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Forging Ahead

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**Scholarship of Design Research - Design Practice & Process
Presentation**

**Empowering the Community Through Participatory Research
and Design of Alternate Classroom Prototype**

Tina Patel, Assistant Professor, Kent State University

Pallavi Swaranjali, Professor, Algonquin College, Ottawa, Canada

Abstract

Introduction: Participatory research comprises a range of methodological approaches and techniques, with the objective of handing power from the researcher to participants and end users (Leavy, 2017). This case study describes methods and outcomes of a participatory research and design process to maximize student learning. The participants in this study were given control over the research agenda, the process and actions. They were able to analyze and reflect on the information generated, in order to obtain the findings and conclusions of the process. The Case Study: This case study focuses on research and design of an alternative classroom in an alternate school in a Midwest town in North America. The school is structured to ensure that each child regardless of their abilities can complete the core curriculum as specified and parents and teachers help students develop their own interests. This approach to learning helps children develop positive attitudes that carries them through their school career. The goal was to research and design a prototype for the alternative classroom for grade III and IV. Method and Process: The researchers delved into an understanding of the alternate school through interviews with the teachers and the community members. A survey of the existing classrooms and school was conducted, and observations were made to understand the space types and use. Student ownership of the space is essential in creating a learning environment to best suit their needs. Hence, one of the goals identified was to have the students involved in creation of their own learning space. The process started by an observatory walk and talk with the students and teachers, led by the researchers at the project site. The goal was to discuss spatial attributes, and strategies to maximize learning, accessibility, mobility and collaboration in the classroom. This

created awareness of the basic design vocabulary among all the users. A demonstration of digital spatial visualization tools was provided to the students by the researchers to make them understand how spatial ideas are realized. A parent volunteer who is a designer by trait also spent a session with the students to make a scaled model of the classroom in foam core. To further empower the students a workshop on design thinking was conducted by a local strategy and marketing firm. After engaging in above activities and thorough literature review on learning environments, the researchers created image boards for each space type identified within the classroom during these sessions. This participation assisted in understanding the preferences of the user group and served as provocative initiators for discussions to determine spatial strategies and character of each space type within the classroom design. Based on this the design guidelines were established which were used to generate three digital prototypes, using which the team arrived at the final version of the layout which was applied to the classroom. The goals associated with each step were to ensure resource accessibility, encouraging mobility, igniting inspiration, and fostering respect in the classroom. Conclusion: The efforts of school children, teachers, researchers and interior design student assistants and the community to turn this process into a reality demonstrate the importance of following through with action and teach that effort and ownership from community can lead to change. Documentation and evaluation of the process, along with the challenges encountered and the guidelines developed can contribute to new pedagogy in the interior design program, as well as a commitment to future participatory projects. The next step involves the researchers conducting a post occupancy evaluation to understand the success of the design guidelines established.

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Scholarship of Design Research - Design Practice & Process
Presentation

**State of the Interior Design Faculty Position: Analysis of Content
from 2018-2019 Position Announcements**

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Abstract

Interior Design education confronts several issues of concern that will ultimately shape the future of the profession. A persistent problem is the 20+ years of on-going shortage of qualified interior design educators to teach at the university level. In 2007 the Interior Design Educators Council (IDEC) reported that annually, of over 100, primarily full-time interior design faculty positions posted, most go unfilled (IDEC, 2007). More than a decade later, programs continue to face challenges finding, recruiting, and ultimately hiring qualified candidates. A 2007 NeoCon panel discussion broached the subject of the deficit in qualified applicants for interior design faculty positions. In response to this panel, experienced interior design educators and practitioners formed the Kimball Office Work Group (KOWG). In 2008 the KOWG issued a comprehensive report, *Sustaining Interior Design Education* (Olivieri et al., 2008) assessing the situation, setting strategic goals, making recommendations along with action plans, leading to the creation of a number of resources through IDEC. Ten years later, the authors revisit the topic by analyzing data culled from the interior design faculty position announcements posted on IDEC's job board. This presentation marks the second phase of a multi-phase study assessing the current deficit and evaluating criteria required by institutions and programs for hiring full-time interior design faculty. Phase 1 of this study documented and analyzed data from full-time positions posted for Fall 2018 start. This second step takes the data from positions posted for Fall 2018 start and compares it to the positions posted for Fall 2019 start. In order to form the analysis, information collected from each year includes: A) number and type of open positions (tenure track, non-

tenure track), B) locations of positions (identified by city, state or province, and IDEC region), C) population size of the locales, D) types of institutions advertising (public, private), E) location of interior design program within the institution, F) minimal requirements for application. In addition to the above listed categories for comparison, this study investigates the following between the ads posted in 2018 vs. 2019: A) number of institutions conducting searches in both 2018 and 2019, B) number of institutions that appear to be posting the same position from 2018 to 2019, C) variances in minimal requirements for application between the 2018 and 2019 postings. Details of data collection categories outlined in this abstract will be presented including a comparison with the KOWG presented at IDC in Winnipeg, stating over 120 interior design faculty positions were open across North America (KOWG, 2009). Phase 3 of this study will survey the programs that posted ads in 2018 and/or 2019 and will assess whether positions were filled, inquire about conditions contributing to failed searches, and whether or not universities will relaunch searches for Fall 2020 start. Survey outcomes will be further compared with KOWG report and recommendations suggested through a panel discussion of educators and practitioners. The intent of this research is to better understand where the discipline of interior design stands at this crossroads regarding cultivating and recruiting talent for the future of interior design education.

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**Scholarship of Design Research - Design Practice & Process
Presentation**

The Built Environment as the Fourth Teacher

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Abstract

Relevance/Intent Design practitioners around the world have been attentive to the impact of human factors on the built environment. Designers commonly work with sensory elements within the built environment, (e.g., textures, color and light, patterns, and acoustics, etc.) to help all people process meaning, although it is particularly essential for people with special needs. Although issues such as ergonomics, age, gender and physical disabilities are commonly used to inform design solutions, there is growing public concern for the effects of sensory stimulation on people. This is due to the dramatic increases in chronic and neurological illnesses such as autism (Paron-Wildes, nd). It is the goal of this paper to develop design guidelines that address the varying characteristics of mainstream classroom environments for people with autism. Context for sensory issues and differences Autism Spectrum Disorder (ASD) diagnoses are increasing with 1 in 59 children being diagnosed within the U.S., up from 1 in 150 in 2000. Autism is a spectrum where each individual displays a different sensory profile and may experience hypersensitivity or hyposensitivity of the senses, especially to sounds, lights, touch, tastes, smells, pain and other stimuli; difficulty understanding the emotions of others; and cognitive delays, which can make designing difficult (Autism Speaks, 2019). Autism's core symptoms include social communication challenges, and restricted and repetitive behaviors.

Framework/Methodology Emphasis on accessibility through ADA guidelines and universal design principles have increased the interventions applied for people with physical disabilities. Much work remains for addressing the impact of environmental elements on populations with sensory sensitivities and low cognitive abilities (Gaines, 2016). To that end, this research project uses Vogel's framework (2008) that established eight design standards for enhancing the design

characteristics of classroom spaces. These criteria include: 1) Safe spaces; 2) Flexible and adaptable spaces; 3) Non-threatening spaces; 4) Non-distracting spaces; 5) Predictable spaces; 6) Controllability; 7) Sensory-motor attuned; and 8) Non-institutional environments. These criteria work well for measuring the micro-level environmental needs of people on the autism spectrum as they relate to interior design. Outcomes When creating thoughtful, creative and inclusive environments that are designed for people with autism, design solutions must address a wide range of challenges experienced by this population. As with most design recommendations, each characteristic should be considered for its appropriateness within the context of a given project and should not be considered a “guaranteed” solution since each person’s needs vary. There is limited information on how to effectively design classroom environments for people with ASD; however, the characteristics and shared examples will inform design decisions by practitioners. The body of knowledge will be advanced by providing information related to the development of new spaces to aid people with autism in developing independence and autonomy in their daily lives (Stokes, 2001). For example, non-institutional environments with clearly communicated boundaries, low environmental loads, respite opportunities, and transparency between spaces will limit distraction and provide controls to ensure safety while creating spaces that feel predictable and safe, and which contribute to well-being.

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Scholarship of Design Research - Design Practice & Process
Presentation

We have a problem: We are Educating the Wrong People

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Abstract

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design (Mace, 1988). As design educators, Universal Design (UD) concepts have been promoted in curriculum since the late 1980s and early 1990s, but consumers, builders and other stakeholders are either unaware of the concept of UD or misinterpret how it may be applied to key elements in interior environments. When this information is joined with growing housing demands for aging in place (Bineette & Vasold, 2018), homes are often falling short in providing basic features of safety, accessibility, and independence for older adults who may wish to remain in their homes (Joint Center for Housing Studies of Harvard University, 2014). As part of an upper Midwest housing study examining consumer knowledge and preferences for aging in place and familiarity with UD concepts, survey participants were asked if they were familiar with Universal Design Housing. For those participants who indicated they were familiar with UD housing, they were asked to define universal design. Of the 668 survey participants only 162 indicated they were familiar with universal design. In an open ended question, survey participants familiar with universal design were asked to define the concept of UD in their own words. When examining participants' definitions of universal design, four unique categories were discovered through content analysis. Some survey participants saw UD as "design for all," while other participants were broader by defining UD as "multigenerational" in nature. Some participants more clearly defined UD as "a specific age or condition," and finally others were more focused on specific

“products or housing elements” that could accommodate those individuals with unique physical challenges. If the consumer is unaware of what UD means how will appropriate housing design solutions result for society members as future generations move forward to successfully age in place? With only a one fourth of the entire population in the current study having an awareness of UD, there is a need to educate potential consumers about the benefits of universal design. Or do we continue educating the wrong group of people?

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Scholarship of Design Research - History & Theory
Presentation

**Caputuring the Silent Emotional Experience in Healthcare
Design**

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Abstract

Objective: The aim of this exploration was to develop a technique of capturing the inner emotional experience and private conversations existing within architectural design of two healthcare facilities through the art of poetry. Can this unique emotional journey within healthcare be captured? Background: Healthcare design has begun focusing on user environment and satisfaction. This shift draws attention to healthcare's interiority, the spirit of a place, and its ability to create individual's emotional experiences. This presentation recognizes design as an art and language. Several studies show that healthcare facility design and created spaces affect patient wellness and their support system. Methods: A checklist was created and used as a tool in a sensual exploration of listening to healthcare interiors, the emotional experience, and the silent conversation. The checklist was applied during a two day listening observation of public spaces at two hospitals in Indianapolis, Indiana University Health and St. Vincent Hospital and Health Center. On the last day, all observations were compiled into narrative poems for each of the spaces. Results: Using the checklist allowed the emotional experiences within the hospitals to be captured during the observations. The narrative poems provided an avenue to capture and encompass healthcare's interiority. Conclusion: This study confirmed that art can be used as a tool to listen and capture the spirit, aesthetics, and emotions created within healthcare facilities. Capturing one art with another can be incorporated into the design process to ensure designers are creating emotional experiences in healthcare that aid in user wellness.

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Figure 3: Image From the Seating area Just Outside One of the Cafes at Indiana University Health Hospital

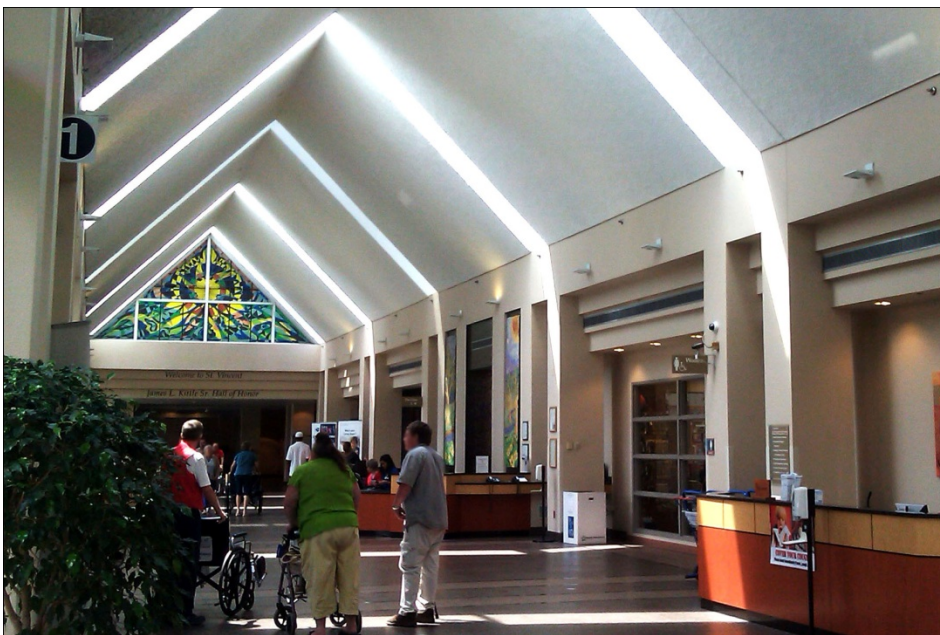


Figure 4: Main Lobby and Entrance at St Vincent Health Hospital



Figure 5: View of the Reflective Garden at St. Vincent Health Hospital



Figure 6: Showing the Main Cafeteria at St. Vincent Health Hospital

Table 1 – Methodology

Methodology	
Step One – Checklist for listening	
	Encompassing emotions <ul style="list-style-type: none"> ▪ Turn on all of the senses: sight, smell, taste, sound, touch, temperature ▪ Use senses collectively to experience the space ▪ Feel the space, do not think about the space ▪ Emotionally submerge into the space ▪ Become emotionally activated
	Accentuating sociability <ul style="list-style-type: none"> ▪ Observe and listen to visitors ▪ Observe architectural features within the space that influence their emotions and experience ▪ Observe the activity and emotions within the space ▪ Sense the interactions within the space ▪ Observe how people produce space
	Intertwining past and future <ul style="list-style-type: none"> ▪ Feel the space and the surroundings ▪ Listen to the memories existing in the space ▪ Listen to the story of the materials ▪ Experience the materials individually and collectively ▪ Touch and dwell within the space
	Breathing life into wishes and dreams <ul style="list-style-type: none"> ▪ Listen to the space and the original dreams ▪ Listen to the wishes and dreams that are activated by visiting the space ▪ Note the architectural features that connect to your dreams ▪ Breathe in materials, lighting and furniture ▪ Does the space give hope? How? Why? What in the space gives hope?
Step Two – Listen at 2 hospitals	
	Day 1 – Notes and sketches based on checklist from step one
	Day 2 – Additional listening, concluded with rough draft of step three.
Step Three – Capture silent conversation through series of poems	
	Indiana University Health Hospital <ul style="list-style-type: none"> ▪ Main entry foyer ▪ Main lobby ▪ Outpatient waiting ▪ Hallways ▪ Cafeteria
	St. Vincent Health Hospital <ul style="list-style-type: none"> ▪ Main entry foyer ▪ Main lobby ▪ Reflective garden ▪ Surgery family lounge ▪ Hallways ▪ Cafeteria and Atrium

Scholarship of Design Research - History & Theory Presentation

Eliel Saarinen- Architectural Educator and Influencer

Travis Wilson, Western Kentucky University

Abstract

Eliel Saarinen was an American/ Finnish Architect - Educator who designed many structures leading to the formation of several mid-20th-century design styles. After a successful career in Europe, at 50 years old, Saarinen moved to the US after winning second place for the Chicago Tribune Tower Competition in 1922. In 1925, George Gough Booth, of The Detroit News, hired him to design the Cranbrook Academy campus. Saarinen led the Cranbrook Academy of Art as Director of Architecture and President until 1948. His applied education model at Cranbrook modernized studio art and design education in the US. His mentorship helped students and colleagues advance the design world in urban design, technology, automotive, interiors, textiles, residential, furniture, and public arts. The topic of this presentation is Eliel Saarinen's spheres of influence. Each sphere of influence includes his students and their key projects in architecture, art, education, interior design, furniture manufacturing, and urban planning. The following students and faculty studied or mentored under Eliel Saarinen's tutelage: Florence Knoll Bassett, Charles Eames, Eero Saarinen, Harry Weese, Harry Bertoia, Ruth Adler Schnee, Ralph Rapson, Edmund Bacon. Every one of these people had a significant impact on society through art and design.

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Scholarship of Design Research - History & Theory
Presentation

What Can Phenomenology Do for the Study of Historic Interiors?

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Stoel Burrowes, M.A.

Abstract

It is not always easy to see the wholeness which exists in the world. As Christopher Alexander states in Book Four of *The Nature of Order*: “We must regretfully admit that the more ‘shiny’ modern and post-modern works ... are defined by a search for commercial images, and are governed by style, image, form without substance, effect without content, appearance instead of satisfying emotional reality” (Alexander, 2004. p. 40). And yet the satisfying of emotional reality?well-being we call it in the design discipline?is one of the principle goals of interior designers. Is something lacking in our theoretical and historic approach to design research? To the casual observer, western architectural history seems a vast structure of exterior views wrapped around mysterious internal systems. Our opinion on concepts like beauty is supposedly unimportant, and worse still cloistered in the rarified realms of mythology, poetry or philosophy. Historically, and exclusively, our collective architectural imagination is oriented from the outside looking in—a detached, exterior gaze longing for the shelter of the interior world just beyond view and too often outside our understandings of meaning. With few architectural experiences to reorient our (deluded) perceptions, we reach the conclusion that our point of view is exclusively structural, mechanical and stylistic while interiority is mere opinion disconnected from environment. The effect of this perspective limits the value of discussion when it concerns interior architecture, for we ignore the influence that subjective experience holds in creating a meaningful, experience with the built environment. How do we rediscover our deep, essential, aesthetic unity to the natural, the human made, and subsequently to one another? It is precisely this aesthetic concern which formed 18th century architectural theory (Ledoux, 1983). Theory which forms the foundation of modern western architecture (Emil Kaufmann, 2013), not to

mention philosophy, design and politics. It was into this enlightened landscape that a middle-aged American diplomat, Thomas Jefferson, first experienced the Architecture of interiority. As proof of the enlightenment project of self-actualization and with a vision of defining an American identity, Jefferson internalized the lessons of the French revolutionary architects whose work surrounded his daily experience as the American Ambassador to the French court. Through a phenomenological examination of the writings and the built environments of that time, as well as contemporary writings, the importance of Thomas Jefferson's experience in France, and the means by which Jefferson inscribed his experiences into memory in his American architectural accomplishments, an invariant pattern, a timeless essence emerged as a response. As Norberg-Schulz states: "Man does not only dwell in urban spaces and buildings, but also in the language of architecture. It is in fact this dwelling which makes all others possible" (1985). Phenomenological research provides a methodology to renew our view of history and thus of design by bringing into awareness our experience of the environment in which we are immersed. Through a phenomenological historical investigation of a single architectural component we bring into focus the intersection of individual, society, and nature as a source of collective thought—the very essence of Interior Architecture. The presentation of a visual essay which emerged from this phenomenological case study examining the context of a skylight installed under Jefferson's direction at Poplar Forest, demonstrates the theoretical, historic concern for aesthetic experience. Experientially the skylight is a mere device which focuses our attention towards the light as it interpenetrates the absolute and mundane world of body, architecture and physicality—light becomes a durable, tangible presence transcending form or function, to fully express, as will be demonstrated here, Thomas Jefferson's humanistic and enlightened meaning.

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Scholarship of Design Research – Sustainability
Presentation

Pressing the Issue: Green Building Education in the Media

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Georgia Lindsay

Abstract

Science museums with certified green buildings present a natural opportunity to study how science – and particularly green building science – is communicated to the public. Science museums are increasingly using green building construction practices for new buildings, and some go so far as to consider the surrounding landscape as part of the museum’s “collection” to be preserved (Lindsay, 2016). Science museums with green buildings have the institutional mission and necessary infrastructure to make novel connections between buildings, human behavior, and ecology. The building itself can have educational impact. This presentation, however, does not focus on the green museum building itself, but the community conversations that can be catalyzed when these construction projects are covered in the media. The broad research questions guiding this inquiry were: 1) How are green science museums covered in the popular press, and 2) What is the public potentially learning about green design through popular press about new or newly renovated green science museums? Within this overarching question, we were curious to learn how journalists covered and packaged green building themes and the general tone and delivery of that coverage. To do this, we used a structured process of discourse analysis that began with the identification of eight case study museums. Eight case study museums were selected by identifying all possible cases in the U.S. and then applying a series of filters for selection. To obtain a comprehensive list of LEED-certified science museums, we developed a spreadsheet of science museums in the U.S, searching the internet for museums with “science” or “natural history” in the title of the museum. From the 26 LEED-certified museums built since 2000 that this process identified, we selected eight to study in more depth aiming for two case studies in each U.S. time zone: 1) California Academy of the Sciences (West), 2) Western Science Center (West), 3) Fort Collins Museum of Discovery (Mountain), 4) Denver

Museum of Nature and Science (Mountain), 5) Flint Hills Discovery Center (Midwest), 6) St. Louis Science Museum (Midwest), 7) Boston Children's Museum (East), and 8) ECHO (East). Press data for each of the museums was collected using a methodical search process (that excluded web items hosted by the museums themselves) including local and national press outlets together with architectural press coverage. Data were analyzed with a multi-step grounded coding process by a team across two universities. Focused codes and broader themes were developed through an iterative process with team members. Our analysis of press articles revealed nuanced ways in which press coverage of new green museum building projects constitutes a form of public green building education. This education is most commonly channeled through local press in the city where the building was built and tends to be neutral to positive in tone. Journalists focused on a variety of green building features beyond the typical environmental topics of energy and water, and further made some interesting conceptual connections between those features and broader environmental challenges. While our work encompasses features beyond the building interior, the majority of themes addressed interior features such as materiality, aesthetics, exhibit design, indoor environmental quality, energy and water. In this presentation, we will discuss the details of our findings together with the broader implications for widespread public green building education.

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**Scholarship of Design Research – Technology
Presentation**

Rendering Light: A Comparative Analysis of Virtual Reality Software

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Amanda Gale, University of North Carolina, Greensboro

Abstract

Virtual reality (VR) is becoming common within the interior design discipline. Advances to existing software and the introduction of new plugins have made it easier to convert building Information modeling (BIM) files into VR experiences (Sampaio, 2018). VR has become more financially accessible with headset options costing as little as \$20 that are compatible with phones (Vandezande, 2019). As such, VR is being integrated as a teaching strategy within first year design (Dolph, 2017), construction technology courses (Miller 2017), as well as within upper studio critiques (Poher & Cook, 2018). However, unbiased information assessing the various VR programs' capabilities within interiors is lacking. Thus, the purpose of this study was to 1) identify attributes to be used for comparison among VR software programs, 2) explore the strengths and weakness of VR software programs, and 3) discuss integration of lighting effects. The advantages of incorporating VR within academia and practice are numerous and well established. In practice VR has shown to be a valuable communication tool with clients as well as useful for identifying vertical design issues, potentially eliminating the need for mockups (Vandezande, 2019). Within academia, VR has proven to help students more clearly visualize interior spaces, thereby increasing their understanding of spatial relationships and patterns (Poher and Cook, 2018). A comparative analysis was conducted with five programs (Unreal Engine4, Enscape, Podium, Blender, and Lumion 9) using seven attributes found through literature. The attributes were cost, ease of use, Interface/navigation, compatibility, functionality, relevance, and community. Three programs (Unreal Engine, Lumion, and Enscape) were the top performers across the seven attributes and were therefore, selected for further analysis. Each program was used to render an interior residence without the use of photoediting software frequently used to

enhance renderings through scale figures, lighting effects and other entourage. Visual analysis was conducted on each program's ability to render specifically looking at the quality of lighting, such as controlling daylight, glare, color temperature, and illuminance levels. Key findings indicate interface, functionality, and community are critical attributes for VR supported programs. Most programs were free to students and educators; therefore, cost was not a main driver. Community information, such as YouTube videos and forums were more helpful than the program's internal help menu and tutorials, thereby making ease of use a less important attribute. Most of the programs were compatible with Revit or SketchUp; therefore, compatibility was not a critical issue. Unreal Engine was the top overall performer across the seven attributes. The presentation will discuss in more detail the advantages and disadvantages of each program while allowing attendees to experience the rendered spaces virtually for their own comparative analysis.

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Scholarship of Teaching & Learning - Design Practice & Process
Presentation

Reflections of an Interior Design Service-Learning Project

Emili Spencer, Instructor, Madison College

Abstract

Service-learning projects have the potential to enhance an interior design student's learning experiences. Compared to projects simulated in the classroom (project-based learning), real-world service-learning projects may make deeper connections between community and learning (Gomez-Lanier, 2016; Zollinger et al, 2009). Exposure to under-served populations augments a student's understanding of the global context of different cultures and perspectives. This presentation will provide reflections from a unique service-learning project completed between April 2019 and October 2019. A team of interior designers, volunteers, and interior design students have come together to renovate a local non-profit community center. In 2015, a national movement started to service local charities in need of renovation to their physical buildings to better service their community's needs. In its fifth year, the current recipient was selected in April 2019, and the renovation planning has begun. Individual design teams selected spaces within the facility to renovate with the assistance of donations and volunteer work. A team of 7 interior design students and 4 instructors have chosen the Youth Recreational Area and Youth Program Director Office of the non-profit community center. Appendix A provides 2 existing photographs of the space. As a requirement for the project, students are required to be involved of all aspects of the project including: • journal reflections after each event/meeting • site verification • staff and children interviews • documentation of the space • information gathering • design charrette participation • review of relevant code and accessibility guidelines • fundraising • donor outreach • donation collection • site preparation • installation of interior elements, furniture, artwork, and accessories • painting • other renovation-related activities Emphasis will be placed on utilizing and understanding the design process: programming, schematic design, design development, contract document, and contract administration. Appendix B provides a timeline for the project. Scheduled in June 2019, a design charrette is a one-day event critical to

student planning of the interior space. Appendix C provides an agenda for the charrette. A design charrette provides an uninterrupted work session to bring together collaboration, creativity, and inclusion of ideas and perspectives (National Charrette Institute, n.d.). Segments of the charrette (as well as other events throughout the process) will be filmed by a local media station to serve as community outreach of the organization's mission and services. The presentation will review qualitative student reflections of their experiences and service-learning project process. Expected outcomes include a clearer understanding of student perspectives of the design process and overall learning experience. Anticipated themes are expected to emerge from student journal reflections and will be reported.

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Appendix A

Photographs of Existing Spaces



Figure 1. Students documenting the existing Youth Recreational Area.

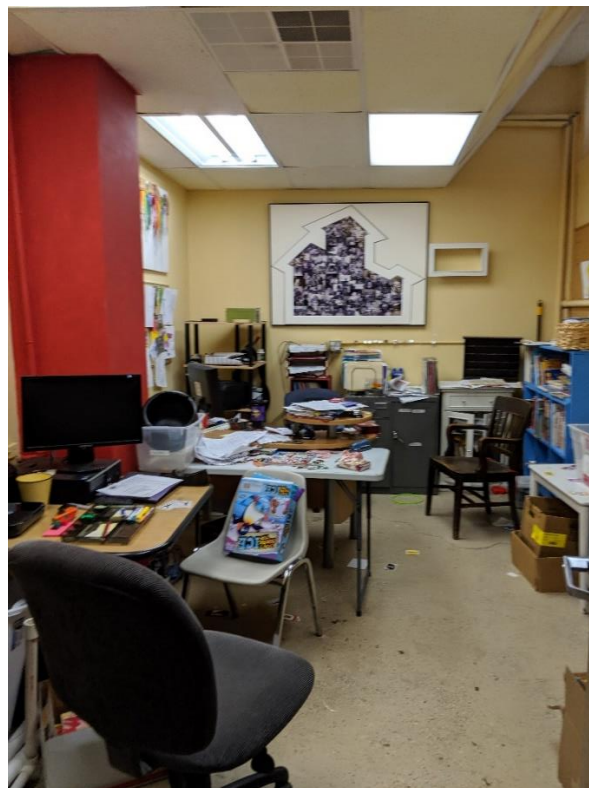


Figure 2. Youth Program Director existing office.

Appendix B

XXXX Interior Design Team 2019

TENTATIVE SCHEDULE

*Team Lead Design Meetings are for the team leaders. Space is limited. Team Leaders will hold meetings via scheduled meetings or email for follow up with student group.

Thursday, May 9	Community Center Site Visit & Client Interviews Time: 1:00-4:00pm
Thursday, May 30	*Team Lead Design Meeting – Themes & Paint Colors
Saturday, June 8	Rummage Sale <i>**Need donations & Volunteers</i>
Thursday, June 13	Team Design Charrette Time: 1:00-7:00pm
Thursday, June 20	*Team Lead Design Meeting – Presenting Concepts
Thursday, July 11	*Team Lead Design Meeting – Topic TBD
Thursday, August 1	*Team Lead Design Meeting
Thursday, August 22	*Team Lead Design Meeting
Thursday, September 12	*Team Lead Design Meeting
Thursday, September 26	*Team Lead Design Meeting – Final Meeting
Sept 30 – Oct 12	2-week Makeover! Interior Design classes will be let out at scheduled times for all student participation in helping all design teams...cleaning, assembling, painting, installing...
Sunday, October 13	Community Makeover Reveal & Filming

Appendix C

Design Charrette - Tentative Schedule

Thursday, June 13, 2019

1:00-7:00pm

Snacks provided at 3:00pm

Dinner provided at 5:30pm

**Sponsored by XXXX*

1:00-2:30pm PROGRAMMING (1.5 hours):

- Start with inspiration images posted around the room (collected prior to day)
- Brief overview of what we know and articles we have read to support the design
- Create Adjacency Matrix & Bubble Diagrams (small groups and then create final together)
- Develop concept statement for our spaces
 - Mentimeter word cloud
 - Key words
 - Create 3-5 sentence concept statement

2:30-4:30pm SCHEMATIC DESIGN (2 hours):

- Small group schematic sketches (2D & 3D)
- Present to group with discussion

4:30-6:30pm DESIGN DEVELOPMENT (2 hours):

- Small group clean drawings (2D—floor plan/elevations & 3D sketches)
- Conceptual finishes selected from design library to direct color palette (based on 5/30 color palette selections) and textures
- Present to group

6:30-7:00pm WRAP UP (30 minutes)

- Next steps
- List of our space needs

To Do Prior:

- Gather inspiration images
 - Upload to Dropbox folder—Create folders for categories (a few are started)
- Review as much information you can find on Neighborhood Center
 - Branding PowerPoint
 - Website
 - Other historical information?
- Find minimum 2 articles/case studies on Youth spaces/After School Programs
 - Publications: Interior Design, Contract, Interior Design
 - Other sources?
- Is there any places we can visit recently completed?

- Interviews – (optional, yet encouraged)
 - Interview someone that works in after-school program
 - Interview a parent of child that attends after-school program
 - Interview/Tour an organization with after-school program

Supplied Needed (bring what you have...pool resources):

- Printed plans to-scale
- Tracing Rolls
- Pens/Pencils
- Markers
- Post-its
- Tackboard
- Flip charts
- Templates
- Tape
- Adhesives
- T-square
- Triangles
- Architect's Scale
- Drafting Tape

Scholarship of Teaching & Learning - Teaching & Pedagogy Presentation

Are we giving students too much freedom in the design studio?

Kevin Woolley, Assistant Professor, Purdue University

Abstract

The interior design presentations were finally finished. A student sighed and said as she walked out the door, "For once, I just wish I could choose my own project." This set in motion an independent learning experiment with fourth-year interior design students. Under the theme 'Choice Studio,' the instructor utilized a guided discovery approach with multiple active-learning entry points throughout the semester. The studio was left intentionally open and unstructured to allow students to decide what they wanted to learn and when they wanted to do it - as opposed to the traditional linear approach of passively receiving project information predetermined by the instructor. This format was tested for cognitive and attitudinal gains in student performance and behavior. The method was innovative by engaging students in critical dialog, non-graded critiques, and exploratory project challenges. Feedback from the class revealed that the experience helped students gain the confidence to move forward with their independent senior theses. Others wished they had focused more effort on time management and developing their portfolio projects. Overall, the pedagogical shift towards handing curricular control over to the student had limited success. Outcomes were lower than expected despite clearly defined expectations, schedules, and milestones. The study provides instructional data with potential implications for improving future student-centered, active learning practices.

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BRIEF SUMMARY OF STUDENT-SELECTED PROJECTS

MEETING SPACES – ATRIUM

LEARNING OBJECTIVES: critical thinking and environmental awareness through design

DESIGN SKILLS: field observation, cad documentation, finish selection, lighting, acoustics, FFE, universal design, computer visualization, and reflective writing.

Students are asked to remodel the atrium area in our design building. The final project must include:

1. Field observation report (minimum one page, 10 point Ariel font, double spaced).
2. Functional design board (approximately 40 x 60cm).
3. Aesthetic design board (approximately 40 x 60cm).
4. Reflective summary (minimum one page, 10 point Ariel font, double spaced).

Step one: defining the problem. Students individually or in groups create a field observation of the atrium space.

Step two: resolving the functional aspects of the problem. Students individually create a functional design board of the atrium. The functional board shall address all improvements incorporated in the new design including, but not limited to: auditorium design, universal design, lighting, and acoustics.

Step three: resolving the aesthetic aspects of the problem. Each student individually creates an aesthetic design board of the atrium. The aesthetic design board shall include two primary images: 1) a “before” photograph of the atrium and 2) an “after” rendered image of the atrium from the same viewpoint.

Step four: making sense of the experience. Each student shall write a reflective summary and attach both the field observation and the summary to the back of the design board(s).

HOSPITALITY DESIGN – HOTEL ROOM

LEARNING OBJECTIVES: programming analysis, wayfinding, healthcare design (including patient welfare), ADA accommodation, and using the imperial measurement system.

DESIGN SKILLS: Conceptual development, codes, ADA regulations, life-safety knowledge, finish selection, signage, and ADA / universal design.

Your assignment is to design an ADA compliant, four-star hotel room that is inspired by a historical design style. The final project must include:

1. Mood-inspiration board (approximately 40 x 40cm) or Concept / theme board
2. Furniture plan (rendered to illustrate the finish scheme-direction)
3. Materials and finishes (including main furniture finishes)
4. Lighting design and light fixture selections
5. ADA & building codes board
6. Elevations of main design areas
7. Minimum of one 3-dimensional rendering
8. FF&E specifications for one (1) hotel room

DESIGN A USABLE OBJECT

LEARNING OBJECTIVES: design awareness, materiality, critical thinking, and analysis.

DESIGN SKILLS: anthropometrics, codes, finish selection, ergonomics, materiality, craftsmanship.



The noted designer Charles Eames said, “Design is for living.” Together with his wife Ray, the Eames pioneered bringing good design to the common man.

Students are asked to design a usable object. This project is designed especially for students who want to make things with their hands. The final project must include:

1. Biographical story about the “designed object.”
2. Minimum of five representations of what a designed object looked like (with models or images) during its creation.
3. Physical or digital presentation of the custom object (or objects) in its final form.

EXAMPLES:



Scale model of a chair using balsa wood and fabric. The object can be something besides a chair. Remember the Eames motto “Design is for living.”



Custom designed commercial textile made by printing process on white fabric. This piece is full scale and includes textile properties.



Small structural model made from paper and balsa wood. The student made the design model because the complex shapes and curves were too complicated for her to render digitally (old technology). The process can be reversed with the student creating a model digitally and then making a physical model afterwards.

DESIGN FOR DISASTER

LEARNING OBJECTIVES: cultural awareness, materiality, critical thinking, and analysis.

DESIGN SKILLS: social responsibility, sustainability, space utilization, mobility, universal design, unstructured design events, and disaster relief.

Interior Design Educators Council (IDEC) student competition asks the question “How would you design for disaster relief?” Students shall design a region specific temporary housing unit of no more than 400 sq. ft. for a family of four. The unit must exhibit how the design and placement of temporary shelters can maintain/restore a sense of self, and social and cultural identity.



HEALTHCARE DESIGN – PEDIATRIC PRACTICE

LEARNING OBJECTIVES: programming analysis, wayfinding, healthcare design (including patient welfare), ADA accommodation, and using the imperial measurement system.

DESIGN SKILLS: Conceptual development, traffic patterns, healthcare codes, finish selection, signage, and ADA / universal design.

Your assignment is to design a small pediatric clinic for two doctors in the U.K. The clients, Dr. Smyth and Dr. Jones, suggest the following design considerations: traditional yet innovative, playful and appropriate for the people who will use the space, and in keeping with English cultural customs.

Your final design will be documented in a booklet that includes three sections:

1. Programming and research
2. Precedent studies
3. Conceptual design solution

CRITICAL THINKING – “FAIL PROJECT”

LEARNING OBJECTIVES: design awareness, materiality, critical thinking, and analysis.

DESIGN SKILLS: field observation, codes, finish selection, lighting, acoustics, FFE, universal design, unstructured design events, and reflective writing

The FAIL project requires analysis of visual evidences and application of aesthetic judgment skills. Students are asked to photograph instances where there is an obvious design failure.

The final report must include:

5. Definition of “design failure.”
6. Five examples of what a design failure looks like (with images).
7. Explanation of why the condition best represents the failure of design including a minimum of three reasons.

INTERIOR SPACES – YOU DRIVE

LEARNING OBJECTIVES: critical thinking and environmental awareness through design

DESIGN SKILLS: critical thinking, space utilization, sustainability, aesthetics, finish selection, lighting, acoustics, FFE, universal design, computer visualization, and business writing.

Many people think that interior design is merely selecting colors and decorating rooms. But, interior design is much more than that. This project involves researching, organizing, and completing an interior design project of your own.

Potential projects are virtually limitless, but generally include a client type and a project type.

Client Types:

Public Private Non-profit Public-Private Partnership Tribal

Project Types:

Civic	Office & Workplace
Cultural	Parks & Recreation
Commercial	Residential
Education – Training	Retail
Education – College & University	Schools
Entertainment	Science & Research
Government	Senior Living
Gaming & Casinos	Transportation
Hospitality	Travel & Tourism
Kitchen & Food Service	Correctional
Lodging	(other)

The final project deliverables will be determined by you, the designer. It is expected that the final solution communicate a cohesive and understandable concept which includes:

- PLANS that demonstrate space utilization,
- IMAGES that show human considerations and aesthetic choices,
- DRAWINGS that communicate a vision or look,
- WORDS that tell a story.

**Scholarship of Teaching & Learning - Teaching & Pedagogy
Presentation**

Design Build for Interior Design

Azizi Arrington-Bey, Associate Professor, Indiana State University

Abstract

According to John Dewey (1938), we learn best by doing, learning is an active process and in order for one to realize the importance of something they must first experience it for themselves. Interior design has recently realized what architectural education has already discovered, the strength in building to learn (Konkel, 2014). This presentation will share and discuss the effects of interior design students' learning by actively participating in an experiential learning activity of designing and building children's playhouses. Using the six propositions of the experiential learning process as outlined by Kolb and Kolb (2005) as a starting point for the need of such a project in interior design education. Kolb and Kolb's six propositions have been used as a foundation and redefined below: 1. Learning is a process and cannot be limited to outcomes. As a process, learning must be engaging. 2. Learning is continual, it never ends, it will be examined, tested and refined over and over again. A continual process of problem solving with multiple solutions. 3. Learning is problem solving, and an integral part of problem solving is having problems, differences and disagreements that are allowed to steer the learning process. 4. Learning is holistic. Learning involves the senses and complete beings to think, feel, perceive and behave. 5. Learning is inclusive. Learning incorporates all variables within the environment. 6. Learning is the result of creating solutions and new knowledge. (Kolb & Kolb 2005) The experiential learning project sought to include the six propositions outlined above. Specifically focusing on being engaging and responsive to the design process of presenting multiple problems and allowing the students to develop multiple solutions individually and collectively. An experiential learning project was thought to encompass these objectives because it has been defined as "forming a strong connection of learning between thought and action" (Konkel, 2014). The experiential learning project included lower level interior design students designing, detailing and constructing a 50 square foot playhouse. The playhouse design-build has been

implemented into two different courses, three different times. This presentation will review the changes and development of the project over time, how it directly affected students' engagement and learning, and recommendations for future implementation.

References

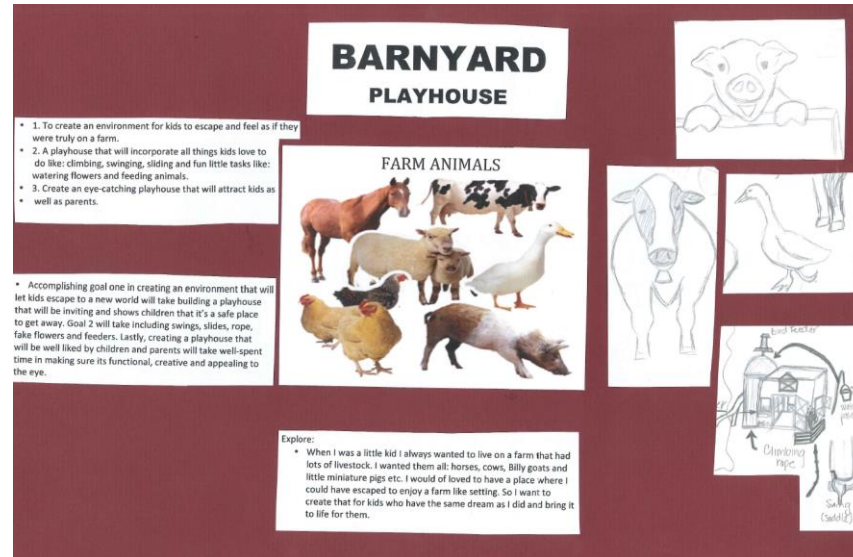
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First Year – Barnyard Model & Board



First Year – Tree Stump Model & Board

The Stump Lodge

Goal 1: Make it a creative place for children to use their imaginations

Goal 2: Make the playhouse "green"

Goal 3: Make The Stump Lodge educational, but in a fun, interactive way



Objectives:

- Take the playhouse blind as with nature by using elements from nature in the design.
- Also, use recycled materials to make it good for the environment!

Objectives:

- Include different activities for children to play with that educate them about the environment.
 - Marking games
 - Gardening games

Objectives:

- Don't make the playhouse have a set theme.
- Using nature as inspiration for the Stump Lodge will allow children to use their imaginations to turn the playhouse into whatever they can think of.



Materials

Eco-friendly Paint

There are many paints out there that are good for the environment. By using environmentally friendly paint, it will be good for the environment and bring color to the playhouse.

Wood Plastic Composite

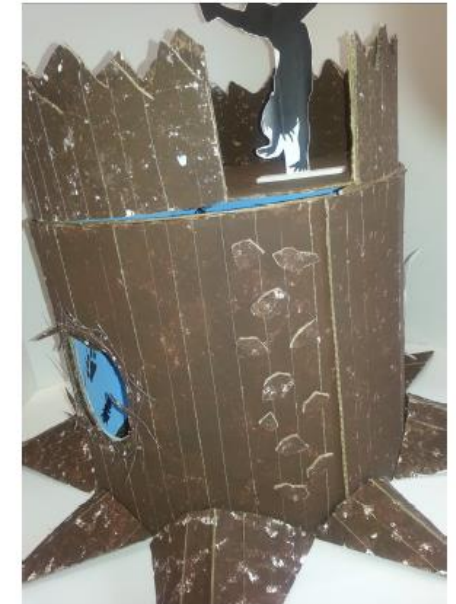
They are not only good for the environment, but it improves indoor air quality, it lasts longer than normal carpet, and it allows for a more flexible design. They are also easy to replace if one is ruined, instead of replacing the whole playhouse, it would be just one tile.

Recycled Carpet Tiles

FlexbatK

FlexbatK is fixable, artificial bark that can be molded into almost any shape to make the object look more realistic and like it belongs in nature. It is made to be outside, therefore will last a long time. It's also simple to attach with PU polyurethane adhesive and some nails or screws.

Wood plastic composite is a mix of wood waste and various plastics. This could be used for the structure of the tree itself, the floor, or the window seat, or all of it! It comes in many different patterns and colors; therefore, there are many different options to choose from for the playhouse design.

First Year – Construction



First Year – Construction



First Year – Construction



Scholarship of Teaching & Learning - Teaching & Pedagogy Presentation

Teaching Strategies + Studio Environments

Roxann O'Rourke-Sherrodd, Asst. Professor, Park University

Abstract

Within Interior design education, studios are structured to approach multi-variant and complex contextual problems, in which critical thinking plays a significant role. The framework of the studio environment is rooted in practice, as facilitators we instruct our students to classify, analyze, predict, and create. Interior design educators have advocated utilizing a research-informed or research-engaged approach to instruction. In examining various learning strategies, this non-traditional method is indicative of a constructivist paradigm. Kutz and Roskelly (1991) defines social constructivism in education as being a model which sees knowledge, not as outside information to be acquired by a learner, but as the learner being developed themselves, by ones' own interpretation and synthesis of ideas of the subject. Thus culminating in a unity of previous knowledge, meaning, and application; providing for a distinctive learning experience (Brooks & Brooks, 1999). The constructivist approach may be seen as applicable to the interior design studio as it emphasizes gathering, analyzing, evaluating, and the expression of ideas. With the instructor acting as guide on the side, instead of the sage on the stage (King, 1993). More reflection of this non-traditional learning strategy, brings to light the parallels and defining discourse in the practice of architecture and interior design. The purpose of this presentation is to explore the application of this constructivist framework when approaching instruction of an interior design studio thesis project utilizing the research-informed or research-engaged approach. Constructivist teaching is categorized in areas of eliciting prior knowledge, creating cognitive dissonance, applying prior knowledge with feedback and reflecting on learning (Brooks & Brooks, 1999). This presentation will be demonstrating how these elements are applied in the interior design studio environment, emphasizing student engagement in understanding research, the analysis of information, the formation and implementation of design strategies, and the development of a design solution. Acknowledging the challenges of the

application of this approach will also be examined, for example, as many higher education institutions can attest, in recent years to the more transactional expectation of students being customers, in which students may feel that they, or their parents, are paying for something tangible and in turn, are required to receive. There are critiques of this approach to teaching. Some educational scholars contend that constructivist approach to learning is sending “mixed messages” whether correct answers even exist (Kotzee, 2010, p. 179). Kotzee (2010) in his review of constructivism goes on to argue that the classroom is not a place for such a philosophy, acknowledging the challenges and illustrating how he interprets it as undermining true effective teaching; though finally, acknowledging the benefits of realism in its application in the classroom. This presentation will demonstrate how, as an instructor, an application of, not only a research-informed or research-engaged approach, but a further defined constructivist learning strategy has assisted in understanding and identification problems interior design students may encounter throughout a project's process, allowing the instructor to give clarifying guidance and further instruction, so as to maintain a positive learning environment and assisting in further shaping and defining this framework.

References

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A. Assignment Prompt/s:

Over the course of (2) semesters, the students are assigned with completing a thesis project in an area of design which most interests them. During the fall senior studio I course, interior design students are developing and writing research in which their findings and conclusions will then be applied in the design of their spring senior studio II (thesis) project. Students are given a number of individual assignment prompts to complete the overall thesis project throughout the (2) terms.

B. Creative Brief (Project Overview):

1. Students first select one of the following areas of design: Residential, Commercial, Hospitality, Institutional or Retail. Students then select one of the following specialized topics relating to the selected area of design to then research extensively: Space Planning, Lighting, Building Systems, Sustainable “Green” Design, Material Application and Appropriateness or Historic Preservation. Students then research and write papers on the specific area of design they have identified as being their focus for their thesis projects.
2. Students then select an appropriate site and building shell to develop their specific thesis project.
3. A creative brief is developed as part of the project. The brief outlines and documents the research process of the project: identifying project information; an analysis of the projects applicable building codes; in depth review of the target users; project significance, problem and concept statements; the research being applied to project; case study analyses; project needs analysis; project matrices; as well as design process analysis (bubbles, blocks, etc.).
4. During the design development, students are working with the instructor and utilizing outside design professionals with specific knowledge in the discipline to monitor and direct their progress. Creating an abbreviated set of construction drawings and set of written (FF&E and Finish) specifications to support their design solution.
5. Project boards demonstrating the project solution with appropriate drawings, perspectives, research and supporting materials are then given with oral presentations to a juried panel of professionals, which are then reviewed and critiqued.

C. Examples of student work will be presented during the presentation.

**Scholarship of Teaching & Learning – Technology
Presentation**

**Developing an Assessment Framework: Measuring Digital
Literacy of Interior Design Students in a Digital Drawings Course**

Somang Yang, M.S., Illinois State University

Taneshia West Albert

Abstract

The amount of technological knowledge is doubling every 18 months (Gonzalez, 2004), bringing with it a rapidly increasing amount of knowledge. Digital competency is therefore crucial in increasing the capacity to know; however, facilitated resources in universities are limited (Gonzalez, 2004). One post-secondary education solution is to focus on developing digital literacy to adapt to new and updated technology rather than training students to use technologies they might not need in future projects. This exploratory study provides a foundation to measure students' level of learning based on education theories for digital technology and meaningful technology theory for digital literacy. There has yet to exist an effective assessment tool that can evaluate students' digital literacy. To validate meaningful digital literacy, Significant learning experience model (Fink, 2006), R.A.T. model (Hughes, 2006), and connectivism (Siemens, 2005), and Bloom's digital taxonomy (Churches, 2008) was utilized to validate and define the meaningful digital literacy. To provide initial insight into the digital technology integrated course development, Wacom pen-tablet, and Autodesk Sketchbook were utilized to create an interior design curriculum for undergraduate college students. The findings of this study shed light on the necessity of assessing new technology for integration into coursework in higher education. There are five themes that an instructor must examine when determining whether to use digital drawing tools in a course: (1) effective learning process, (2) ease of access and execution, (3) transformation of perspective about new technology, (4) technology competency, and (5) impact on the work process and continuous use. The findings of this study are: (1) a framework is needed for the educator to examine the software for proper selection according to the task and goal of the course; (2) an assessment tool is needed to measure student digital literacy; and (3)

the significant factors that influence students' perception of digital literacy are advantages of digital optimized functions of the software and adaptability of digital resources are critical factors in the students' perception toward the use of software for future projects; and confidence and comfort are major factors that influence lasting interest in use of the device. Familiarity and competency are major challenges for students and instructors to adapt to technology through this study. This study provides a brief guideline for future study development of assessment tools for digital literacy, which is essential for design professionals in the digital world. The next phase of this study will be to apply for the modified technology integrated course in multiple schools in various aspects: such as course design, contents and learning space optimized for meaningful technology integration. Suggested significant learning experiences model (Fink, 2006) will be utilized for next integrated course design; especially the stage of reflecting the findings of this study and developing new ideas on teaching to improve course design and learning outcome for digital literacy.

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APPENDIX A: INFORMED CONSENT FORM

Consent Form

Introduction of survey

This research study is being conducted by Somang Yang at Illinois State University- under the supervision of Professor Taneshia West Albert, at Illinois State University-to investigate how a digital integrated instructional course affects interior design students' understanding of drawing techniques and concepts. This research will offer insights concerning how students adopt new technology in the design process. This case study will be conducted with advanced level undergraduate interior design students in the state of Illinois. Participants will complete a short survey regarding their personal experiences and opinion with the digital tablet and software in their learning processes.

Procedures

If you choose to take part in this study, you will be asked to complete a short survey with 50 questions. This survey will take approximately 15 minutes.

Risks/Discomforts

There is no great stress from the survey during the class hours.

Benefits

Your participation will help you to utilize digital drawing tools efficiently in diverse way and you will help us gain useful knowledge about digital course design.

Confidentiality

All information provided will remain confidential and will only be reported as group data with no identifying information.

Compensation

Your participation will get free snacks as a rewarding for participation.

Participation

Participating in this study is voluntary. Your professor will not know if you are participated. No participation will not affect your current standing with Illinois State University. Refusal to participate involves no penalty or loss of benefits. You may discontinue participation at any time without penalty or loss of benefits. You can also skip questions you do not feel like answering.

Conflicts of Interest

This study is not funded.

Questions about the Research

For questions about this research Somang Yang can be contacted at 773-808-9442 or syang33@ilstu.edu.

Please print a copy of this consent form for your records.

I consent to participating in the above study. (Release statement for videotaping or relinquishing confidentiality must be inserted here if applicable.)

Signature: _____

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Research Ethics & Compliance Office at Illinois State University at (309) 438-2529 or via email at rec@ilstu.edu.

APPENDIX B: POST PROJECT SURVEY

Post-Project Survey

In order to keep this survey anonymous, we will use respondent ID. Please use first two letters of your mother's first name and the day of your birthday. (If your mother's name is Jane and your birthday is February 1st 2000, your code will be JA01).

This way your pre-and post-responses can be matched without using names/identifying information.

Respondent ID:

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1. Please answer each of the following questions regarding your opinion about Autodesk Sketchbook software by marking the level of agreement that best describes you.

Thinking back to when you were in FCS 352 fall 2018 rendering class- while you were using the Autodesk sketchbook software, the software helped you to understand:	Strongly disagree	disagree	neutral	agree	Strongly agree
How to render shading of shapes	1	2	3	4	5
How to draw perspective	1	2	3	4	5
How to render materials and textures	1	2	3	4	5
How to render daylighting lighting	1	2	3	4	5
How to render shadows	1	2	3	4	5
the overall rendering principles (ex. Value, tone, hue, scale etc.)	1	2	3	4	5

Thinking back to when you were in FCS 352 fall 2018 rendering class- while you were using the Autodesk sketchbook software:	Strongly disagree	disagree	neutral	agree	Strongly agree
The software was useful to execute my rendering	1	2	3	4	5
The software was useful to apply rendering principles to my assignment	1	2	3	4	5
The software was useful to apply rendering principles to my rendering	1	2	3	4	5

My rendering was improved by using the functions of Autodesk Sketchbook (such as perspective guide, ruler guide, diverse brush options)	1	2	3	4	5
I tried multiple digital resources (such as google images for materials or entourage) for a realistic rendering	1	2	3	4	5
I mixed digital resources (such as google images for materials, images for entourage, my previous project images)	1	2	3	4	5
I was able to edit and mix multiple visual resources (such as google images for materials, images for entourage, my previous project images)	1	2	3	4	5
It was easier to organize images of materials, furniture or objects in my rendering than to organize images on paper	1	2	3	4	5
It was easier to edit digital renderings using Autodesk Sketchbook than to edit renderings on paper	1	2	3	4	5

Thinking back to when you were in FCS 352 fall 2018 rendering class- while you were using the Autodesk sketchbook software:	Strongly disagree	disagree	neutral	agree	Strongly agree
It was easier to critique on the renderings using the computer than to critique on the renderings on the paper.	1	2	3	4	5
It was easier to comment on the renderings using the computer than to comment on the renderings on the paper.	1	2	3	4	5
It was easy to convert digital rendering assignments for submission	1	2	3	4	5
It was easy to convert rendering-on-paper assignments to use in the digital software	1	2	3	4	5

2. Please answer each of the following questions regarding your usage of Wacom pen-tablet by marking the level of agreement that best describes you.

Thinking back to when you are in FCS 352 fall 2018 rendering class- while you were using the Autodesk sketchbook software, the software helped you to express your understanding of:	Strongly disagree	disagree	neutral	agree	Strongly agree
shading of shapes	1	2	3	4	5
perspective	1	2	3	4	5
materials and textures	1	2	3	4	5
daylight lighting	1	2	3	4	5
shadows	1	2	3	4	5
the overall rendering principles (ex. Value, tone, hue, scale etc.)	1	2	3	4	5

Thinking back to when you are in FCS 352 fall 2018 rendering class- while you were using the Wacom pen-tablet device:	Strongly disagree	disagree	neutral	agree	Strongly agree
The Wacom pen-tablet device was useful to execute my rendering	1	2	3	4	5
The Wacom pen-tablet device was helpful to apply rendering principles to my assignment	1	2	3	4	5
My rendering was improved by using the Wacom pen-tablet device	1	2	3	4	5

Thinking back to when you were in FCS 352 fall 2018 rendering class- while you were using the Wacom pen-tablet device:	Strongly disagree	disagree	neutral	agree	Strongly agree
I was able to edit and mix multiple visual resources (such as google images for materials, images for entourage, my previous project images) using the Wacom pen-tablet device	1	2	3	4	5
It was easier to organize images of materials, furniture or objects using the Wacom pen-tablet device than to organize images on paper	1	2	3	4	5

It was easier to edit digital renderings using the Wacom pen-tablet device than to edit renderings on paper	1	2	3	4	5
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After you finished the Digital drawing lessons in FCS 352 fall 2018 rendering class:	Strongly disagree	disagree	neutral	agree	Strongly agree
I can give some advice about other's rendering using one or more rendering principles (ex. Value, tone, hue, scale etc.)	1	2	3	4	5
I can critique peer's rendering based on one or more rendering principles (ex. Value, tone, hue, scale etc.)	1	2	3	4	5
I can comment on other renderings based on one or more rendering principles (ex. Value, tone, hue, scale etc.)	1	2	3	4	5
I can explain my rendering based on one or more rendering principles (such as the way I shaded, rendered shadow, size of furniture)	1	2	3	4	5

After you finished the Digital drawing lessons in FCS 352 fall 2018 rendering class:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel comfortable now using Autodesk Sketchbook for rendering	1	2	3	4	5
I feel comfortable now using Wacom pen-tablet for rendering	1	2	3	4	5
I enjoy using Wacom pen-tablet for rendering	1	2	3	4	5
I enjoy using Autodesk Sketchbook for rendering	1	2	3	4	5
I can utilize Autodesk Sketchbook as one of my technical skill	1	2	3	4	5
I can utilize Wacom pen-tablet as one of my technical skill	1	2	3	4	5
I have more confidence in using Wacom pen-tablet for rendering after taking this course	1	2	3	4	5
I have confidence in rendering using Autodesk Sketchbook for rendering after taking this course	1	2	3	4	5

The Wacom pen tablet was helpful overall to execute renderings	1	2	3	4	5
The Autodesk Sketchbook software was helpful overall to execute rendering	1	2	3	4	5
The Wacom pen-tablet device helped me to render easily	1	2	3	4	5
The Autodesk Sketchbook software helped me to render easily	1	2	3	4	5

3. Please answer each of the following questions regarding your usage of Wacom pen-tablet and Autodesk Sketchbook software by marking the level of agreement that best describes you.

For my future project,	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I would strongly consider using Autodesk Sketchbook	1	2	3	4	5
I would strongly consider integrating Wacom pen-tablet on one of any other projects	1	2	3	4	5
I would like to explore other tools and functions in Autodesk Sketchbook	1	2	3	4	5
I started to be interested in other drawing or editing software such as Adobe Photoshop after this course to improve my rendering	1	2	3	4	5
I think I can utilize more devices and software in the future	1	2	3	4	5
I feel more comfortable when I think about using new device after taking this course	1	2	3	4	5
I feel more comfortable when I think about using new software after taking this course	1	2	3	4	5
I was interested in other drawing or editing software, such as Adobe Photoshop, to improve my rendering before I decided to take this course	1	2	3	4	5
I wish I could have free access to Wacom pen-tablet for future or other use					

How many tools on the list of Autodesk Sketchbook menu bar and tab can you now utilize?	1-5	5-10	10-15	15-20	20 or more
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4. What is your perspective based on your experience of digital tool and software overall?

5. What were your thoughts when you started use the software and pen-tablet?

6. Which tool do you prefer to use for rendering? (Mark appropriate response)

() pen-on-paper tool () digital drawing tool (ex. Software and pen-tablet)

() integration of both tools

And please explain why you have this preference.

8. Year in school? (Mark appropriate response)

(1)	Freshman	(2)	Sophomore	(3)	Junior
(4)	Senior	(5)	Other()		

9. Experience of using pen-tablet before you took FCS352 Rendering for interior design course (Mark appropriate response)

1) No experience	
2) I have used the device for 1 or less hour	
3) I have used the device more than 1 hour less than 3 hours	
4) I have used the device more than 3 hour less than 10 hours	
5) I have used the pen-tablet before and I don't think I am uncomfortable using it	

Creative Scholarship – Design as Idea Presentation

Experience and Exposure: Virtual Reality as a Conduit for Active Mediation

Erik Swanson, University of North Carolina, Greensboro

Amanda Gale, University of North Carolina, Greensboro

Design Statement

The intent of the project was to develop a prototype of a virtual mediation space based on the complementary concepts of biophilia and Stress Reduction Theory. The virtual mediation space is aimed at helping college students manage stress. Stress Reduction Theory was developed in 1983 by Altman and Wohlwill and is frequently used to explain emotional and physiological reactions that occur during experiences with the natural environment (Carrus et al., 2012). This theory is often credited as being a theoretical basis for biophilic design through the person-nature relationship. For instance, taking a walk in an area with trees, plants, and grass can reduce stress (Carrus et al., 2012) by being enveloped in green space. Managing stress is important, as college students are lacking balance between academics and leisure, which can plague students with crippling bouts of stress (Beiter et al., 2015). There are strategies students can use to manage stress beyond walking in the woods. Meditation can improve attention, cognition, and academic performance while decreasing stress (Ching Koo, Tsung-Huang, & Chiu-Yuan, 2015). Despite the benefits of mediation, college students may not have or put aside the time to meditate. One of the reasons that college students do not participate, is because of their lack of ability to picture themselves “being there” during meditation (Haro et al., 2017). The design problem identified was student stress and lack of time or motivation to meditate or experience nature, both of which are stress reducing activities. The design process began with the investigation of biophilia and progressed through the development of wayfinding cues found within the gaming industry. The software program, Unreal Engine 4, was used as a platform for the virtual mediation space. The test space was designed around the elements of biophilia which include, refuge, risk/peril, prospect and mystery, organic shapes and feature, diffused light effects, pools of light, light

reflection and light bloom/glow effects. The inclusion of biophilic lighting elements such as reflection, diffused light, and light pools derived from phototropism, which is living organisms' innate attraction to light. Four biomes, a beach, forest with water features, a cave system, and a mountain were designed within the virtual space. Each biome includes biophilic elements. Wayfinding cues included set paths to each biome lighting elements such as torches and glowing mushrooms to draw the user's attention, and vertical elements which can be seen from a distance. The design process culminated with prototype testing by 12 individuals with varying meditation and gaming experience. Moving forward the virtual experience will be modified based on the feedback received before being further tested to determine if the virtual mediation space can help college students manage stress. The work explores an innovative design idea by merging experiences with nature with emerging technology intended to help students manage stress. The conceptual idea is to provide access to nature and a meditative experience for college students. This is an idea to directly, via a virtual space, connect people with nature while being in an interior environment.

Figure A
Beach



Risk/Peril is shown through the rock arches. It also creates a sense of mystery by not knowing what is on the other side. The stone arch also acts as a prospect since the participant can walk on it opening a new view of the biome.



Light reflections can be seen shimmering in the water. Pools of light can be seen on the rock mound on the right side.

Figure B
Beach

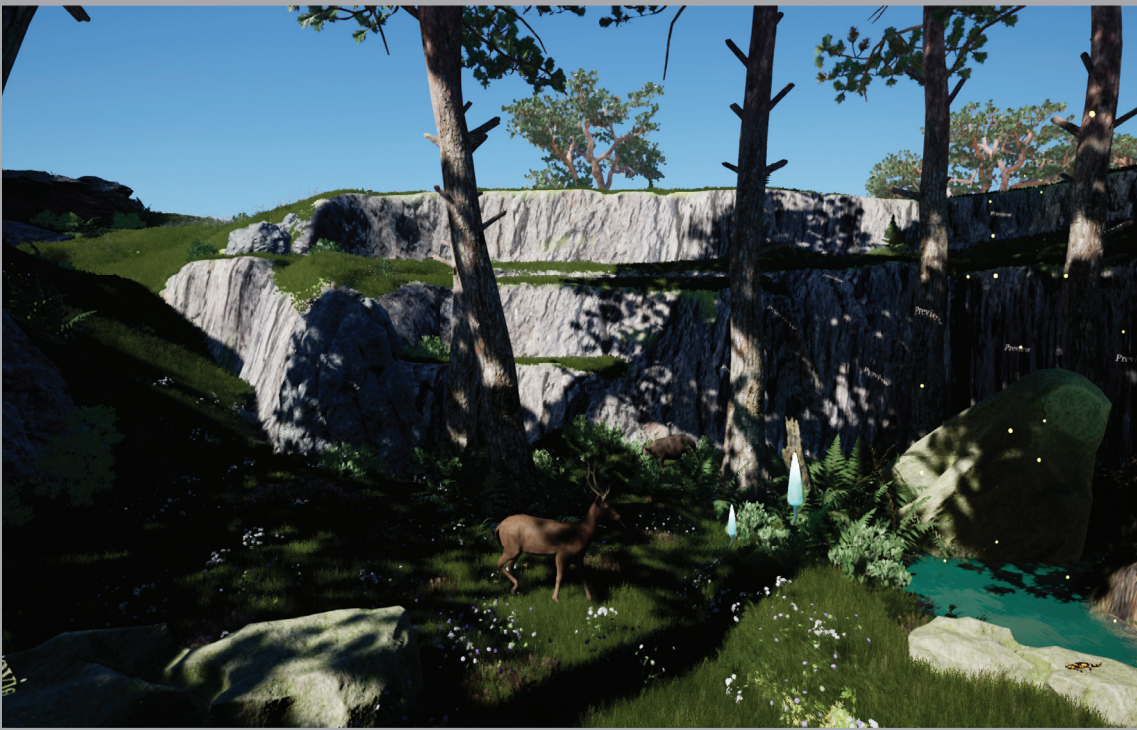


Risk/Peril is shown through the two floating islands on the left and right. The tree line and large rocks create a sense of mystery. The pagoda at the top of the mountain can be seen as a prospect due to its wide unobstructed view of the island.



Light reflections can be identified in the water. Pools of light can be seen on the sand contrasting the shadows. The foliage in the forefront of the image creates diffused light due to the leaves obstructing some of the rays.

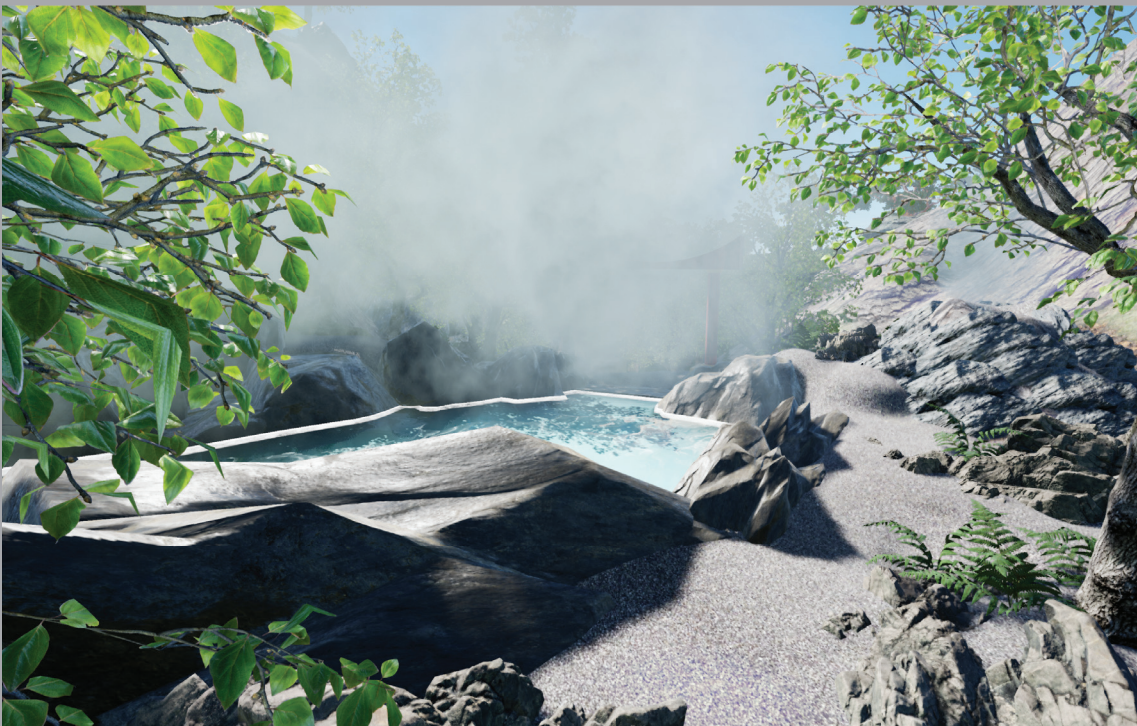
Figure C
Forest



A Prospect can be seen in the ridge line overlooking this small refuge. This space is a refuge due to it being sheltered from above and from behind through the large rock wall shown. A sense of mystery is created by the grass path leading upwards towards the ridge.



Pools of light can be seen on the grass and rocks around the pond. The pond provides light reflections as well. The space is enveloped with diffused light due to the large tree coverag.



Mystery is shown with the steam in the air obstructing some of the view. It cloaks what is on the other side of it.



Light reflections can be identified in the hot springs water. Pools of light can be seen on the sand and the rocks around the hot spring. There is diffused light present due to the surrounding trees mildly covering the space.

Figure D
Forest

Figure E
Cave



Risk/Peril is shown through the stalactite hanging from the cave ceiling. Mystery is shown by how the entrance of the cave curves around the corner hidden from view. The cave also provides a refuge space due to its enclosed nature.



Light reflections and pools of light can be seen throughout the caves' walls created by the mushrooms. The mushrooms also provide an example of negative phototropism which is described as growth away from natural light.

Figure F
Mountain



Mystery is shown through the path on the right side. Prospect can be seen through the path to the pagoda as well as the space the pagoda sits on. The pagoda can also be seen as space of refuge.



Pools of light can be seen on the ground and large rocks. Diffused light is present due to the trees and foliage obstructing some of the rays.



This image shows a participant moving through the created meditation experience. Currently in the beach biome, the participant is free to walk and explore the entirety of the island.



The Virtual meditation experience was created in Unreal Engine 4. Each biome was at different stages of development where layers of foliage were added to create a more immersible experience.

Creative Scholarship – Design as Idea
Presentation

Look Up: The Sky as a Ceiling in an Urban Room

John Humphries, Miami University

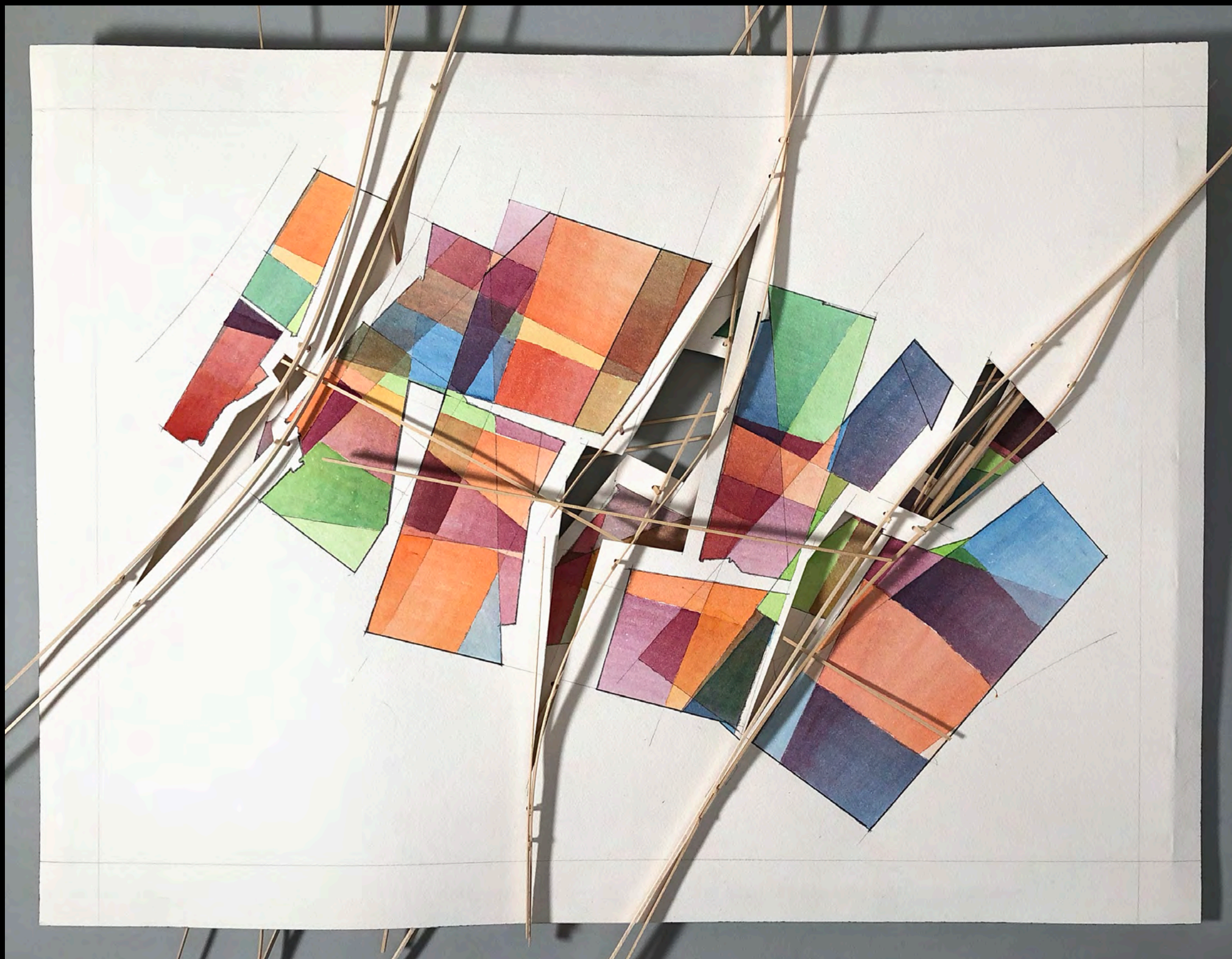
Design Statement

Drawings can be of any material they preference the materials and tools. Drawings have two dimensions. Or, could have three if we add depth to the plane: it is not impossible. Space has three dimensions. Or, could have four if we dared to add a story, a narrative, or memory: it is not impossible. For the last six years, my drawings have focused on the urban landscape of the Veneto Region of Italy, its rural and environmental aspects. The narrative of my work seeks features from the existing context to become the characters in a visual narrative. This work (in drawing and small constructed elements), seeks to describe the urban environment using these characters, exploring interactions where a plaza or intersection of streets occur, pedestrians, cars, bicycles, giant delivery trucks, children at play, and heat blasted urban trees all compete. In city centers, concrete and glass and stone ornament, cathedrals, and highway interchanges are the urban landscape. There is a quieter player, perhaps forgotten as we run about in cars with opaque roofs, spend the day looking only forward, squint in the heat of the summer, or stare down into a screen—the figure of the sky. This figure plays the window to the stratosphere and cosmos in a dense city. Each drawing captures the shape of the sky at three adjacent intersections of streets. One intersection per layer. These drawing propose a three-fold experience of discovering and understanding the urban room, the interior space and voids of a dense city. The sky is captured as a figure and made to be the prominent element in the drawings. The experience of a place is always at least in three parts. The top layer is the one learned about from word of mouth or research—a creature of anticipation. The second is the place and geometry of the actually experienced place—real geometry, real shapes, real textures. The last is the space fantasized about in memory. Each making connections to other experiences (the wooden elements). These

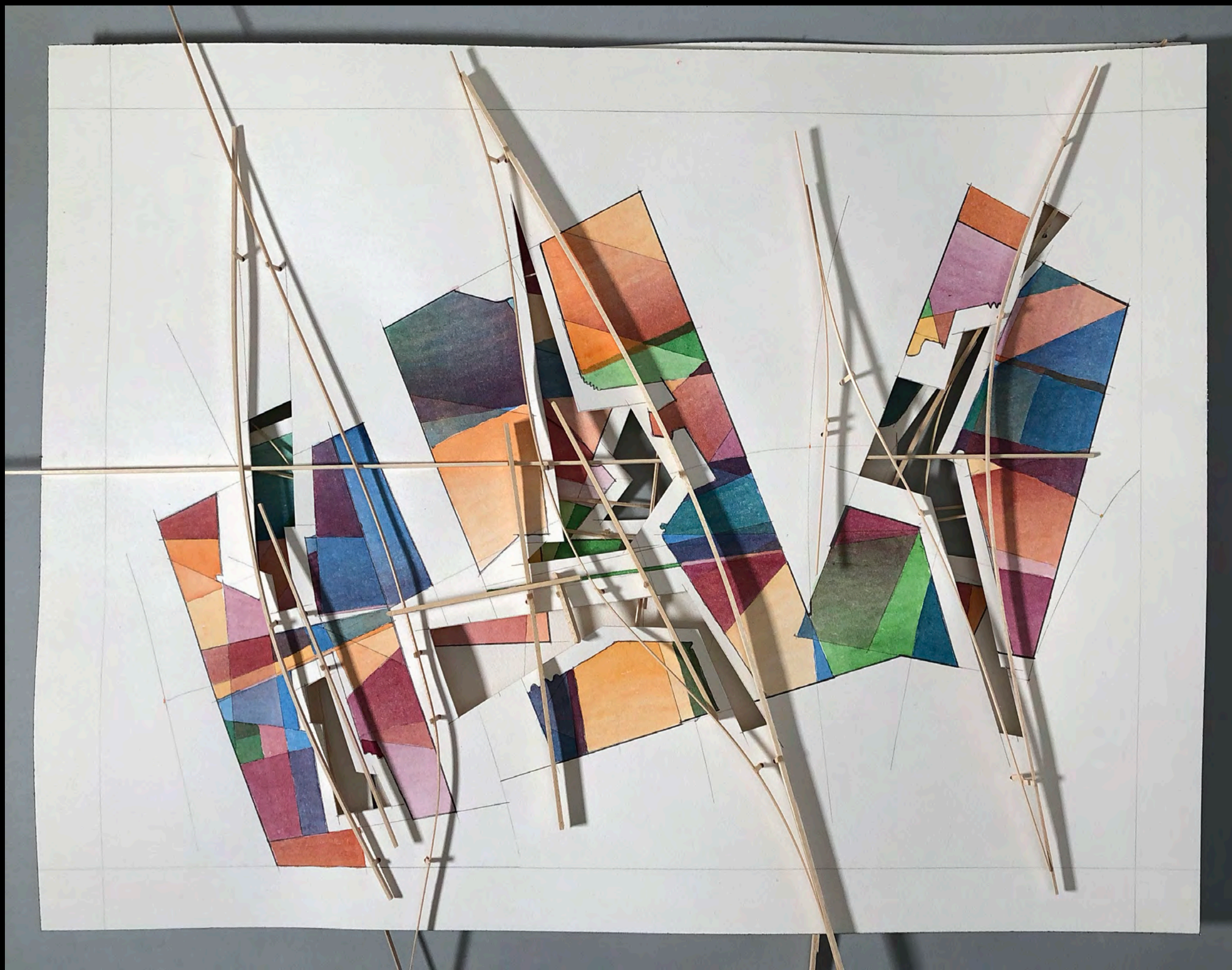
drawings represent (through abstraction) the actual nature of a series of urban rooms. In particular these are images of the sky in Verona and Vicenza.



Look-Up Verona 001



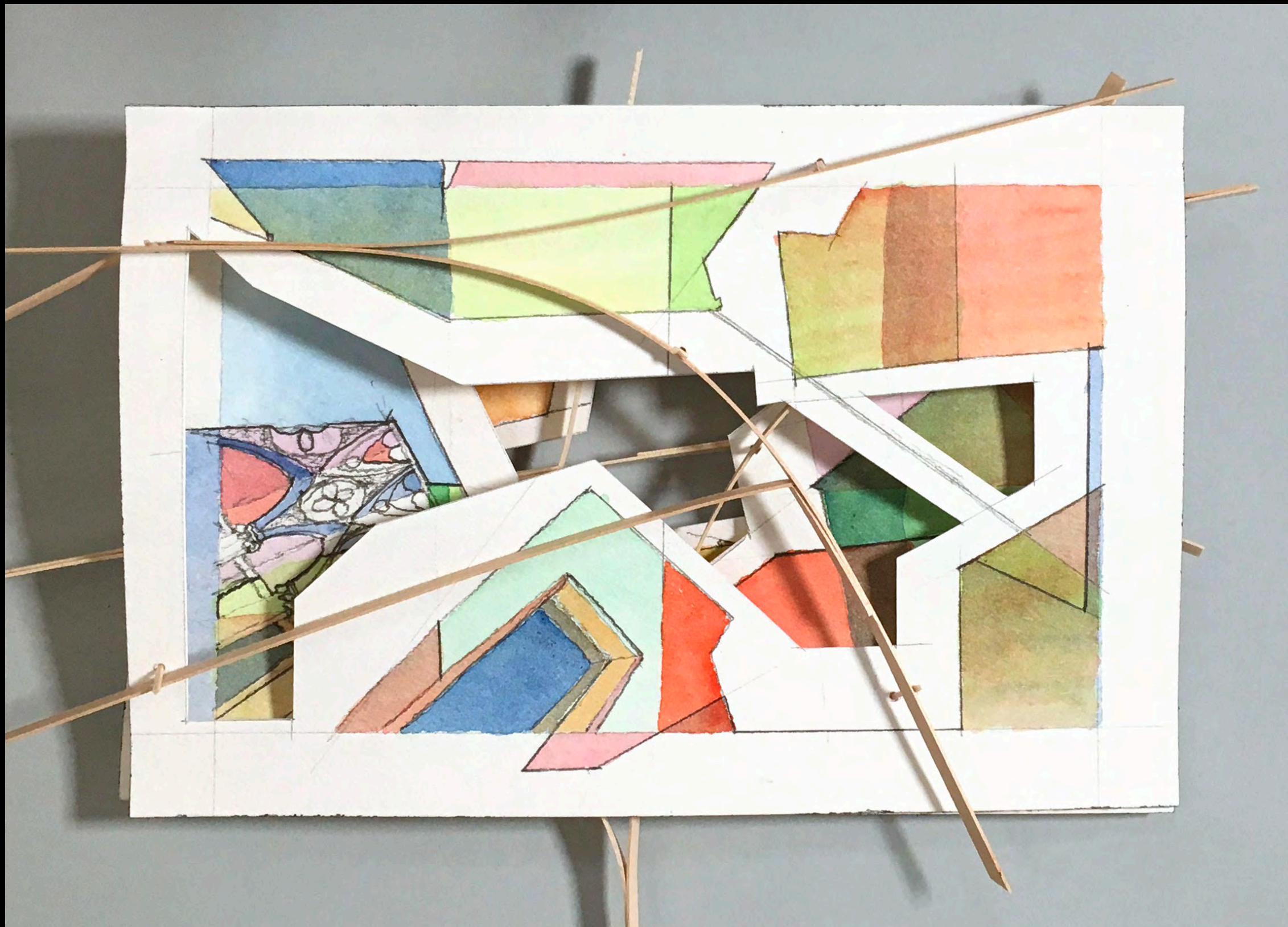
Look-Up Verona 002



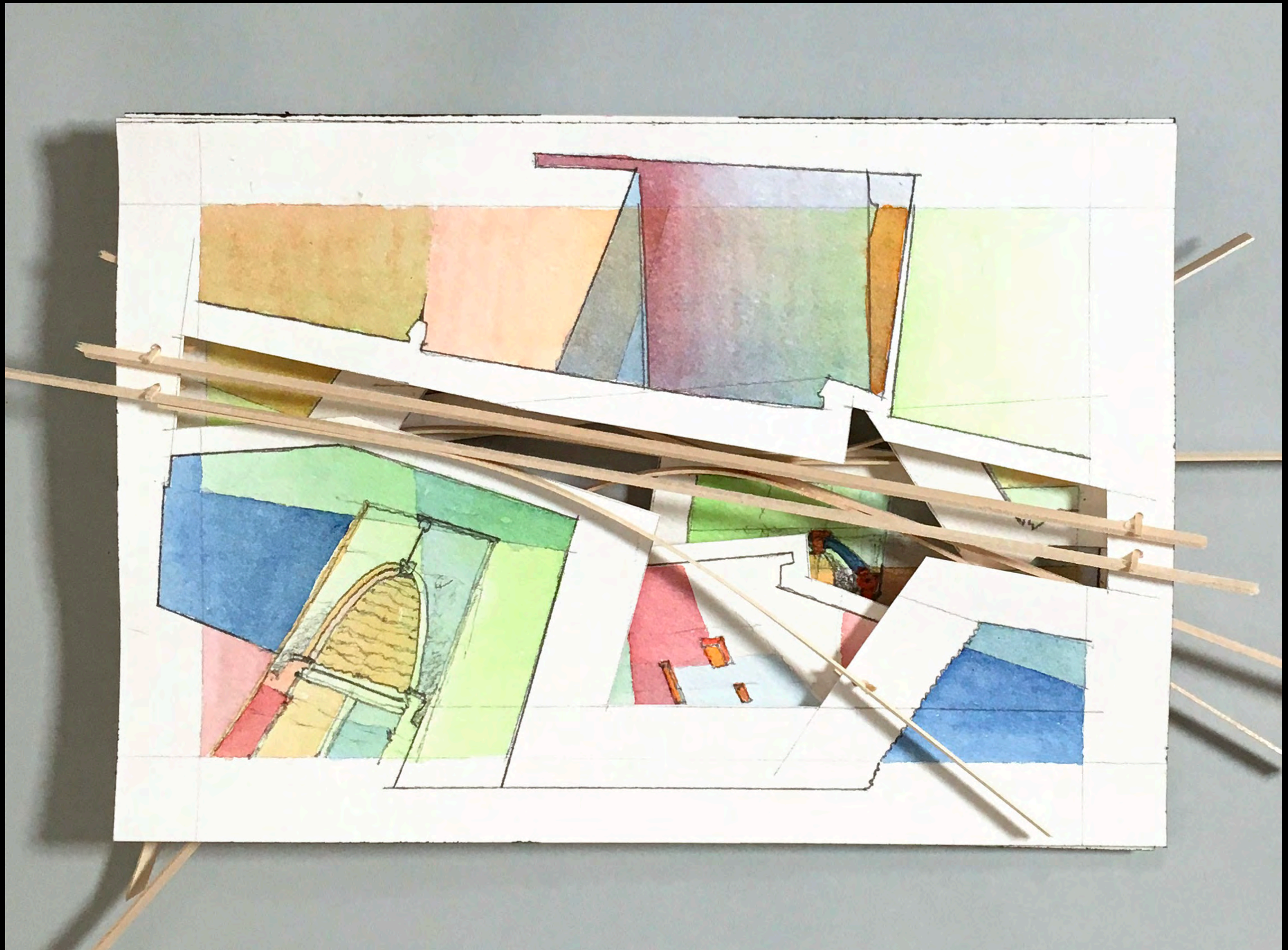
Look-Up Verona 003



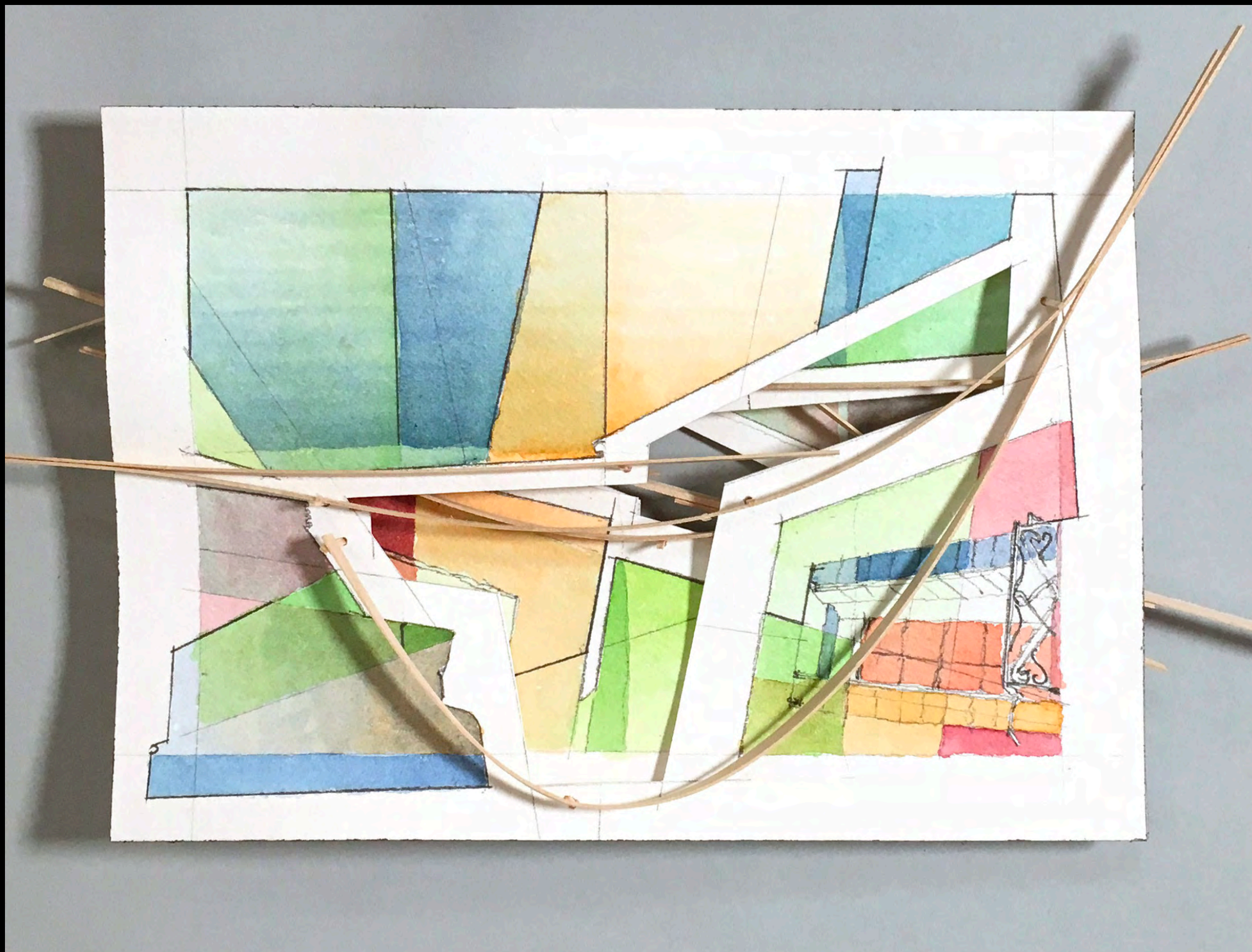
Look-Up Verona 004



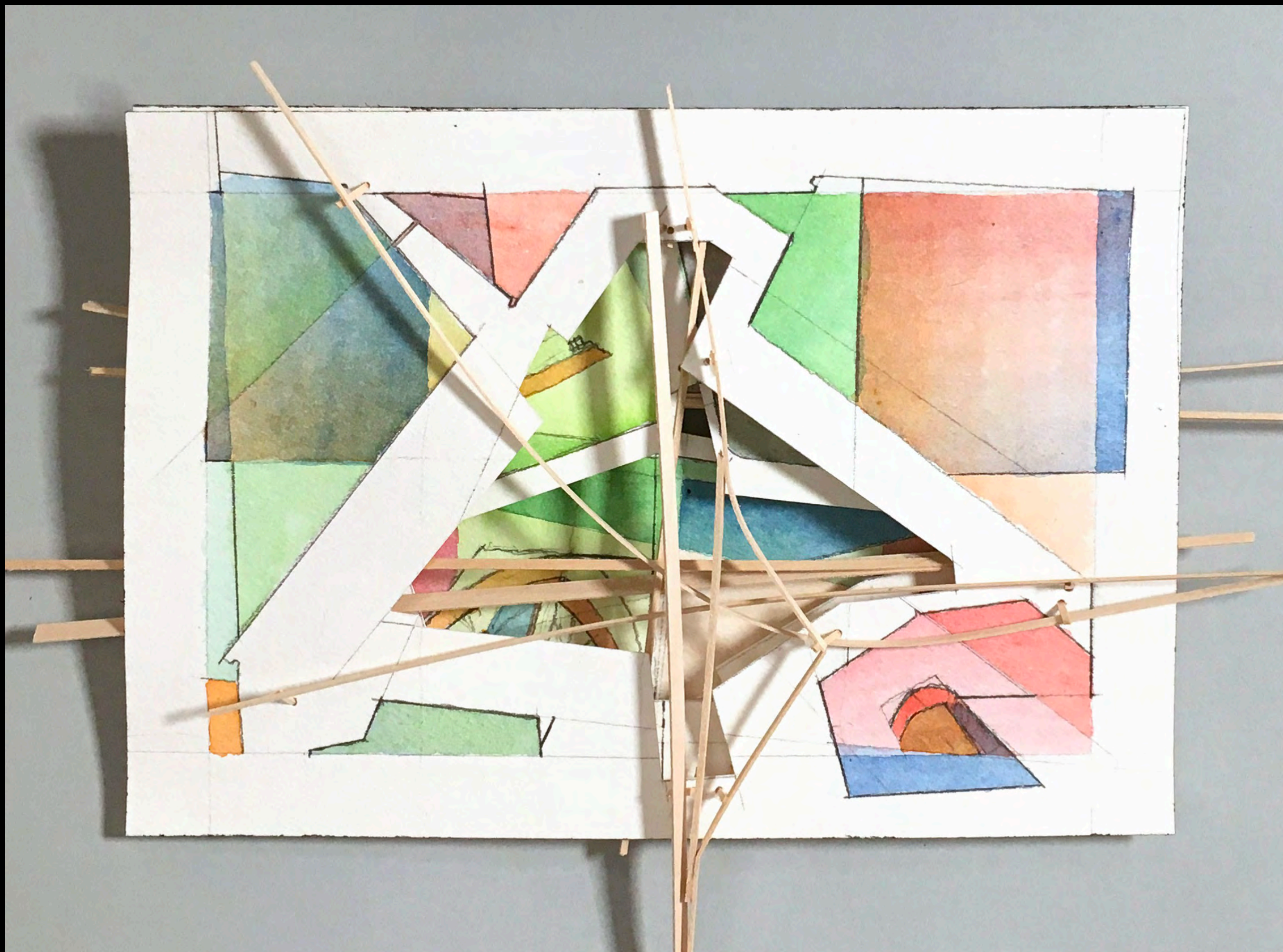
Look-Up Vicenza 001



Look-Up Vicenza 002



Look-Up Vicenza 003



Look-Up Vicenza 004