allowed the designers to bridge the gap between two strong groups, allowing the community members to lead part of the process, and united them to work together.

PROJECT

GOAL: RE-PURPOSE THE OLD MASONIC HALL
PROJECT PROPOSAL: GALLERY CENTER & EVENT SPACE

[+] The gallery can be multi-functional, open to large functions or intimate affairs.
[+] Draw people off the highway and into the community
[+] Generate revenue by allowing artists to display their work
  Charge a small fee by allowing artists to rent the space
  Collect a portion of royalties for anything sold
  Charge visitation fees

Now that they see the potential this project has, the project can move forward. The design team will follow up with LaCrosse this semester to see what further steps have been taken and if they need any further support.

DEFINITION:

"A product, service, or organization development process where design professionals empower, encourage, and guide users to develop solutions for themselves. Co-design encourages the blurring of the role between user and designer, focusing on the process by which the design objective is created."

(Shneiderman and Harper, 2000)
Advanced Interior Design Studio Investigations with Architecture and Nursing:
Design Thinking and Transdisciplinary Collaboration for a Health Clinic in Haiti

David Matthews, Moriah McArthur, John McRae & Susan Speraw
University of Tennessee

ABSTRACT

Design challenges in Haiti offer extraordinary creative opportunities for people to learn, think, and work differently. The presentation outlined in this abstract provides an overview of the complexities of creating design proposals for a real world health clinic for a coastal community in Haiti, with a focus on how design-thinking techniques are implemented to enhance collaborative processes and enrich empathy for users. Nursing, interior design, and architecture students participated in an academic yearlong investigation of the design (Total N=53) and voluntarily participated in focus groups to evaluate the collaboration. A phenomenological approach was used to code themes of the transcripts. Students reported that transdisciplinary participation significantly influenced the quality of the design proposals.

The physical conditions and cultural context in Haiti combined with the health care needs create unique challenges for student design teams. To this end, faculty from nursing with expertise in population health and disaster preparedness in developing countries collaborated with professors in interior design and architecture that have experience with applied “real world” design for Haiti and design thinking techniques. The faculty team planned and implemented a design studio in the Spring of 2013. The result of the studio investigations are were design proposals for a health care facility for a Haitian community supported by a United States based organization of physicians and volunteers prepared to expand an existing clinic. (Illustrations 1, 2 and 3)
Faculty organizers of the studio anticipated several complex issues that needed to be addressed with student participants. The topics included:

- Equipping students with techniques to work in transdisciplinary collaboration to create more divergent ideas and deeper critical insight.
- Enabling a design process built from the cultural strengths and resources of Haiti in a manner that empowers growth opportunities by having empathy for the users.
- Facilitating critical discussions of the patterns that reveal how well intentioned assistance can result in hurting the population served with the design.

The above issues created a unique opportunity for students to practice emerging, universal, transdisciplinary empathy-based design processes associated with design thinking and user centered design principles. Design thinking techniques similar to those pioneered by IDEO and instructed at the Stanford DSchool were implemented to provide a framework for collaboration. Processes such as affinity clustering, developing and evaluating with heuristics, creating importance difficulty matrixes, and creating concept posters, that were organized and developed by the Luma Institute for User Centered Design, are examples of the techniques that were introduced to the students. (Illustration 4) One of the participating design faculty members had received formal instruction at the Luma Institute prior to the Haiti Design Studio.

Results from the studio indicate enhanced divergent ideation and increased critical insight of convergent, cooperative processes. Students expressed mutual appreciation for the respective knowledge of the participating professions and collaboration. The experience “…taught us to speak the same language, essential in today’s practice world.” Student participants also appreciated more diverse ideas… “It was very helpful with the different perspectives….” Student work will be used to illustrate research findings in the presentation.

REFERENCES (APA)


Illustration 1.
Clinic Floor Plan
Illustration 2.
Clinic Perspective
Illustration 3
Materials and Color Study
Image 4
Design Thinking Exercises
A Paradigm Shift in the AEC Industry and the Implications on Design Pedagogy: The Effects of IPD Processes in a Collaborative Studio Project

Lyndsey Miller, Beth R. Miller, Alexis D. Gregory, Michele M. Herrmann & Jarrod Moss
Mississippi State University

ABSTRACT

“Whosoever desires constant success must change his conduct with the times.” These mature sentiments, expressed in the 1532 work The Prince by Niccolò Machiavelli, are ever applicable to the rapid metamorphosis befalling the practices of architecture, engineering, and construction (AEC). With these changes, it is apparent that the academy must alter traditional methods of instruction in order to habituate students for the evolving landscape of professional practice. This presentation will outline one university’s efforts to facilitate a collaborative project between interior design, architecture, and building construction students, which simulates conventions of Integrated Project Delivery (IPD)[AI]. The analysis will discuss methods, successes, pitfalls, and results from an established, yet ongoing, study.

Compartmentalized studio-based learning in design programs across the United States dates back to the nineteenth century. Specifically, schools of architecture conduct a master/apprentice collaboration in which a design problem is thoroughly explored and the final results are critically evaluated by the “master-designer” and a jury of qualified professionals and pedagogues[6].

In contrast, until recently, construction education has followed a lecture-based model of instruction. These varied arrangements mirror the traditional processes of design and construction project delivery methods. Designers and constructors are simply taught to think
differently about the processes that lead to the construction of a building. Ilozor and Kelly express that “the industry is often characterized as inefficient, wasteful, litigious, combative, unproductive and in need of improvements both in the US and abroad[5].”

AEC communities are implementing an alternate method of project delivery, the aforementioned IPD. This method seeks to eliminate the adversarial nature of these industries by promoting collaboration from the onset of a construction project[5].

The quandary is that university graduates are not exposed to these revolutionary methods of project delivery. The paradigm shift, while rapidly occurring in the profession, has yet to deeply converge on design pedagogy[2,AII].

For the past 3 years, the abovementioned university, including 13 professors and 198 students, has been implementing IPD processes on an industry-sponsored interdisciplinary project. Paired in teams with representation from each discipline, students were tasked with engaging in a varied collaborative project. Each year surveys were administered at the beginning, middle, and end of the project, resulting in a measure of students’ discernments of IPD from a pre-project to post-project time span. Students were invited to participate in Qualtrics[AI] online surveys from which qualitative and quantitative data was collected[AIII,AIV].

While the evaluations conclude that the project has merit, modifications to the process can be improved. Overall, the most successful projects, dictated by the industry led jury, were developed by groups that clearly showed collaborative efforts through the 2-3 week span. However, modifications to the project type/scope ruled many of the survey results as inconclusive. For the duration of the 5-year project, a consistent scope and more specific criteria will be utilized. This alteration will allow for better data analysis on the impact of the project. This college within the broader university is committed to this cross-college collaboration and is ready to lead in administering the necessary change.

REFERENCES (APA)


APPENDIX I [AI]  GLOSSARY OF TERMS

<table>
<thead>
<tr>
<th>Glossary of Terms</th>
<th>Integrated Project Delivery</th>
<th>Qualtrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>As defined by the American Institute of Architects (AIA) National and AIA California Council (AIACC): “project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to optimize project results, increase value to the owner, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction.”</td>
<td>Survey system developed by the leading global supplier of enterprise collection and data analysis; the system allows configuration of content, feedback optimization, and organization of all evaluation content.</td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX II [AI]  ACSA/AUTODESK SURVEY

Results of a survey conducted from November 2010 to January 2011 by a partnership between the Association of Collegiate Schools of Architecture (ACSA) and Autodesk®

RESPONDENTS
57 PARTICIPANTS FROM 53 SCHOOLS
28 (49%) B. Arch programs
44 (77%) M.Arch programs
19 (33%) both B. Arch and M. Arch programs
3 respondents taught at community colleges, and one respondent didn’t identify which degree program was offered.

USE OF BIM
Non-Studio Courses
used in REQUIRED ARCHITECTURE COURSES, excluding the design studio?
34 of 57: YES  (60%)
Is BIM used in ELECTIVE COURSES, excluding the design studio?
36 of 57: YES  (63%)
Is BIM used in DESIGN STUDIO?
43 of 57: YES  (75%)

USE OF COLLABORATIVE DESIGN STRATEGIES IN DESIGN STUDIOS (IPD)
Teaming architecture students at the same year level
44 of 57  (77%)
Teaming architecture students with non-architecture students
27 of 57  (47%)
Teaming architecture faculty in the same studio
36 of 57  (63%)
Teaming at least one architecture faculty member with a non-architecture faculty member
18 of 57  (32%)
Using non-architecture critics or instructors during the term (not just during reviews)
29 of 57  (51%)

[OPEN ENDED] Disciplines of non-architecture students, faculty, critics, or instructors (35 RESPONDENTS COMMENTED)

Engineering (any discipline): 23 mentions
Other Discipline: 21 mentions
Landscape Architecture: 13 mentions
Interior Design: 11 mentions
Graphic or Industrial Design: 9 mentions
Urban Design or Planning: 8 mentions
Structural Engineering: 7 mentions
Mechanical Engineering: 5 mentions
Business: 5 mentions
Other Engineering Disciplines: 5 mentions

*From this survey evaluation, the inclusion of a construction management or related discipline is not evident
APPENDIX III [AIII]  DATA ANALYSIS FROM IPD PROJECT SURVEYS (2012 & 2013)

CONDITION DESCRIPTION FOR EACH SURVEY YEAR:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Teams:</th>
<th>Project Scope:</th>
<th>Team Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>14</td>
<td># of levels: 2-3</td>
<td>Architecture: 3rd Year (2 per team)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Story height: 9</td>
<td>Building Construction: 4th Year (1 per team)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Floor area: 13,320 sq. ft.</td>
<td>Interior Design: 4th Year (1 per team)</td>
</tr>
<tr>
<td>2013</td>
<td>11</td>
<td># of levels: 1</td>
<td>Architecture: 4th Year (2 per team)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Story height: 8' up to 25' (sloping)</td>
<td>Building Construction: 4th Year (2 per team)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Floor area: 1,700 sq. ft.</td>
<td>Interior Design: 4th Year (1 per team)</td>
</tr>
</tbody>
</table>

In addition to the student participation, there has been participation in facilitation and critique processes from 2 Architecture Faculty, 1 Building Construction Faculty, 1 Interior Design Faculty, and at least 1 Industry Partner each year.

DEMOGRAPHIC DATA

RESULTS

REFLECTED THAT THE PROJECT OUTCOME WAS A COLLABORATION OF IDEAS

STUDENTS HAVE A BETTER UNDERSTANDING OF IPD AFTER COLLABORATING ON THIS PROJECT
BELIEVED THAT COLLABORATION IMPROVED THE PROJECT OUTCOME

BELIEVED THAT THEIR SKILLS BENEFITTED THE PROJECT OUTCOME

STUDENTS THOUGHT THAT THEIR TEAMMATES VALUED THAT THEIR SKILLS BENEFITTED PROJECT OUTCOME

TEAM HAD GOOD COMMUNICATION BETWEEN TEAM MEMBERS
ACHIEVED ANTICIPATED TYPE OF OUTCOME IN THIS INTERDISCIPLINARY PROJECT

STUDENTS LEARNED ABOUT OTHER DISCIPLINES WITH THIS PROJECT EXPERIENCE

* Results from the 2011 survey are not included in this analysis; paper surveys were completed and results are formatted differently; beginning in 2012, surveys were completed using Qualtrics.

**For 2012 and 2013, the same pool of students from architecture participated in the integrated project.

APPENDIX IV [AIV] STUDENT PROJECTS AS EVIDENCE OF OUTCOMES

2011
Student Perceptions of Studio Based Learning Effectiveness

Aleksandra C. Moore
The Art Institute of Tampa

ABSTRACT

Background
Studio Based Learning (SBL) is a person-centered approach to learning and classroom management; a drastic shift in classroom management for those who are well versed in traditional, behavior-correcting stance of classroom management. Research has “found positive cognitive and affective learner outcomes in person-centered environments, including creativity/critical thinking, achievement (mathematics/verbal), student participation, student satisfaction and self-esteem, reduction in dropouts, increased motivation to learn, less disruptive behavior, and fewer absences” (Freibert & Lamb, 2009, p. 100). According to Bransford, Brown, and Cocking (1999), the learning centered approach to SBL is critical as it creates students who are able to be autonomous thinkers rather than uniformly molded graduates. Autonomous thinking has been identified as one of the key skills necessary for the twenty-first century professional. “Economists recognize that resources should be directed toward creating a workforce that can adapt to changing conditions of employment, exercise critical judgment as it manages technology systems, and flexibly engage in more effective collaborative decision making” (Mezirow, 1997, p. 122).

Problem
Although studies have indicated that studio based learning leads to self-directedness, very limited research has been done on the student’s perspective of studio based learning. Additionally, little research explores which components of studio based learning promote self-directedness in students. Therefore, this study aimed to collect adult student perceptions of the studio based learning process and identify the specific components of studio based learning that lead to self-directedness.
Methodology
This study was designed using a naturalistic, instrumental case study approach. Due to the nature of the study, a qualitative approach was utilized when gathering data. The following research questions were the focus of the study and served as a guide to this instrumental case study design:

1. How do adult learners describe the experiences of studio based learning?
2. From an adult learner’s perspective, does studio based learning lead to self-directedness?

To gather the appropriate data the researcher utilized surveys, a focus group, observations and interviews.

Discussion/Findings
Data revealed that the participant’s perceptions of the desk critique sessions, the shared physical space, pin-up sessions, and group discussions supported the assumption that the SBL classroom is collaborative and creates life-long learners as described by Boyer and Mitgang (1996). However, the formal jury, expert lecture, and field experience components do not support the same collaborative environment. Student perceptions of the latter components describe the experience as an environment that lacks the ability to support learning as literature for SBL defined. These components are also not capable of supporting some of the assumptions of andragogy, transformational learning, collaborative learning and as a result do not possess the ability to develop self-directedness. The most influential element of SBL that develops self-directedness based on student’ perceptions is the shared physical space. Students saw formal juries as the component of SBL that supports self-directedness the least.

REFERENCES (APA)


APPENDIX A: IMPORTANCE OF THE STUDY

Studio Based Learning

Self-directedness

Autonomous Thinking

Successful 21st Century Professional
### APPENDIX B: FREQUENCY AND RATING OF STUDIO BASED LEARNING BY PARTICIPANTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Rank frequency of variable based on a scale of 1 to 7. One being the most effective and seven being the least effective.</th>
<th>Rank Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Field Trips/Field Experiences</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Shared Physical Space</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Expert Lectures</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Group Discussions</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pin-Up Sessions</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Desk Critiques</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Formal Juries</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
## APPENDIX C: EIGHT FEATURES OF STUDIO BASED LEARNING AS IDENTIFIED BY BROCATO

<table>
<thead>
<tr>
<th>Eight features of Studio Based Learning as identified by Brocato (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Field Experiences</strong></td>
</tr>
<tr>
<td><strong>Shared Physical Space</strong></td>
</tr>
<tr>
<td><strong>Expert Lectures</strong></td>
</tr>
<tr>
<td><strong>Pin-up Sessions</strong></td>
</tr>
<tr>
<td><strong>Desk Critique Sessions</strong></td>
</tr>
<tr>
<td><strong>Formal Juries</strong></td>
</tr>
<tr>
<td><strong>Consultation during class work time</strong></td>
</tr>
<tr>
<td><strong>Propose-Critique-Iterate stance</strong></td>
</tr>
</tbody>
</table>

Interior Thinking
at the Edges of Contemporary Public Space

Kevin Moore
Auburn University

ABSTRACT

Architecture and Landscape Architecture are now converging on an ecological understanding of urbanization as a fundamental challenge of the next century. The experience of the contemporary city, however, also requires an interior understanding focused on proliferating intimate social events in the public realm. This 10-week Interior Architecture studio proposes a renovation and addition to a government office building. The goal was to create an active edge to an idealized central square. The simple static geometry of the square and its buildings express a clear civic identity. The lush park hosts an impressive list of events, but it is forlorn during weekdays and evenings. Growing demand for housing downtown and the announced sale of this prominent site is an opportunity to reinvigorate the park. For the studio, renovating and adding to the quietly handsome existing building allowed students to retain its appropriate civic identity and focus instead on the ongoing social interaction at building edges.

Based on the seminal writings of Jane Jacobs, students proposed a mix of residential and event activities that “insure the presence of people who go outdoors on different schedules and are in the place for different purposes, but who are able to use many facilities in common.” (Jacobs, 150) Students identified strategies to create intricate patterns of use over time by diagramming adjacent activities and multi-purpose spaces and surfaces. Basic building organization stressed connecting public activity to the street and fostering chance encounters on sidewalks, porches and collective interior spaces.

In contrast to the hermetic muteness of the nearby civic buildings, edges and thresholds were studied as zones of social practice. Video walkthroughs were used as a design tool to test edges as places of individual action and sensory engagement. The material and profile of edges—
including trees, paving, guardrails, trellises, benches and curtains—assume a simple geometry that structure a complex layering of potential events. Students developed critical edges to anticipate and promote predictable but personal experiential effects such as the surprise of seeing deep into a building, the pleasure of a walking along a tree-shaded colonnade and the fascination of watching other people.

These intimate acts are also collectively public. The studio persistently discussed the distinction between the park and the goals of the project. As Richard Scherr explains: “If historic space establishes a collective, public setting which is both a product and generator of social agreement, action space is also public, but is engaged on an individual, private basis, resulting in varied possibilities for behavior and personal cognition.” (Scherr, 281) In this case, identity is created through individual action in the public realm. This contemporary understanding undermines a simple unified image—the outdated “room in a city”—and challenges hierarchical layers of scale. As Lois Weinthal claims, “thinking that stems from how we integrally experience the interior realm between these scales acts as a starting point for recognizing the interdisciplinary nature of the interior.” (Weinthal, 19) The city is an intensely collaborative artifact, and this studio argues for the critical value of interior thinking in this endeavor.

REFERENCES (Chicago)


CURTAIN CONFIGURATION 1
An open plan allows for a variety of large events. Both curtains are spooled as architectural elements in the space.

CURTAIN CONFIGURATION 2
A sheer curtain provides visual delight and a sound attenuating curtain adds flexibility for two unique spaces.

STUDENT PROJECT:
LOOKING and WATCHING
Looking and watching are reciprocal activities, both personal and public. In this project, the sight of other people becomes its own form of entertainment.

BUILDING ORGANIZATION:
A hotel greets visitors with panoramic views of the city, and residential units below assure invested eyes close to the street. Amenities including a corner grocery, restaurant and bar are stacked along 20th Street to extend it as a walkable corridor to the park.

INTRICATE EDGES:
For a proposed events center, the existing porch is transformed into a deep edge of trees, columns, curtains and events. This edge is its own event. A video walkthrough demonstrates the pleasure of walking along the new ramp or up the stairs and the uncanny ability to see deep into the building thanks to a carefully placed skylight.
STUDENT PROJECT: COMING and GOING

In this project, the simple act of entry provides captivating views to the park and glimpses of residents coming and going.

BUILDING ORGANIZATION:
The existing building is renovated into an events center with lofts above. The building shares a shaded courtyard with a new residential tower and corner restaurant to create a mutable threshold between interior and exterior events both planned and informal. The entrance to the lofts and tower are collected into a ground floor hall with direct visual access the street and park.

INTRICATE EDGES:
Multiple entrances to the park encourage activity on the sidewalk, and residential balconies heighten the interaction between visitors and residents. In fact, two gaps in the tower create communal exterior rooms that expose the central corridor to the park. Going out and coming home becomes a collective event, where neighbors meet serendipitously in full view of the park.
Patterning (and) the Interior Design Studio

Clay Odom
University of Texas

ABSTRACT

Patterning is the driving force in the development of the studio (sophomore level, 4-year BSID program) titled “From the Interior of Fashion to the Fashion Interior”. In “Inside Prefab”, Deborah Schniederman references the modularity (unit) of a brick developed through systems of aggregation (operations) in describing the emergent utility and ultimate visual presence of brick walls (outcomes). This presentation describes how, within the studio, the roles of patterns (the outcomes) and patterning (the processes) are considered in a similar way, as operative modes yielding spatial and material transformations while creating a range of potential effects from functionality and organization through to atmosphere and style.

Pattern is most often understood as a fixed, two-dimensional finality. In the studio it is used to place students in direct confrontation with pre-existing expectations seen both within the typology (fashion) and the broader context of interior design. Coopting and subsequently transforming pattern into the generative operation of patterning allows students to explore and recombine components and qualities into intricate, connective, systemic wholes (Stan Allen’s figures to fields for example). Operations found within patterning such as repetition, scaling, rotation, overlapping, separating, and joining therefore become graphic, spatial and program organizing tools. This prioritizes the development of a rigorous, productive process and allows students to interrogate potentials inherent in the basic stuff of interior design (surface, program, space, material and atmosphere)(re: Alexander). It also facilitates the breaking down of complex design issues (patterning the studio’s sequence) and the process of incremental, iterative development from 2d graphics (wallpaper) to thickened 2d conditions (wall/screen) to spaces (room) while allowing the development of other components (furniture/millwork). Within this trajectory, students also consider “patterning programs”, facilitating links between
organization, space, material and effect in the planning, development, and sequencing of human experiences and uses.

As the student examples demonstrate (see appendix), their understanding of processes and outcomes are broadened and deepened to include not only material-textural conditions but also notions of planning and distribution of functional and atmospheric intent. These outcomes emerge from of a series of focused weekly assignments culminating at mid-term in a proposal for a ‘fashion component’ that tests the basics of method, concept and content. The final project, a ‘fashion boutique’, tests the student’s ability to clearly frame, develop, synthesize and finally present, at a high level of finish, the work created within the developmental assignments as a cohesive and personally defined and considered body of work. The student outcomes are exceedingly rigorous studies of project development, but that also exhibit a variety of formal response that can only emerge from a process driven approach rather than formal prescription.

As both a tool and concept, patterning allows the instructor to break down the complexities of an interior project into understandable constituencies creating the patterning of the studio while simultaneously allowing for it to be prime consideration used by students to explore and develop approaches to issues across the breadth of their work, designing projects that exhibit both high degrees of objective rigor and subjective quality.

REFERENCES (MLA)


PATTERNING (AND) THE INTERIOR DESIGN STUDIO

PROJECT PROCESS: MIDTERM
(CONTENT: MISSONI ON LEFT / PROENZA SCHULER ON RIGHT)
Establishing Inter-rater Reliability in the Assessment of Design

Lisa Phillips
Philadelphia University

ABSTRACT

Purpose
In design it is not uncommon to witness two professionals sitting side by side at a critique, listening to the same presentation, participating in a common conversation. Their final evaluation of the work, however, varies significantly. One selects the highest grade possible, while the other scores firmly in an average range. How can these individuals create such dissimilar assessments of the same student?

Subjective disciplines have traditionally offered challenges in assessment methodologies. After all, they evaluate constructs as wide ranging as creativity and risk taking, along with more easily quantifiable criteria such as craft and completion. As a result, individual opinion, past experience and mood allow personal preferences to detract from the integrity of the process.

Framework
A recent national emphasis on formal assessment practices is resulting in a positive change in many disciplines in higher education. Assessment, however, remains a “somewhat neglected area of design education.” (Ehmann, 2005, p. 107) All forms of feedback, whether subjective or objective, must share an integral element: the ability to provide consistency. This is essential to ensure accurate communication to students, as well as to establish patterns in student learning for instructors.

Uniform results are only achieved by utilizing assessment tools that are both valid and reliable. (Maki, 2010, p. 163) Mosakal and Leydens (2000) define reliability as the consistency of assessment scores. For example, on a reliable assessment method a student would expect to
attain the same grade regardless of when the assessment was completed or who scored the work. This later requirement is known as ‘interrater reliability’.

It is this essential component of authentic assessment that will be the focus of this research. It is the author’s hypothesis that graphic format and specificity of criteria can create a dramatic impact on interrater reliability and therefore increase the validity of methods used in the design studios.

Method
An online survey was nationally distributed to interior design faculty in 2013. This poll offered images of middle range student work, historically the most inconsistent in scoring, along with varying methods of assessment, ranging from written feedback to slide scales and complex rubrics to assess craft, rendering and design.

How definitive does the tool need to be in order to achieve accurate results? How can we maintain the flexibility needed in a creative field while simultaneously gleaning accurate indications of student learning?

Result
Responses indicated that, not surprisingly, craft, the most subjective of the categories, had the highest level of reliability among the 20+ respondents. Several results were quite surprising, however, including the inconsistency of rendering feedback, which featured a gap in reliability, even greater than that of design. Also of note, the specificity of rubrics did not necessarily increase the level of reliability. The highest level of consistency actually occurred when criteria were clearly defined to consider, although not necessarily in detailed, paragraph format in a primary trait analysis.

REFERENCES (APA)


Write a brief summary of feedback you would give a 2nd year student concerning the restaurant floor plan above. Focus on the following design criteria: adjacencies, functionality, code issues, aesthetics.
Rate the craft of the 2nd year student’s restaurant model in the image below on a scale of 1-5,
(1 being poor and 5 being excellent)
Grade the rendering in this perspective of a 1st year student using the criteria below.

<table>
<thead>
<tr>
<th>Rendering</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rendering</td>
<td>Rendering is not adequate in amount. Materiality and shade/shadow are not evident. Rendering quality is not aesthetically pleasing. Human figure is not present for scale and/or figure is inaccurate or distracting.</td>
<td>Rendering is relatively appropriate in amount. Materiality and shade/shadow are evident, although they may need some improvement. Rendering quality may need some work. Human figure may be missing and/or figure is inaccurate or distracting.</td>
<td>Rendering is appropriate in amount. Materiality and shade/shadow are evident and convincing. Rendering quality is especially aesthetically pleasing.</td>
<td>Human figure is present for scale.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Developing Collaborative Work Methods and Communication in an Interdisciplinary Design Build Studio

Petra Probstner
Columbia College Chicago

ABSTRACT

Interior architecture is a multidisciplinary venture by nature. It has long been key for students to develop communication skills with clients, architects, designers, engineers and vendors. Traditionally, disciplines worked mostly in their own realms and often sequentially on a project. However, with the recent leadership of innovative practices such as IDEO, interdisciplinary collaborations are becoming a key phenomenon, where the emphasis lies in a thought process that is shared simultaneously between participants. Recognizing the need to meet this industry expectation of the field, we felt this work technique could be brought to the classroom.

In leading a multidisciplinary design build studio, a classroom setting was created to foreshadow the professional world. The aim was to find ways to help students develop habits, skills and strategies for working collaboratively and facilitating interdisciplinary communication. All the while a learning space was fostered to allow for collaborative thought processes, with discursive room for critique, and a non-specialized product centered approach.

The make up of the class and faculty mirrored a potential real life situation between interior architecture students, graphic design students and media production students (Film+Video). The objective was to design and build a spatial installation in an art gallery, a task outside our own specialties. Choosing to look at collaboration through a third disciplinary lens, that was neither a conventional interior nor a set for a movie, the students and faulty were placed in a position where collaborative learning and spontaneous problem solving was essential for success. The unfamiliar task and the abstract brief created a situation where students could
explore each others thought processes and methodologies in a low stakes, experimental learning environment. The theme was determined by the mixed student body which created a common sense of ownership. Precedents used were from film, interiors as well as installation art and dance, further fostering openness and exploration.

The 15 session class was split into three phases. First was the ideation phase, where students started off conceiving a theme and developing a spatial concept. This was followed by a build phase in the fabrication facility, where detail solutions were developed and components were manufactured. Last was the installation phase, where the physical space was installed and finished in the gallery. Each student brought their typical work methods and strengths of their discipline to the table, resulting in peer-to-peer learning where students were inspired by the differences in work methods and design processes that their counterparts brought to the project. Throughout the process, pedagogical emphasis was placed on monitoring and developing group dynamic skills, assessing and documenting work methods with in-class discussions, student journals and “private” video confessions.

For students, besides the overall skills of open thinking and working together, the practical constraints of the project such as time management, spacial restrictions and budgeting introduced "real word" skills, that could be brought back to their specialized classes. For instructors, practical lessons were learned from this experience. This course will constitute the framework for further collaborative studios with potentially significantly different student make up.

**REFERENCES (Chicago)**


Appendix 1  Snap shots of the design process (mostly videos)
Appendix 2  Snap shots of the building process (mostly videos)

Paulina Mariak
Unfortunately the original furniture was already sold so I went to an another Thrift Store and found three others. Was hoping to find something better but it all I found. I bought them because I was afraid that someone will buy. The picture is upside down because that’s how it’s in my car. Hope everyone doesn’t mind the pieces. Oh an there’s only 3 instead of 5, Sorry Petra!

Like · Comment · Follow Post · February 28 at 10:24pm

Caryn Ditsch and Samantha Marie like this.

Samantha Marie they will work great
February 28 at 10:25pm · Like
Appendix 3  Finished product- “Confession space”
Appendix 5  
Finished product - “Purgatory Space”
You are Fired: 
A Computer Simulation Enhances Professional Practice Learning

Roberto Rengel 
University of Wisconsin-Madison

ABSTRACT

One of the challenges when teaching professional practice courses is that of simulating the realities of practice in the classroom. This paper presents an effort to use a blended learning approach involving a computer simulation to enrich students’ learning.

Blended learning combines traditional face-to-face teaching techniques and technology mediated channels to achieve interactive and engaging learning experiences. Benefits include increases in the levels of active learning strategies, peer-to-peer learning strategies, and learning-centered strategies. This course used the replacement model (Graham, 2006) substituting some class time with online, interactive learning activities. There were significant changes in the actual face-to-face class meetings, resulting in a change from learners just receiving information to a model where learners actively construct knowledge through dynamic interactions.

The heart of this blended learning experience was a computer simulation requiring teams to manage a design project during the design phase. It encompassed various episodes divided into two main parts. The focus of the first part was on common project management challenges requiring the management of the client-designer relationship, the project’s finances, and the design quality. Teams strived to balance client goals against firm goals. They had to consider the mission and strategic priorities of their own firm, the importance of the present client to the future of the firm, the relative stability of the firm at that moment, and the particular realities of the project. Part two increased complexity by introducing new information such as future-work projections, news about the client’s expansion plans, news about the state of the economy, and information about available resources within the firm.
As teams dealt with the difficult client, rapidly diminishing fees and the large and promising project, they were encouraged to:

- Make business decisions that result in company profit
- Develop a strong long-term relationship with the client
- Produce a high quality design capable of winning a major design award

Conversations with their boss, the client, and three key figures in the firm (a senior project manager-mentor, a design director, and the firm’s accountant) yielded a realistic scenario and multiple points of view. Additionally, by reviewing documents, teams gained familiarity with the client and their own design firm, including their mission, strategic objectives and growth goals. Teams also became familiar with the project by reviewing the contract for design services, the schedule, the original project plan, and periodic project progress reports.

At the conclusion of each part teams had to synthesize the complex situations and formulate plans to get the project back on track. These were communicated internally via in-house memos and a revised project plan, and externally to the client via formal letters. In the process students had to recognize some of the factors of design business success, analyze situations using soft and hard data, and develop responsive courses of action that aligned with business strategic goals and sound project management practice.

This blended learning exercise enhanced the learning experience through the use of pedagogical techniques such as case studies, small group work, discussion, and role-playing (Vignare, 2007).

**REFERENCES (APA)**

Design Phase Project Management Case Draft 2.0

You’ve been fired!

Not only that, but the company you worked for, Harmonious Triad, lost over $500K on the project you managed. It doesn’t seem fair. Your customer at Ventrix Corp., Marcel Grego, was a demanding autocrat with unrealistic expectations. Your boss, Brian, should have known this project was too full of landmines for someone early their professional career. But, you did accept the assignment, confidently thinking at the time it would be a great professional development opportunity. It’s hard to forget that final meeting when Brian told you that your project management skills were sub-par, and that your college experience did not prepare you for the “real world.” It really stung when Michele, your mentor whom you really respected, complained that you failed to listen to and take advice from experienced colleagues.

If only you had a chance to do it over again you could pull-off this project. If you could press a rewind button and start again right at that point in the design phase when things started going down-hill, you could do better. If only ...

Continue

Home
Design Phase Project Management Case Draft 2.0

Your wish has been granted!

When you press the rewind button on the right, you will find yourself in a meeting six months ago with your boss, Brian. He's explaining what the problems are with the project customer, Marcel Greco, from Ventrix. The project is at the end of the schematic design phase, the juncture where you really need to turn things around. There seems to be pressure coming from different stakeholders. You need to draw upon your project management skills, listen to mentors, and be smarter.

Here are few core principles to keep in mind.

**Tensions from the case**
- Make good business decisions that result in company profit
- Build excellent rapport with every client
- Win every design award possible

OR

**Project Management Skills**
- Make good business decisions that result in company profit
- Maintain a good working relationship with the customer
- Deliver a quality product that is on time and on budget

Tip: Before you hit that rewind button, you may want to get a brief background summary of this project and the challenges so far. There are links across the bottom that you can access anytime. To have a successful meeting with your boss, you might also want to review the following documents. He might want to check some specific points on the project, client or company information.

Good luck!

REWIND
Back in your office, you get a voicemail message

There's a not-so-happy message from your client, Marcel. He's not pleased with how things are going and has a number of concerns and complaints. To better understand Marcel's points, you may want to review the following project specifications:

- Project Proposal Summary
- Project Schedule
- Overview and Challenges
- Project Status Report
- Proposal for Professional Design Services
- Schedule Update

Marcel's email:

Project manager,

Ever since this project started, I feel you have not been very responsive to the needs of this project. You complain that we changed our minds too many times during programming and delayed the process when it is our full right to change our minds as many times as necessary to get our future needs right. You are getting a damn good fee for this project so I think that should more than cover the extra time required when we make changes.

When you present your design ideas and options you normally present just two options. We'd like to see more variations, at least four or five to fully understand the possibilities. Also, you never told me in advance that you were expecting approval right after the last presentation. We certainly were not prepared to do that.

A week prior to the last presentation, I told you for the second time that we were interested in a design idea I had seen at the local Holiday Inn on Main Street and also a configuration I had seen at Chip's Restaurant on Broad Boulevard and you completely ignored my suggestions. They were nowhere to be found on your presentation boards.

Also, you keep dismissing my requests to increase space density to 100 square feet per person, which is precisely what the code allocates to business occupancies. We need that kind of density to fit everyone into the space available.

I also want to let you know that I received a call ahead to proceed with the design of the annex space. You will remember that we discussed that a long time ago and you said it was included in your scope of work. Please proceed with that right away.

Finally, we are having a hard time visualizing what those designs are going to look like. Without conceptual renderings at your presentations, we just can't tell what we are getting. I'd like to request that you bring realistic renderings of all the important spaces to all our presentations from now on.

It's getting to the point where your lack of responsiveness is becoming detrimental to this project and our future relationship, and I would like to see that remedied as soon as possible.

Marcel

Continue
Design Phase Project Management Case Draft 2.0

The people you work with

Currently, Harmonious Triad has 15 employees. Learn about the people you’re working with on this project by clicking on their title below.

Brian Stevenson, Your Boss
- Pushing tried profit, relationship, quality

Michelle, Senior Project Manager (Mentor)
- Pushing relationship with client

Jerry, Design Director
- Pushing design awards

Rob, Chief Financial Officer (CFO)
- Pushing profit

Clicking each title above reveals a picture and a brief 1 to 2 sentence description of each person in the right panel of the screen.
Next Steps
Now you may respond to the client

- Write a letter to Marcel responding to his concerns and requests.
- Sample letter to client

Actions you take

1) Respond to the client:
Each team member will draft their own version of a one to two page letter to Marcel Greco responding to his/her concerns and ideas. Send your letter to the address provided. Make sure that you address both the practical issues at hand as well as the personal aspects of the relationship. Then, come to the next class prepared to meet with your team members, compare your ideas, and develop a final letter to Marcel. Review the materials available with pointers and examples of good letter writing.
The Relationship of the New NCIDQ Examination Format and Interior Design Curriculum

T.L. Ritchie & William Riehm
Louisiana State University, Mississippi State University

ABSTRACT

Beginning in 2013, the National Council for Interior Design Qualification (NCIDQ) examination has changed its method of examination. This new method allows recent graduates of accredited programs to take an initial part of the examination directly upon completion of their degree. This changes the landscape of the relationship of Interior Design Program to the NCIDQ. Student candidacy and preparation for the examination will transition and align more with institutional design education.

In this presentation we review a research study of this new relationship between an interior design curriculum and the learning outcomes necessary for the NCIDQ examination. The research study reviewed is a collaborative effort by two Council for Interior Design Accreditation (CIDA) accredited design programs. The findings presented address two primary concerns: the integration of CIDA accreditation standards and the content areas of the NCIDQ and the concerns and opportunities for individual programs.

The first findings address the relationship between CIDA accreditation and NCIDQ. Most programs are well versed in the standards expected by CIDA. Through a methodology of language codification of CIDA standards and NCIDQ content areas, the findings disclose coinciding language which allows for the cross referencing of these two sets of data to create a matrix which reveals “hot spot” junctures in interior design curriculum. These junctures may reveal a necessity for revised approaches to certain courses, and our presentation examines these junctures to clarify both potential issues and solutions.
The second findings address the potential strengths and weaknesses that these changes to the NCIDQ pose to a program. Through a consensus building SWOT analysis exercise conducted at a workshop for design educators addressing this issue, we collected data that represents a variety of concerns and also allows for the definition of certain central points related to larger issues such as student outreach, funding, pass rates as a new assessment metric for programs and faculty preparation and training. In this presentation we will present those findings highlighting the greatest concerns and perceived benefits of this new examination situation.

We conclude that the new landscape of the NCIDQ is not benign of risk for programs, but it also provides many opportunities to build strength within interior design programs. It is clear that this layers new pressures on educators to engage the examination and adjust curriculum and course material to address issues of examination. But the changes can also fuel a more direct relationship with the professional design community and provide educators with new avenues to improve and keep courses current.

REFERENCES (Chicago)


Figure 1. CIDA / NCIDQ correlation matrix.
Figure 2. SWOT analysis summary chart.
Stories Construct Designs:  
A Cross-Disciplinary, Person-Centered Approach to Aging in Place

Martha Siegel, Tobi Abramson & Lauren Heisler-Varriale  
New York Institute of Technology

ABSTRACT

The impact of the “graying of America” is at the core of this project. It has implications for, and will profoundly influence virtually every aspect of society, most especially the demand for services and programs for this population and the increased need for professionals from all disciplines. Opportunities abound in both the health care and non-health care sectors, particularly for new and innovative products and services. Yet, barriers, such as negative attitudes, myths, stereotypes, misconceptions about older adults, continue to exist in recruiting new professionals to work with this population in any capacity. The recruitment and retention of elderly-capable professionals with appropriate education and training is a significant problem.

Older adults often advocate for ‘Aging in Place,’ living at home can create barriers (Ankerson & Gabb). Many homes are not designed to adequately meet the needs of people as they age in place and often require renovations and redesigns to accommodate physical disabilities. The purpose of this project was to use a person-centered approach in developing an evidence-based interior design solution that would transform the environments of the aging population. Incorporation of a multidisciplinary, intergenerational approach results in a more attentive response to the human condition and well-being of the client. These designs concentrate on an area rarely addressed and needed in preparing students, the emerging workforce, to be prepared to work with the growing aging population.

The project, completed Fall 2012 embraced specific components including a focus on student learning, the integration and collaboration of students from multiple disciplines who do not
typically work together (third year Interior Design undergraduates teamed with graduate students from both Occupational Health, and Mental Health Counseling) and older adults as client educators. The project aimed to inspire students to work collaboratively, as they transform physical environments to be spiritually enriching, and improve the human condition of their clients. Students were given questionnaires pre and post the project. In a public forum, all disciplines were brought together for a series of lectures about aging, storytelling as a vehicle to learn life histories, Universal Design and the environment. The student teams, then went into the field, interviewed their client and took measurements of their home. Interior Design students prepared existing conditions, Mental Health Counseling students analyzed the stories, Occupational Therapy students shared ideas related to mobility, aging and potential physical requirements. The other two disciplines, served as consultants to the interior design students as the ideas and planning evolved for home modification.

Proposed solutions, driven by findings of sharing of histories, home analysis, space planning and research of materials, equipment, and furniture was in the form of drawings; furniture plans, sections, elevations, and perspectives, descriptive boards; material, hardware, smart and other assistive technologies. The solutions were incorporated into digital media presentations using PowerPoint and were presented to all participants, and a jury consisting of specialists from each of the disciplines. Pre and post questioning of students revealed students were cognizant of this population and appreciative of opportunity to meet the needs of this demographic shift.

REFERENCES (APA)

METHODS

Participants

8 Student Teams

- 6 teams with 1 MHCO student, 1 ID student, and 3 OT students
- 2 teams with 1 MHCO student, 1 ID student, and 4 OT students

Academic Information

<table>
<thead>
<tr>
<th>Department</th>
<th>Student Level</th>
<th>Course</th>
<th>Course Focus</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHCO</td>
<td>Graduate</td>
<td>MHCO8XX</td>
<td>Internship Placement</td>
<td>8</td>
</tr>
<tr>
<td>Interior Design</td>
<td>Undergraduate/Junior</td>
<td>DSGN3XX</td>
<td>Special Populations</td>
<td>8</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>Graduate</td>
<td>OCTH7XX</td>
<td>Assistive Technology, Environmental Modifications</td>
<td>26</td>
</tr>
</tbody>
</table>

Stats

<table>
<thead>
<tr>
<th>Students</th>
<th>Faculty (1/Discipline)</th>
<th>Older Adults (7 Individuals 2 couples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>Age (in years)</td>
</tr>
<tr>
<td>x</td>
<td>20-42</td>
<td>Range</td>
</tr>
<tr>
<td>Median</td>
<td>25.88</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>24.5</td>
<td>Median</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td>Ethnicity</td>
</tr>
<tr>
<td>Caucasian</td>
<td>57%</td>
<td>Caucasian</td>
</tr>
<tr>
<td>African American</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Asian/Island Pacific</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td>Marital Status</td>
</tr>
<tr>
<td>Married</td>
<td>9.5%</td>
<td>Married</td>
</tr>
<tr>
<td>Single</td>
<td>78.5%</td>
<td>Widowed</td>
</tr>
<tr>
<td>Partner</td>
<td>7.2%</td>
<td>Partner</td>
</tr>
<tr>
<td>Other</td>
<td>4.8%</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>Education</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>College Degree</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>High School Degree</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>2 Years HS</td>
<td>16%</td>
<td>16%</td>
</tr>
</tbody>
</table>

PROCEDURES

<table>
<thead>
<tr>
<th>Students</th>
<th>Older Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kogan’s Attitudes Toward Old People Scale</td>
<td>The Geriatric Depression Scale</td>
</tr>
<tr>
<td>Palmore’s Facts on Aging Scale</td>
<td>The Morale Scale</td>
</tr>
<tr>
<td>Orientation Lecture: Aging, Ageism, Utilization of Personal Narratives, ADA, &amp; Home Modifications for Older Adults</td>
<td>Interviewed by Multidisciplinary Team Members</td>
</tr>
<tr>
<td>Teams Formed</td>
<td></td>
</tr>
<tr>
<td>Teams Participate in Community Mobility Project</td>
<td></td>
</tr>
<tr>
<td>Teams go to Older Adults Homes – Narrative Stories, Measurements, Pictures</td>
<td></td>
</tr>
<tr>
<td>Preliminary Forum with Each Multidisciplinary Team Presenting Pin-ups</td>
<td></td>
</tr>
<tr>
<td>Presentation Forum: Interior Design Solutions</td>
<td></td>
</tr>
</tbody>
</table>
ANALYSIS

Student Experience with Older Adults

<table>
<thead>
<tr>
<th>Experience</th>
<th>% Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have worked with older adults</td>
<td>67%</td>
</tr>
<tr>
<td>I have regular contact with older family members</td>
<td>62%</td>
</tr>
<tr>
<td>I have some contact with older family members</td>
<td>36%</td>
</tr>
<tr>
<td>I have no contact with older family members</td>
<td>12%</td>
</tr>
</tbody>
</table>

Students’ Top 3 Misconceptions about Aging

<table>
<thead>
<tr>
<th>Kogan Item</th>
<th>% Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most old people get set in their ways and are unable to change</td>
<td>71%</td>
</tr>
<tr>
<td>Most old people tend to keep to themselves and give advice only when asked</td>
<td>64%</td>
</tr>
<tr>
<td>Most old people need no more love and reassurance than anyone else</td>
<td>55%</td>
</tr>
</tbody>
</table>

STUDENT TO STUDENT OUTCOMES ASSESSMENT

<table>
<thead>
<tr>
<th>Questions</th>
<th>ID Student</th>
<th>OT Student</th>
<th>MHC Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did all group members contribute to this project equally?</td>
<td>Yes</td>
<td>Yes, we all used our knowledge in our fields for input in the project.</td>
<td>Yes</td>
</tr>
<tr>
<td>2. What did you learn about the other disciplines?</td>
<td>MHC – How to incorporate the client into the design.</td>
<td>MHC – Different ways of narrative to learn about the client ID – does not just mean decorating, learned what they really do and all the drawings to make the design.</td>
<td>OT - function is important when it comes to safety of client ID - function can be contemporary or modern- Doesn’t have to look like the client is living in a hospital</td>
</tr>
<tr>
<td></td>
<td>OT – How it is important to consider health hazards present and future and to provide for them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Would you consider working with this discipline again?</td>
<td>Yes</td>
<td>MHC – Yes, kept the person as a whole, not just medical aspect ID – Yes, have lot of knowledge about space &amp; materials that go beyond what I would consider.</td>
<td>OT- Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ID - Yes</td>
</tr>
<tr>
<td>4. Do you believe this project was important for your professional development? How so?</td>
<td>Yes! It creates awareness of client’s needs in a health aspect as well as design aspect and addresses the growing need for designs in the health and medical field, both residential and commercial.</td>
<td>It was interesting to see modification ideas drawn out in whole plan. As an OT we would just use products but with an ID we can change more.</td>
<td>Yes, I was able to learn how other professions can work collaboratively to help an individual transition through life.</td>
</tr>
<tr>
<td>5. What did you learn from this project?</td>
<td>How to design with many different needs and incorporate them into a cohesive whole. How to work with different professions.</td>
<td>That you have to incorporate what the person likes to do, daily activities and items they like.</td>
<td>Communication was a huge part of organizing this project.</td>
</tr>
</tbody>
</table>
Examples of Student Analysis

Objects of sentimental value

Egress

Hobbies and Interests

Circulation

Safety Issues

Short and Long Term Solutions
Examples of Student Solutions

**Master Bathroom**

- Open area within the bathroom
- Grab bars
- Heated Floor
- Pocket door, widened doorway
- Toilet seat at comfort height with automatic flushing
- Walk-in bath tub

**Vanity**

- Knee space under the sink
- Eye level mirror level
- Mirror with concealed light at each side
- Lever handle on facet
- A telephone

Exterior: raised front stoop and ramped up to it.

Interior: created special handrail that allows for resting.

**Items of Sentimental Value**

**Hobbies**
**Analysis:**

1) Does the personal narrative as told by the mental health counseling student give you a good understanding of who the person is, what is important, valued, and meaningful in the older person's life?  
   - Yes  
   - No  
   - Needs more details

2) What did you find the most important pieces of information from the narrative?
   - [Handwritten notes: Budget points in beginning - good old background info. Main concern: not work]

**Proposed Modifications**

3) Are the modifications reflective of the person(s) as communicated and referenced to the personal narrative? Please rate as follows:

<table>
<thead>
<tr>
<th></th>
<th>Very Reflective</th>
<th>Somewhat Reflective</th>
<th>Minimally Reflective</th>
<th>Not Reflective at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) for ID student</td>
<td>✅</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) for OT students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Solutions Support Independence and Ability to Age in Place:**

<table>
<thead>
<tr>
<th></th>
<th>E</th>
<th>G</th>
<th>F</th>
<th>P</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4) Site modifications, including arrival on site, support the client’s independence</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Interior design and architectural proposals respond to aging in place</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) ADA &amp; Universal Design concepts clearly evidenced in solutions</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7) Creativity as evidenced in solutions</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Presentation and Collaboration:**

8) Rate your impressions of the cohesiveness of the student teams

<table>
<thead>
<tr>
<th></th>
<th>Very Cohesive</th>
<th>Somewhat Cohesive</th>
<th>Minimally Cohesive</th>
<th>Not Cohesive at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>9) Comment on the presentation</td>
<td>Strengths: Good analysis and stating how solutions may really help</td>
<td>Weakness: Try not to read</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10) Comment on the project</td>
<td>Strengths: Good graphics</td>
<td>Weakness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11) How well do the student presentations reflect knowledge of and sensitivity to the aging process?</td>
<td>Very Reflective</td>
<td>Somewhat Reflective</td>
<td>Minimally Reflective</td>
<td>Not Reflective at all</td>
</tr>
</tbody>
</table>

12-07-2012
Predicting Success of Interior Design Alumni as an Assessment of the Curriculum: Post Graduation Years 1-10

Lori Stone, Alison Reich, Nora Ladjahasan, Lee Cagley & Abigail Lundquist
Iowa State University

ABSTRACT
The main question being explored in this research study is “does what we teach in the Interior Design Department make students successful in industry.” The measure of success in this study used two different variables, which include annual salary and job satisfaction.

The study is broken down into four sub research questions.

1. What aspects of what we teach and offer students help them in making them successful in industry? Here the independent variables include categories of classes such as studios, history courses, technical courses (AutoCAD, building systems, lighting, materials), individual classes, outside classroom experiences (field trips and student organizations), and skills such as manual drawing and rendering, computer drafting and visualization, teamwork, research, design thinking, and interpersonal skills.

2. What is the relationship between how satisfied students were with their interior design education and their success and satisfaction in the industry?

3. What is the relationship between the student’s cumulative university grade point average and job satisfaction? More specifically, does their university GPA predict job satisfaction and does their GPA predict their annual salary.

4. What is the relationship between a student’s high school GPA and their success in the industry? Here we ask, does a person’s high school achievement predict future job satisfaction, and does a person’s high school achievement predict future job salary?
Framework for exploration

There is increased pressure on educational institutions to assess their program effectiveness (Richter & Ruebling, 2003). The impact of higher education on our society includes many stakeholders such as policy makers, parents, faculty, employers, industry representatives, accrediting bodies, and the general public (Borden, 2005). These stakeholders have an important interest in the outcomes produced by higher education and the success of graduates, and they are demanding a greater degree of accountability. One group of stakeholders, the alumni, are able to provide feedback on their perceptions and satisfaction with a department’s activities, which can be used to gauge the effectiveness of the department (Twum-Ampomah & Danso, 2012).

Conclusions / Results

An online survey was sent to alumni of an Interior Design Department within a large Midwestern University, where 95 respondents completed the survey. The first phase of the research study, and the focus of this presentation, targeted alumni who had graduated between 1-10 years ago or from graduation years of 2001 to 2012.

Results indicated that there was a statistically significant relationship between the satisfaction of the student’s studio courses and their current job satisfaction. In addition, the satisfaction of skills learned in school (design process) and the alumni’s current annual salary was also shown to have a significant relationship. The results did not show any significant relationship between a student’s high school GPA or university GPA and their future job satisfaction or annual salary. Data was collected on whether the respondent was NCIDQ certified and the results showed a positive significant relationship between NCIDQ and annual salary. Not surprisingly, age and annual salary was also a significant relationship.

REFERENCES (APA)


The Substance of Light: Revealed through Scientific Methods

Judy Theodorson
Washington State University

ABSTRACT

Problem
Light is rendered visible through the process of being intercepted, filtered, diffused, reflected, refracted, and scattered by materials. The inherent physical qualities of the substance of light -- color spectrum, intensity, and directionality -- establish the color, texture, and shape of the material. Furthermore, the light source combined with material properties determine spatial distribution of light. This interaction of light, material and space represents fundamental knowledge for designers. However, the intangible nature of the substance of light is an obstacle in obtaining such knowledge. To address this pedagogical challenge, this paper proposes leveraging scientific methods of observation, data collection, and experimentation to develop an empirical understanding of light’s physical attributes. The goal is for the learner to develop a visual sensitivity to the physical qualities of light and the ability to predict how these qualities will behave contextually with material, color, and space.

Pedagogical Context
Lighting curricula is primarily delivered through teacher-centered methods in lecture-based courses. Such courses serve as a general orientation to the subject area, but do not routinely facilitate acquisition of personal knowledge constructs. Educators have noted that students need additional methods to better appreciate the interaction of light and color (Poldma, 2009), the visual impacts of light and space (Brown 2004), and the aesthetic qualities of light (Theodorson, 2004). Renowned lighting designer and educator Howard Branston emphasizes ‘learning to see” as a means of codifying visual experiences (2008). Given this context, this paper argues that students will benefit from investigative methods that produce tangible evidence of light’s physical qualities.
Methods
The first step in scientific methodology is observation; for light, the basic tools are an inexpensive illuminance meter and a camera. The meter provides quantitative evaluation of light intensity which can be “mapped” to visually convey distribution. Figure 1 shows comparative mapping of two situations: daylight only and daylight + electric light. These basic observations are analyzed to initiate additional questions for instance, how does an overcast condition vary from a clear sky condition? Summer versus winter?

The second step is hypothesis development and testing. In figure 2, the student hypothesizes that the color of natural light varies throughout the day. Photographic evidence supports this; the outcome is further clarified through digital isolation of the material color.

Controlled experimentation represents higher level hypothesis testing through systematic investigation and manipulation of variables. In figure 3, the student tests light and color mixing through combinations of filters, field color, and differing daylight sources. Again, photography provides visual evidence of the outcome, in this case, the spectral variability of north and south light is influential in color rendering.

Relevance to Interior Design Education
Students respond positively to systematic methods that reveal light as tangible, visible data. This pedagogical approach is easily integrated into studios and labs; multiple exposure develops the students’ ability to ‘see’ and predict qualities associated with light sources and material interaction. In gaining this knowledge, they will be better equipped to make informed light, color, and material selections in their design work.

REFERENCES (APA)


figure 1: simple observation and recording of illuminance under a skylight (9:00 am, noon, 3:00 pm; overcast conditions daylight only and daylight + electric light)
figure 2: recording the shifting color of natural light over the course of a day, south exposure
figure 3: controlled experimentation of color mixing with filter, fields, and variant sky conditions
The Market Third Place: Using Research as an Initiator, Template and Springboard for Design Education

Dana Vaux & Judy Theodorson
Washington State University

ABSTRACT

Problem
This paper presents a research framework as an initiator, template and springboard for design studio instruction. Research methods generally rely upon quantitative data and sequential methods, yet designers frequently operate in qualitative venues. This problem is further complicated in the studio where problems are often fabricated to match student learning objectives and therefore removed from real-world contexts. The proposed research framework, grounded in third place theory, provides student designers with a means to sort, focus, and structure qualitative data in the design process.

Context
Twenty-first century design problems call for research grounded in theoretical thinking. Primary research, even at a simple, introductory level appropriate for the undergraduate, stimulates design thinking by allowing students to grapple with raw information. Through sorting and prioritizing, they are engaged in the itinerant process between hypothesis and solution. Cross (1984) refers to this process in his design thinking protocol studies and Ziesel (2006) refers to it in his spiral research model. By merging research and design into studio instruction, we are enriching the potential for student design outcomes while sharpening their design thinking skills.

Methods
The student design problem is to leverage third place theory to serve the social needs of a new public market. As an initiator, students completed assigned readings from literature on third
places and attended a lecture introducing them to a research framework derived from place theory literature. They then conducted similar exploratory studies on local third places.

Subsequently, students interacted with the public market manager, who communicated his desire to see the market community become a third place for vendors as well as locals. Students then conducted a systematic field study, focusing on three areas of analysis: people, place and community. They used the research framework as a template to sort their findings, creating their own problem definition and deliverables. Finally, the research framework served as a springboard to help students establish a preliminary focus for design solutions. Students synthesized their field study by identifying the goals and culture of the public market, considering the context of the site and the community. Instead of imposing a third place concept, student design outcomes reflected the emergent market community based on their own primary research in conjunction with the research framework.

Outcomes
Design contextualized by research can augment the studio environment in various ways. First, providing opportunities for students to engage in research and collect "data" from real world situations both focuses and simplifies their design problem-solving process. Rather than give students a prescriptive studio project, they define the problem and deliverables. This relates more closely to actual design practice. Second, "feeding" students a set of controlled parameters--site, client, program and deliverables--we, as studio instructors, may be short-circuiting students' development as design thinkers. Conversely, using research as an initiator, template and springboard for studio problems engages them in the design thinking process and introduces them to the real world in which they will practice.

REFERENCES (APA)


Appendix 1: Third Place Research Framework

Six design criteria emerged from an analysis of seminal design literature on the use of public spaces in a previous study conducted for evaluating social gathering spaces: location, entrance, path, seating, food, and lighting. These six criteria were used as the primary guidelines for students’ initial research and design problem solving (Figure 1):

<table>
<thead>
<tr>
<th>Design Criteria</th>
<th>Research/Strategy</th>
<th>Design Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>(Alexander, et al, 1977; Oldenburg, 1999.)</td>
<td>The location of an interior plaza is of primary importance. It must be central to activities and accessible to all.</td>
</tr>
<tr>
<td><strong>Path</strong></td>
<td>(Alexander, et al, 1977)</td>
<td>&quot;Sightlines are important. If people do not see a space, they will not use it.&quot; (Whyte, 1977, p 58-59.)</td>
</tr>
<tr>
<td><strong>Entrance</strong></td>
<td>&quot;A plaza must be perceived as a distinct place, and yet it must be visible and functionally accessible to passers-by.&quot; (Cooper-Marcus &amp; Francis, 1998, p 34; Whyte, 1977.)</td>
<td>The entrance of a space is a key to success or failure. Ideally, the transition from the path to the space should be indistinguishable.</td>
</tr>
<tr>
<td><strong>Seating</strong></td>
<td>Successful public spaces have seating that is comfortable, moveable and varied in type. Large open spaces without clear, but subtle subdivisions are intimidating to most people.</td>
<td>Provide varied seating options. Subdivide the space to encourage definition of space and use. Cooper–Marcus and Francis (1998)</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td>&quot;If you want to seed a place with activity, put out food.&quot; (Whyte, 1977, p 50.) Cooper–Marcus and Francis (1998)</td>
<td>Provide food to increase the liveliness of a gathering space.</td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>Just as use increases in outdoor plazas south facing with sun (Whyte, 1977; Cooper–Marcus &amp; Francis, 1998.) people gravitate to rooms with natural light (Alexander, et. al 1977.)</td>
<td>Vary light sources.</td>
</tr>
</tbody>
</table>
Appendix 2: PreDesign Research Outline

PROJECT 2 – A Third Place for the Community Surrounding the Public Market

“The character of a third place is determined most of all by its regular clientele and is marked by a playful mood, which contrasts with people’s more serious involvement in other spheres. Though a radically different kind of setting for a home, the third place is remarkably similar to a good home in the psychological comfort and support that it extends...They are the heart of a community’s social vitality, the grassroots of democracy, but sadly, they constitute a diminishing aspect of the American social landscape.” Oldenburg

PreDesign
1. Field Study of Public Market (team project): team led discussions Monday, Oct.3
2. Case Study of a local Third Place (team project): presentations Monday Oct. 10
3. Design Program (individual): due Thursday, Oct. 13

Field Study: Public Market and Surrounds

People:
Meet three vendors or shoppers and find out their stories
Observe shoppers...what are they buying? what is the nature of the interaction with the vendors? are they engaged in other activities beyond shopping?
Observe others in the neighborhood community...what types of activities abound?

Place:
Make diagrams and notes at the following scales
Market Scale
- spatial organization
- circulation
- programmatic elements
- environmental influences: sun, wind, light, noise...
- sensory: opportunities for tastes, smells, touch....

Neighborhood Scale
- "types" of occupation: retail, entertainment, commercial, residential, service,public,
- vacant nearby businesses that help build and create community: the “So-Do” business district
- traffic patterns
- pedestrian activities and densities
- notes on socio-economic issues and neighborhood culture

City Scale
- show how the Public Market “fits” into the overall downtown fabric
- note other venues for purchasing food / groceries in downtown core
- note other “Third Places” in downtown core (coffee shops, neighborhood pubs, skateboard parks, gathering places for teens / homeless / etc)
- Draw the “5 and 10 minute walk” circles....

Reading:

Group Discussion (prepare for Monday, Oct. 3)
The first group listed is the lead group for discussion. They should start with an observation - “vignette” or story - that helps illustrate their question. For example, an observation of a conversation between vendor / shopper, an interview, etc. The second group listed should also consider the question and will be the responders to the presenters in the group discussion.

Team 1 [2]: Discuss how a market can successfully be a “Third Place” (refer to reading)
Team 2 [3]: Identify goals of the Public Market community.
Team 3 [4]: Identify the culture of the Public Market community (concentrate on market).
Team 4 [5]: Identify the culture of the So-Do Business community and other neighborhood influences.
Team 5 [6]: How does the place (physical environs) support the goals and culture of the community?
Team 6 [1]: Identify gaps or needs that could help support and build the Spokane Market community.

Creative Interpretation of Place
Use a creative narrative (essay, poem, play, song, video, photographic montage with words, ???) to describe the "place" of the market. DUE WEDNESDAY OCT. 5
Mission Statement
To provide a third space where seasonal food is the catalyst for learning and informal association.

Goals
To provide a deeper sense of community and connection through shared experience of seasonal food culture.

To provide a seasonal food experience that complements the market and its aim.

Provide a place of enjoyment and gathering for the Spokake Public Market.
Soups and salads with purely seasonal, local ingredients shared daily with the Spokane Public Market community.
Influencing Construction Systems Pedagogy by Determining Patterns in Learning Styles

Steven B. Webber
Florida State University

ABSTRACT

The construction systems courses of interior design departments are often approached by students with a “have to”, but not a “want to”, attitude. Experience tells this author that most students get excited about work that happens in design studio courses, but not as much by work in the construction systems courses. Learning styles experts say that students tie their learning experience to their performance in the course, and that individual performance is partly influenced by the compatibility of the instructor’s teaching style with the student’s learning style (Kolb, 2005). These points beg the question, “Are interior design educators teaching construction systems in a way that matches up with the students’ learning styles?” Also, what can be applied from the studio course format and organization to enhance student learning outcomes in a construction systems class? This proposal describes a case-style research study that explored these questions for third-year interior design undergraduates and first-year graduates.

The first task of this study investigated interior design students’ diversity of learning styles. Design educators know that first-year design students have very diverse learning styles (Demirkan and Demirbas, 2008; Watson and Thompson, 2001), however, these studies would benefit from confirmation and expansion. To that end, the first phase of this study involved freshmen and senior undergraduates and graduate interior design students. The author used the VARK (Visual, Auditory, Read/Write, Kinesthetic) learning styles assessment test by Neil Fleming to confirm these students were largely multimodal (68.8%) with some strictly kinesthetic (18.8%) and only a few strictly visual (6.3%) or auditory (6.3%).
The second task of this study was to evaluate the construction systems course in terms of learning style. The author spent one semester teaching the course as established by precedent, then evaluated the teaching style of the course. The original course relied heavily upon in-class lecture (auditory-visual) to convey course content and on assessment through written tests (read/write-visual) that comprised 90% of the course grade. In the original course, in-class time was distributed thus: 74% auditory-visual, 15% kinesthetic-visual, and 11% read/write-visual. The revised, second offering of the course was redesigned to function more like a studio, with reduced emphasis on lecture and heavier emphasis on demonstrations, exercises, and drawing. The redesigned course utilized in-class time in this manner: 37% auditory-visual, 44% kinesthetic-visual, and 19% read/write-visual. The course grade was also diversified: 45% testing (read/write-visual), 45% assignments (kinesthetic-visual), 10% in-class quizzing (read/write-visual) and exercises (kinesthetic-visual).

The findings of this study rely on student grades and student work samples. Due to the original course relying heavily on test scores to measure grades, this study used an average grade comparison of tests from the original course and quizzes from the revised course to quantify the impact of aligning teaching styles with learning styles. The use of varying learning styles and the change in the construction systems course to a studio model format is demonstrated in student work samples.

REFERENCES (APA)


APPENDIX A: STUDENT DEMOGRAPHIC SURVEY

1. What is your gender?
   Female    Male

2. What is your age?
   17-19    20-25    26-30    31-40    41 and above

3. What country did you live in prior to beginning your undergraduate studies?
   

4. Are you enrolled in a CIDA-accredited undergraduate interior design program?
   Yes    No

5. What is your current undergraduate status?
   1st year    4th year

6. Do you plan on pursuing a Master’s degree?
   Yes    No    Maybe

7. If yes, what type of Master’s degree?
   Interior Design    Architecture    Other:____________________

8. What do you plan to do following your graduation?
   Working at an architecture and/or interior design firm.
   Working for a furniture/finish manufacturer or dealer.
   Pursuing another degree in preparation to practice interior design.
   Pursuing another degree in preparation to teach interior design.
   Pursuing a different profession entirely.
   Other:____________________

9. If you plan to pursue a career in interior design what would you prefer to focus on?
   Contract/Commercial Design    Residential Design    Both

10. Do you plan to complete the NCIDQ exam?
    Yes    No

11. If your state offers licensure, do you plan to become a licensed interior designer?
    Yes    No    Unsure if my state offers licensure
using graphs showing what you had achieved.
from somebody who talks it through with you.
using a written description of your results.

You want to learn a new program, skill or game on a computer. You would:
read the written instructions that came with the program.
talk with people who know about the program.
use the controls or keyboard.
follow the diagrams in the book that came with it.

You are helping someone who wants to go to your airport, the center of town or railway station. You would:
go with her.
write down the directions.
draw, or show her a map, or give her a map.
tell her the directions.

You are not sure whether a word should be spelled „dependent” or „dependant”. You would:
see the words in your mind and choose by the way they look.
write both words down and choose one.
find it online or in a dictionary.
think about how each word sounds and choose one.

I like websites that have:
interesting written descriptions, lists and explanations.
audio channels where I can hear music, radio programs or interviews.
things I can click on, shift or try.
interesting design and visual features.

You have to make an important speech at a conference or special occasion. You would:
gather many examples and stories to make the talk real and practical.
write out your speech and learn from reading it over several times.
write a few key words and practice saying your speech over and over.
make diagrams or get graphs to help explain things.

Do you prefer a teacher or a presenter who uses:
demonstrations, models or practical sessions.
question and answer, talk, group discussion, or guest speakers.
handouts, books, or readings.
diagrams, charts or graphs.

Remember a time when you learned how to do something new. Avoid choosing a physical skill, eg. riding a bike. You learned best by:
watching a demonstration.
written instructions – e.g. a manual or book.
listening to somebody explaining it and asking questions.
diagrams, maps, and charts - visual clues.
APPENDIX C: COURSE CHANGE SAMPLE (SKETCH BOOK ASSIGNMENT BRIEF)

One of many assignment additions to the revised course increasing the studio type of organization. Text and sketch samples reduced in size for purposes of the appendix.

Assignment 1: Sketch Book

Objective
When we think of sketching it is typically assumed that we are talking about the early phases of a design -- programming and schematics. Sketching is, however, a valuable tool throughout the design process including design development, construction documentation, and construction/contract administration. This semester-long sketch book assignment will help you to think through issues of technical detailing while sketching. The attached examples are good places to start, but you can do better.

Requirements:
Sketch three construction details each week. A minimum of one sketch must be 3D. Sketches must have the following characteristics:
1. Draw to an architectural scale (likely 1 ½", 3", 6", or full scale)
2. Approximately 6"x6" or larger in size on the page
3. Include dimensions
4. Include annotations with leaders
5. Include a variety of line weights and line types based upon accepted drawing conventions
6. Include poche and hatch as appropriate to indicate materials in plan, section, elevation, or isometric.
7. Include a title, scale, and number (start with “01” and continue in sequence throughout the semester) in a format typical to construction details.
8. In your notations, you must correctly use a minimum of 5 terms each week from our vocabulary list (see lectures and course pack). Use new terms as often as possible. Underline these terms in your sketch. Read ahead in the course packet as necessary to become familiar with construction terminology.

Subject matter can be found by looking through design magazines, by observing the environment around you, and by pulling ideas from lectures and discussions in class.

Grading
Thoroughness/Size of sketch: 30%
Thoroughness of annotations and dimensions: 30%
Line and poche/hatch quality and hierarchy: 30%
Title Information: 10%

Due Dates:
Sketchbooks will be due every two weeks (6 sketches total) and will be checked during normal class time by the TA.

SB1: Wednesday, Sep. 4
SB2: Wednesday, Sep. 18
SB3: Wednesday, Oct. 2
SB4: Wednesday, Oct. 16
SB5: Wednesday, Oct. 30
SB6: Wednesday, Nov. 13
SB7: Monday, Dec. 2
APPENDIX D: STUDENT WORK SAMPLE (SKETCH BOOK ASSIGNMENT):
This shows one of many student work samples increasing the use of multi-modal learning styles.
75 Million Daily Hits: How are design firms leveraging online video marketing?

Amy Huber
Florida State University

ABSTRACT

Consumers are spending less time watching traditional television broadcasting and more time streaming short, targeted videos. In 2013, comSCORE Inc. (a private media analysis company) estimated 75 million viewers streamed an average of 40 billion videos per month; totaling 188 billion videos streamed during the year 2012 (comSCORE, 2013). This all-time high in online viewership is likely to be surpassed again in 2013. Dedicated video sharing websites and social media outlets have made it increasingly easier for the average viewer to view, share, and even create their own videos. These videos can be retrieved on demand and allow for viewer controllability regarding what they watch and when. However, this media lacks a captive audience and viewers can have short attention spans regarding the content. Complexities aside, the newfound ubiquity in online video creation has prompted some design firms to leverage online media in sharing generated research, firm related-news and promotions, and even design manifestos.

In academia, video has long been used as a research tool to document and analyze human behavior such as the seminal Stanford Prison Experiment (Haney, Bank, & Zimbardo, 1973). With the advent of new consumer-friendly software, video production in academia is also changing. In addition to research documentation, video can be a vehicle to disseminate empirical findings (Milota, 2012) and relay pedagogical information (Roehl, n.d.). Video can be a rich source of information; garnering attention and providing visual context. However, to date no empirical research documenting consumer media has been conducted regarding video’s use in marketing a design firm and the firm’s work. This presentation will share findings
ascertained from a content analysis conducted Summer/Fall 2013 relative to large-scale interior design firm marketing using online video postings.

Methods
The 2013 Top 100 Giant firms index from Interior Design magazine was used and systematically sampled (Vogt, 2007) by selecting every 3rd firm on the list resulting in N=33 firms. Selected firms were searched using the firm’s name as a keyword on both YouTube and Vimeo to ascertain quantity of videos. Videos were viewed for subject matter, extraneous and mis-categorized videos were eliminated. Videos were independently coded by two trained coders and were characterized by topic, perceived authorship (upper management level or grass roots), and overall length. Next, the researcher visited each of the 33 firm’s proprietary websites to ascertain presence of hosted videos on their sites. Emerging topic themes including: project and discipline specific, firm and office culture, design vision and manifestos, community service, and general importance of design were recorded, tabulated, and will be highlighted in the presentation via cluster diagram.

With digital media’s continuing rise in popularity, understanding how design firms are approaching these outlets is becoming increasingly important for three groups:

- Design firms—in understanding how their competition is leveraging online media marketing
- Design educators—to help prepare their students for emerging trends in communication and use of video in their own classrooms
- Design students—in understanding what emerging content areas have become communication priorities for design firms and learning about new communication venues for seeking employment

REFERENCES (APA)


Design-led Research: 
Work from the Design Futures Lab

Nicole Koltick
Drexel University

ABSTRACT

Introduction
The Design Futures Lab is a newly formed trans-disciplinary Interior Architecture research lab that challenges students to define, refine and prototype at full scale a plausible near future design scenario. The lab had 6 Master’s Interior Architecture & Design students pursuing a full year residency in 2012-13. The synthesis of theory, procedures and technology from a variety of disciplines into compelling future design scenarios is a core mission of the lab. A primary focus of the lab’s pedagogy is to develop the designer’s confidence in navigating and interpreting highly complex and disparate types of information, that enable them to lead design research projects with conviction, determination and vision.

Design Methodology
Design-led or designer-led research places the designer as the lead investigator. The development of speculative design narratives into working prototypes relies on the collaboration of a diverse set of participants including scientists, engineers, programmers and fabricators. The designers need to develop a broad understanding of key concepts, methodologies, procedures and current and emerging developments across a variety of applicable fields. The operations of modeling and synthesis have been identified with design culture as distinct from the disciplinary approaches of art or science (Cross, 2006). The lab requires students to research and synthesize information from three distinct domains: Design Case Studies, Scientific Research and Philosophy and Theory. Students tease out tangents and threads of information that can be reorganized and re-formulated into new narrative contexts. While this type of interdisciplinary collaboration is becoming increasingly common, as some researchers point out, there is a tendency for designers to adopt the methodology of their
scientific collaborators and less the other way around (Koskinen, et.al, 2011). The structuring and supervision of this process in an educational setting requires a careful calibration of multiple collaborative dynamics.

A common set of readings and skills workshops were provided in coding, electronics, generative design and advanced fabrication techniques. Students utilize a variety of approaches including: the exploration of novel form through generative design processes and digital fabrication techniques such as 3D printing, laser cutting and CNC milling; enhanced interaction scenarios which deploy embedded sensors and micro-controllers; and the pursuit of tactile material, technological and procedural innovations.

Design Outcomes
At the end of the year a collection of full-scale interactive design objects from the lab were displayed in a month long exhibit open to the public. Several hundred visitors including colleagues in bio-medical engineering, electrical engineering, collective behavior and swarm intelligence biology were able to explore and interact with the spatial experiences and objects. The diversity and novelty of projects received interest from a variety of disciplines across the University. In particular the project focused on novel sleep terrains and the synthetic biology domestic surface projects have led to continuing conversations to explore the potential research applications of the work with colleagues working in sleep research and new biological materials. This collaborative design-research lab produces work that speculates not only on our future Interior environments but also produce insights that have relevance across multiple disciplines.

REFERENCES (APA)


Enhancing Environments Through a Scented Experience

In a world where communication is constantly at our fingertips and in your face, ways to reach loved ones are sometimes anything but satisfying. One wonders where the subtlety of communication has gone. Do we still understand the value of the scent of our mother’s hug or coming home to a spicy pot of chili bubbling away on the stove? What impact do these subtle messages have on our relationships? Scent evokes memory stronger than any other sense. Can we harness the power of emotional scent messaging and insert it into our built environments in order to improve communication and our overall daily experience?

The emotional scent messaging machine offers the user the ability have a one to one communication with a loved one. Through a customized scent library, personalized messages can be relayed to the receiver during the day to evoke specific emotions and improve the users’ relationship and overall mindset.
Aural recording and transmission experience through bio-feedback

a place for visiting recorded moments

the pod
a comfortable resting place for short periods of reflection

ENTERING into an environment
is a location where the user of the wearable device visits to listen to what has been recorded

REFLECTIONS on events and time
as the wearer enters the enclosed space, the audio is transmitted via bluetooth streaming from the wearable device to the audio playback system

tracks vary in length depending on experiences. relax in the pod for the duration.

COLLECTIONS of records
recorded tracks are stored in the wearable device

to initiate audio track wave your wearable sleeve over left side of interior wall

Appendix:
Design-led research: work from the Design Futures Lab

project:
Memory Prosthetic
MOMENT 1
Ambient Light

Ambient light fades up and then slowly shifts to warmer shade when a person enters. The more people are in the home at the time of arrival, the warmer the final hue of the light. This gives an ambient cue to the state of affairs at the home.

MOMENT 2
Exfoliating Air Wash

Fans activated by movement introduced an air wash, helping to shed dirt and grime brought in from the outside and provide rush of cleansing oxygen.

MOMENT 3
Network Phase Break

Media connections are broken by the electrical conductivity. Felt elements are introduced to darken the space and to dampen sound. This area has a seat. When pressure is sensed on the seat, the lights slowly dim in the whole space. Across from and above the seat a softly glowing voronoi pattern is visible.

MOMENT 4
Re-Entry/Reconnect

Lights fade back up when the person gets up from the seat. You walk around the corner toward the exit of the threshold. As you leave the threshold, the lights fade out and communication and media sync to one’s local surroundings. You receive updates on house and people within the house as the lights in the threshold fade behind you.
Silicone Mold Install: Prototyping

Step 6:

The final step was to secure the mold and start testing.

Mold for silicone cured in 24 hours

FSRs were embedded following a hex pattern printed below

Testing the Electronics: Prototyping

Step 4:

All of the connections are soldered except for the jumper cables to the Arduino Mega. The organization of the wires proved to be a challenging task. Once the actuators were boxed up I began testing the silicone for the desired elasticity at different thicknesses.

Each actuator has 2 relays that control the on + off. Each FSR has its own voltage divider for control.
Appendix:

Design-led research: work from the Design Futures Lab

project:

synthetic biology

the future of adaptive living environments

FLOORING SURFACE

A bacterial flooring surface consisting of individual mounds of micro lenses that radiate color and swarm to colonize the surface in the presence of dust, pet dander, dirt and outside pollutants.

the collective behavior of bacteria

Mass swarming bacteria rapidly colonizing a surface.

Light-sensitive species O. wendtii changes color markedly from day to night. This bacteria is embedded with a synthetic, bionimetic micro lens array with integrated pores.
Products OnDemand: What Can Rapid Prototyping offer Creative Thinking?

Marlo Ransdell
Florida State University

ABSTRACT

Introduction:
Prototyping is an essential phase of product development to assess function, form, and material applications (Pham & Gault, 1997). For many years, prototyping has been a skill that has been painstakingly created by hand with added cost and time to production cycles. In recent years, the use of CNC machined (computer numerical control such as; additive, subtractive, laser, and router) prototypes has shown that multiple iterations and optimized material use can be explored before the final costly phase of fabrication. This process involves converting computer generated designs into physical objects through CNC fabrication systems, also known as rapid prototyping technologies (Bull, Maddox, Marks, McAnear, Schmidt, & Schrum, 2010).

Rapid prototyping is also widely used in education to help students visualize ideas, products, or concepts. Prototyping three-dimensional models in interior design education are primary ways to enhance visualization, but students are many times limited in their traditional model building skills. This has at times resulted in students either sacrificing design vision to match their model building skill level, or spending a majority of time fabricating the design prototype rather than developing the design. Rapid prototyping technologies produce immediate fabrication that can take place anytime in the design process. This results in quicker three-dimensional visualizations that inform the final design solution. Design production is quickly changing with these new technologies as architects and designers can now generate multiple three-dimensional designs for review (Sass, 2006; Bull, et.all., 2010).
Framework:
This study explores where in the design process; concept development, schematic design, design development, rapid prototyping is used. Further, the study is concerned with understanding how creativity was impacted by rapid prototyping within the design process. Using the framework from the Torrance Tests of Creative Thinking (Torrance, 1974) breadth (amount), depth (detail), originality (novelty), and elaboration (appropriateness) of prototypes will be explored. Evaluation criteria for each prototype will be in the optimization of form, function, and material application (Pham & Gault, 1997). These criteria will be applied back to the creativity framework to discuss how rapid prototyping can impact creativity within the design process.

Methodology:
Students were engaged for 8-weeks designing and fabricating 2 full-scale furniture pieces constructed from one 4’x8’ sheet of 3/4” maple plywood. Criteria for the project was: create 2 designs in CAD software that could be CNC manufactured and flat pack shipped, have the ability to be constructed with little to no tools and hardware, and minimize material waste. Students were given no limit on the number of scale models to produce and had classroom access to all prototyping equipment (additive, subtractive, and laser) for small-scale prototype production. All prototypes created were evaluated for form, function, and material application and photographed by students. Final full-scale prototypes were developed on a 4’x8’ ShopBot CNC router at the (name with held for review) and evaluated.

Findings:
Initial results indicate that the ability to rapidly produce three-dimensional representations of designs impacts levels of creative thinking. This presentation will discuss ideas on rapid prototyping and how it was shown to enhance creative thinking in student design processes.

REFERENCES (APA)


3D Printing Wood and Glass Curtains and Screens

Virginia San Fratello
San Jose State University

ABSTRACT

Description and Objective of Research:
The creation of building components that can be seen as sustainable, inexpensive, stronger, recyclable, customizable and perhaps even reparable to the environment is an urgent, and critical focus of design research. In the U.S. alone, the construction industry produced 143.5 million tons of building-related construction and demolition debris in 2008, and buildings, in their consumption of energy produce more greenhouse gasses than automobiles or industry.

Rapid Prototyping, which is the automatic construction of physical objects using additive manufacturing technology, typically employs materials intended for the immediate analysis of form, scale, and tactility. Rarely do the materials used in this process have any long-term value nor does the process traditionally have the ability to create actual and sustainable working products.

This research intends to alter this state of affairs by researching design methods appropriate for 3D printing building components such as curtains and screens, by using wood flour– a waste product, and recycled glass, for the production of long-lasting performance-based components. The goal is to develop a 3d printed wood material and to design 3D printed wood and glass screens that use these materials. The research is two fold as we are experimenting with material formulas and designing the façade elements.

Summary of Findings:
Through this research 2 recipes for 3d printing with wood were developed. The recipes are for both hard and soft wood and use organic binder and harmless polymers to bind and strengthen the 3D printed wood material. Through compressive strength testing it was discovered that the
3D printed wood material is quite strong, it has a compressive strength of over 900 psi, over 2x as strong as a 2 x 4, which means we can not only design for window and façade elements but also for load bearing wall systems as well – 3D printed wood masonry walls in the future.

Additionally, successful designs for mass customized curtain walls that take advantage of the 3D printed wood and 3D printed glass materials were developed. The designs block the hot summer sun yet permit the low, warm winter sun to enter the building interior while simultaneously allowing for views unlike traditional shades or blinds. 3D printed curtains were designed that would increase winter interior temperatures by an average of 12 degrees and decrease the interior temperature in summer by an average of 9 degrees which translates to savings and reduced energy usage. Because the curtains (façade elements) are made of 100’s of unique pieces it is possible to respond to micro climate and programmatic conditions. The designs have been tested using software applications such as Ecotect to test proof of concept. One of the benefits of this research is that though rapid manufacturing, geometries can be created that would be impossible to create by hand or require expensive machinery to produce or reproduce.

REFERENCES (Chicago)


Ganter, M. 2010. Plaster powder V2. Open3DP. Available at http://open3dp.me.washington.edu/

Prototype

Igor Siddiqui
University of Texas at Austin

ABSTRACT

The interior’s properties are at least as determined by manufactured products – materials, furnishings, and accessories – as they are by the given architecture. Custom products have conventionally existed in opposition to off-the-shelf goods. The custom ones are specifically tailored, while off-the-shelf ones are selected from a limited palate of choices. Since the Industrial Revolution, interior design has developed by integrating the seemingly opposing processes of mass production and custom craft. Digital technologies are transforming the oppositional relationship between serial production and customization, a fact that is addressed in the seminar “Prototype” through both hands-on exploration and theoretical inquiry.

The upper-level seminar has been offered for three consecutive years in the Spring semester. The course is offered as a part of the Master of Interior Design program’s Emerging Technologies topics, and is also cross-listed with the School’s architecture program’s advanced Visual Communication curriculum. It is typically limited to 15 upper-level students and consists of a mix of interior design, architecture, and landscape architecture students. Despite the student body’s academic diversity, the seminar focuses primarily on works at the scale of the interior. “Prototype” meets weekly for three hours. The schedule alternates between biweekly project-based presentations and reading discussions.

A prototype is understood as an artifact that exists as the first in a series, linking full-scale studio-based fabrication to industrial production. Digital design and fabrication technologies have not only transformed how designers prototype at full-scale, but also have a tremendous impact on how the idea of a product line or a manufactured series in conceived. Because through digital means a large series is no more efficient than a small one, and making a series within which each piece is slightly different from another is as doable as producing a line of
identical copies, the technology’s impact on the interior is potentially vast. The products within the contemporary interior as such can be simultaneously custom and mass produced – they are in other words, as we know, mass customized.

Throughout the semester, the students are tasked with designing and fabricating a series of artifacts that are at once related and differentiated. By linking digital means with material and fabrication constraints, students learn how to capitalize upon opportunities and limits posed by the overall process from design to manufacture. While the artifacts themselves are open-ended and abstract in nature, each student is tasked with speculating how the particular design can potentially be made functional and ultimately productized. The overall impact of the course is that the students develop an impressive depth of digital skill, while gaining new experience with materials, fabrication methods, and assemblies. Alongside intensive design and fabrication assignments, the course offers a series of readings that reflect the ongoing design process. The given texts are organized into five theoretical modules: “Standardization and Customization,” “Craft and Cultural Value,” “Prototype!,” “Patterns” and “Material Agency.” As the presentation will demonstrate, the course effectively bridges the following gaps: between digital and physical realms, theory and practice, as well as between design and manufacturing.

REFERENCES (Chicago)


Student work sample #1: 3D-printed, CNC-routed, and lasercut vessels
Student work sample #2: two-sided CNC-routed laminated plywood accessories
Student work sample #3: 3D-printed mesh containers
Student work sample #4: mass-customized luminaire
Student work sample #5: parametric wax casts