

# Examining the Value in Single-Purpose and Multipurpose Designed Interior Environments through Pedagogical Strategies Related to the Manipulation of Time

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## Introduction

Designing for patient-centered care infuses empathy into the creative process and that narrative inquiry offers a methodology to think about and create empathetic design that enhances awareness, responsiveness, and accountability. (Carmel-Gilfilen and Portillo, 2015) During the spring of 2017, VCU Interior Design faculty, in partnership with The Partnership for Aging with Autism Research Core (PAARC), developed a pedagogical framework to teach a creative process that builds and explores empathy in interior design students. This framework took the shape of a design challenge, implemented in both graduate and undergraduate studios, and was comprised of a design charrette phase (team work, short-time), design project phase (independent work, extended-time) and interactions with adult users (patients) of an adult-care center which served as the site for the design challenge. The graduate studio involved 12 first-year graduate students and the undergraduate studio involved 14 sophomore students and the design challenge required undergraduate and graduate studios to work together on teams during the design charrette phase and independently during the design project phase.

PAARC is a transdisciplinary core of designers and researchers from Virginia Commonwealth University Rehabilitation Research and Training Center, Gerontology Department, and Interior Design Department. The pedagogical framework (design challenge) incorporated the PAARC research goals and the resulting design challenge included the following:

- design of single-purpose interior environments through a design charrette process and multi-purpose interior environments through a design project process
- designing these interior environments at an existing site, a Richmond-based adult care center, A Grace Place (AGP), that provides individualized day support services for adults with disabilities, including autism, and age-related conditions
- designing these interior environments while supporting the best-practice programming developed by PAARC which address independence, stress reduction, communication, special engagement, and leisure skills for AGP users
  - to create an environment which maximizes the capacity to achieve the best quality of life possible for the clients of A Grace Place (AGP)
  - to develop design strategies specific to the activities of art, cooking, gardening, and music

- to provide community and individual spaces within the overall multipurpose space
- to design ancillary spaces for AGP staff that are both efficient (task-related duties) and restorative (short breaks and personal business)
- interaction with AGP users to develop empathy for and with the individual

Students explored their creative process in different contexts through the manipulation of time and work structures. The interactions with adult users at the beginning of the creative process required students to explore the user-population both as individuals and as a group – seeing these users as individuals was critical in building empathy.

Critical questions included:

- What impact does time (duration of assignment) have on design work types, qualities, and quantities?
- What impact does work structure (team vs independent) have on design work types, qualities, and quantities?
- Can a design process that involves manipulation of stimuli (time / team dynamics / solitary experiences) create empathy on the part of the designer for adult users, with disabilities or age-related conditions that experience stimuli differently than adult users without these disabilities or conditions?

## Methods

The design challenge explored the value in, and consequences of, single-purpose and multipurpose designed interior environments through various pedagogical strategies related to the manipulation of time. These manipulations took the forms of abbreviated, design charrettes and extended, independent work. The academic studio project goals included:

- to understand the values in and consequences of single-purpose and multipurpose designed interior environments
- to understand the challenges and opportunities in designing for clients with disabilities and healthcare professionals and care providers

The initial research phase of the design challenge asked students to explore excerpts from the following sources, Perception of Shadows in Children with Autism Spectrum Disorders (Becchio, Mari and Castiello, 2010), Sensory Stimulation And Autistic Children ([www.informedesign.umn.edu](http://www.informedesign.umn.edu), 2018), and The Sensory Experiences of Adults with Autism Spectrum Disorder: A Qualitative Analysis (R, 2018). Next, students were introduced to users (adults with disabilities and staff) at A Grace Place over the course of a 3-hour visit to the site on April 13, 2017. During this visit students participated in group activities designed for adults with different abilities and needs including physical group exercises, card games, reading of the daily news, and story-telling. Students also engaged with A Grace Place users individually during un-programmed time. At the end of the visit, students met with Lynne Seward, president and CEO of A Grace Place, to reflect and discuss their experiences. Lynne asked questions and provided additional insight into the experiences of AGP staff and reasons for designing group activities. The majority of students expressed that this visit to A Grace Place was a positive experience that allowed them to better understand the adult users of their designs. Observations included:

- furniture is inadequate for the needs of the users (adults with disabilities and staff)
  - worn to the point where it is visually unattractive – due to limited funds AGP accepts donations which has led to a mix of furniture of different styles and age
  - in some cases furniture was uncomfortable for the intended use – the furniture did not always fit the program
- visual aids (ie: calendars, posters, educational tools, activity charts, etc) lacked the sophistication that adult users would appreciate
  - color and design strategies were similar to those found in early childhood education settings
- the range of abilities, of the AGP users, was broad and therefore challenging to address in group activities
- the majority of AGP users initiated interaction with students or reacted positively to interactions that were initiated by students
- AGP staff were challenged to address the range individual users' needs during group activities
- access to outdoor environments that provided safe, designed / programmed experiences for AGP users, were limited

Four students (three undergraduate and one graduate) expressed sadness and / or discomfort at interacting with the adult users but acknowledged the value of the visit.

The next phase of the design challenge was the design charrette phase. The five charrettes were designed to focus work on single-purpose investigations dealing with singular programmatic activities stemming from the PAARC project goals. By focusing solely on one programmatic activity, and by working in teams, project variables created focus (subject) and chaos (multiple perspectives and strategies) within an abbreviated period of time (one week).

Each charrette assignment included the following steps:

**step 1 (concept)**

- explore cooking as an activity, action, act, ceremony, service, skill set, chore, or other
  - explorations should be in 2 and 3 dimensions as well as verbally
  - determine what ethos, specific to cooking, your team will use to guide your charrette work

**step 2 (schematic)**

- develop an architectural language that explores and communicates cooking
  - connect back to the design principles and elements
  - this language should be explored in 2 and 3 dimensions as well as verbally

**step 3 (development)**

- design an interior environment that communicates your cooking ethos to its users through the activity, action, act, ceremony, skill set, chore (or other)
  - architectural language must inform all walls, floors, ceilings, furniture, and lighting

**step 4 (communication)**

- produce a series of drawings, diagrams, tools, and / or models that communicate your ethos, architectural language, and design strategies

- innovative process yields innovative strategies and solutions
- can be digital or hand generated
- work must use a language of materials, means, and methods that aligns with ethos

Students were directed to work in teams that involved colleagues from both the undergraduate and graduate studios. These teams were comprised of six or seven students. Charrettes were one week each and required students to investigate each of the five purposes listed below as teams comprised of undergraduate and graduate students

- charrette 01 – cooking
- charrette 02 – gardening
- charrette 03 – music
- charrette 04 – art
- charrette 05 – architecture sensory prop

Examples of the design charrette phase work (charrettes 01 – 04) are seen Index 01. Once the five charrettes were completed, students entered into a phase of independent work. The independent work was designed to focus work on multi-purpose investigations dealing with a number of programmatic activities stemming from the PAARC goals. By widening the focus, narrowing the chaos, and extending the period of time students had to complete the challenge, the impacts of these variables on quality of work was better understood. Investigations were measured by student-generated deliverables including models and drawings speaking to concept and strategy as well as drafted architectural strategies for the actual interior environment within A Grace Place. Project deliverables were recorded for use by PAARC team members and also provided to the director of A Grace Place.

The independent work included the following steps:

- to design an environment in which AGP clients and case managers are engaged in the following activities:
- cooking, gardening, music, and art
- to develop a design concept and strategies that address similar considerations to those addressed during the design charrette phase

spatial considerations

- indoor environment ~ 1,500 sf (min 50sf / user)
- outdoor environment ~ 750 sf (weather and natural elements)
- min ceiling height 9' / max ceiling height 15'
- multiplicity - fluid approach to overlap of props/ activity zoning and associated architecture being used in indoor and outdoor environments
- identify fixed and transferable elements (furniture, appliances, casework, lighting, and furniture)
- storage - secure and accessible

architectural considerations and systems

- transferable to any building type with a range of configurations

- focus on profiles and configurations rather than mechanics
- weight - ease of use, ease in moving or transferring
- cleaning, maintenance
- flexibility and interchange of indoor and outdoor components
- implied use - implied "home" (communicating where things go, how they should be maintained)

Examples of the design project (independent) work for the graduate studio are seen Index 02.

## Conclusions

Empathy required education and personal interaction. The initial phases of work – research and interactions with users at A Grace Place – were critical. The charrette process was valuable in leading to specific knowledge of programmatic activities that were a part of the multi-purpose design strategies in the independent work. If replicated, the charrette phase would involve narrower constraints to provide more specific direction to students and the independent phase would require more attention to be given to props and tools that directly engage the users with the architecture.

## Index 01

team 1 – selections from charrette deliverables

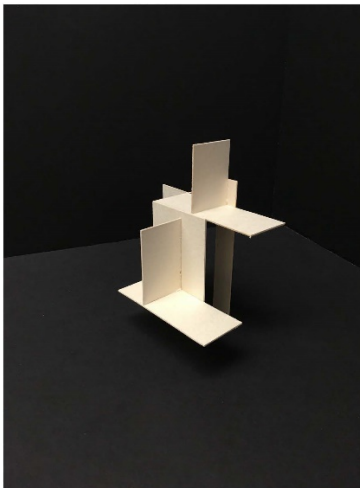


figure 1: process model (cooking)

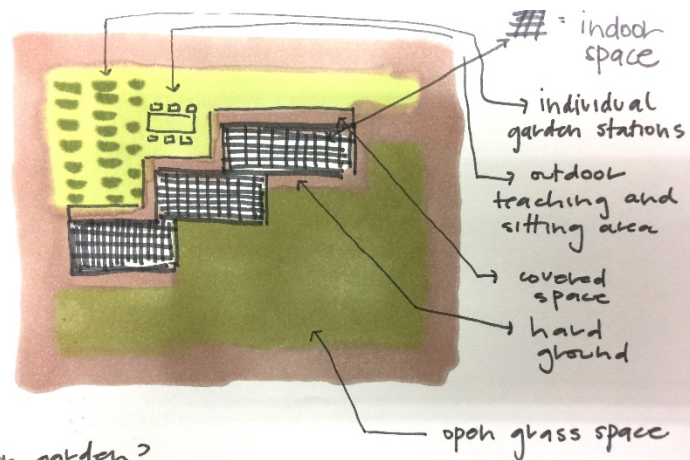


figure 2: plan view sketch (gardening)

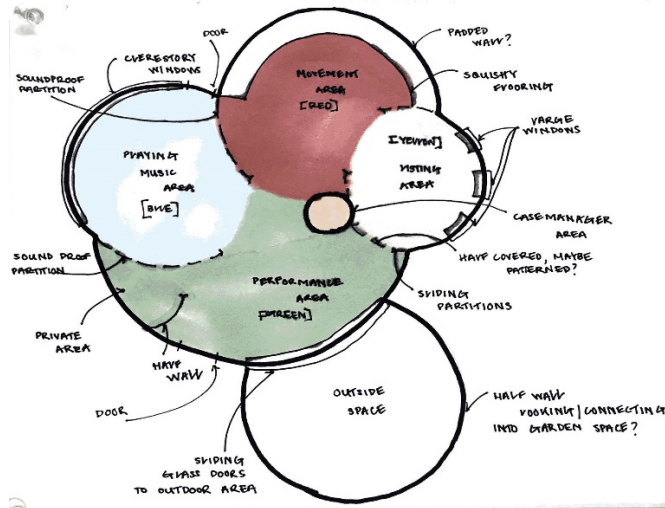


figure 3: process diagram (music)

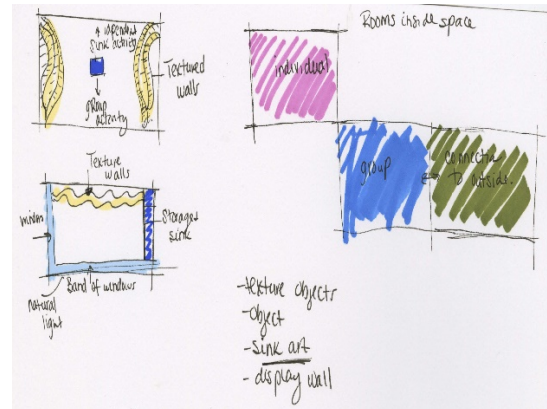


figure 4: process diagram (art)

team 2 – selections from charrette deliverables

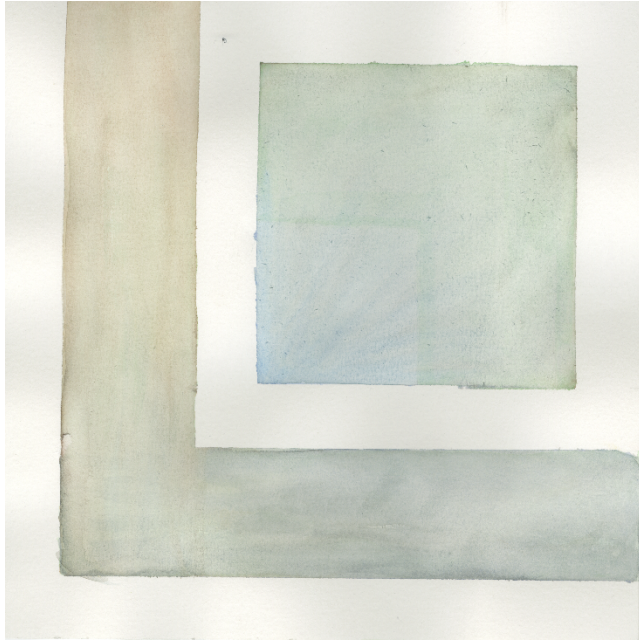


figure 5: process sketch (cooking)

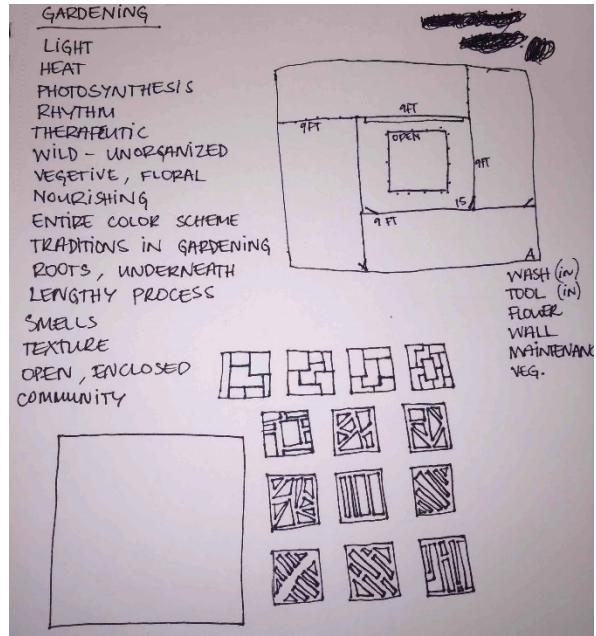


figure 6: brainstorming / diagramming (gardening)

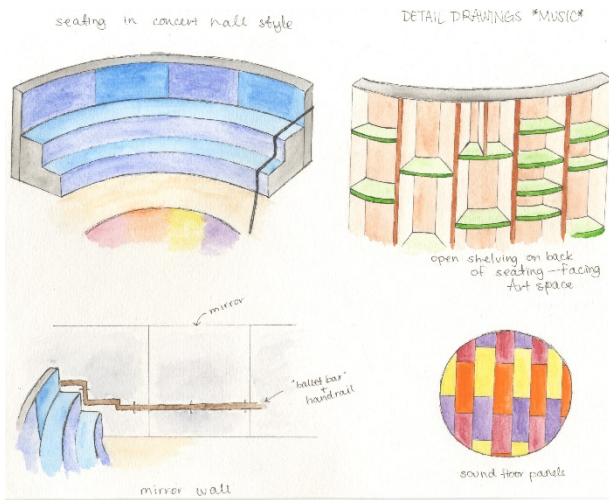


figure 7: design development (music)



figure 8: process diagram (art)

team 3 – selections from charrette deliverables

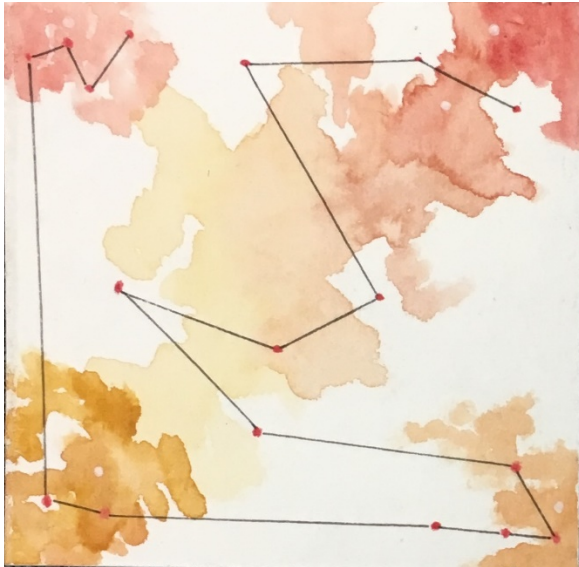


figure 9: process sketch (cooking)

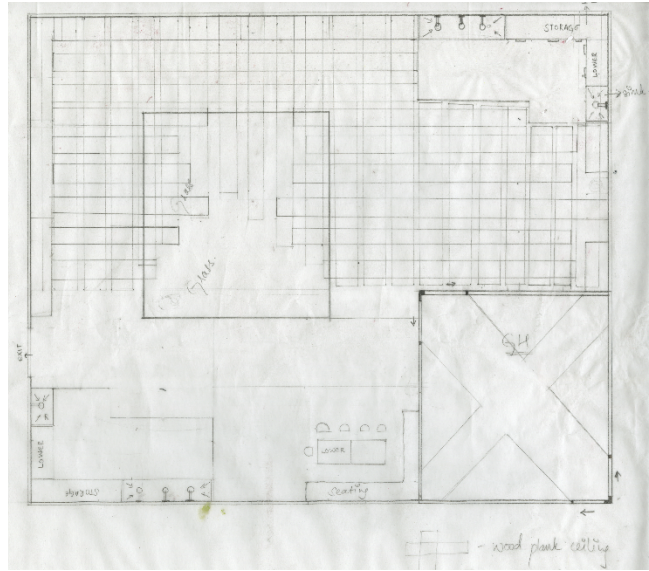


figure 10: plan view (gardening)



figure 11: process sketches (music)

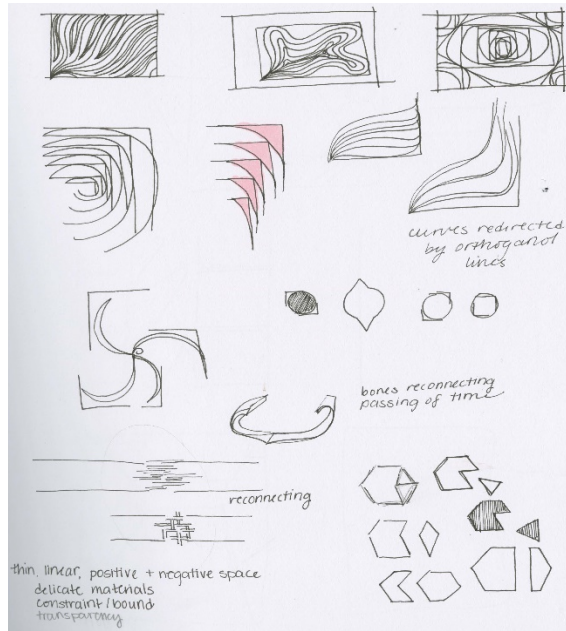


figure 12: process diagram (art)



team 4 – selections from charrette deliverables

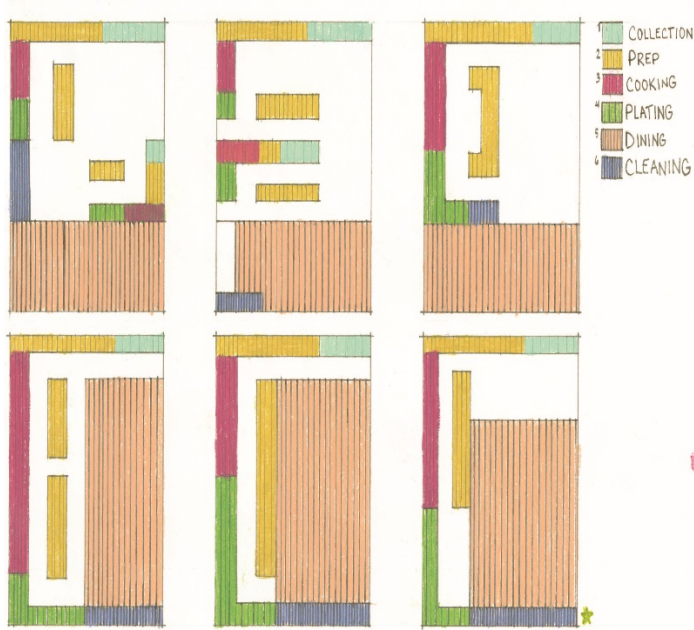


figure 13: diagramming (cooking)



figure 14: vignette (gardening)

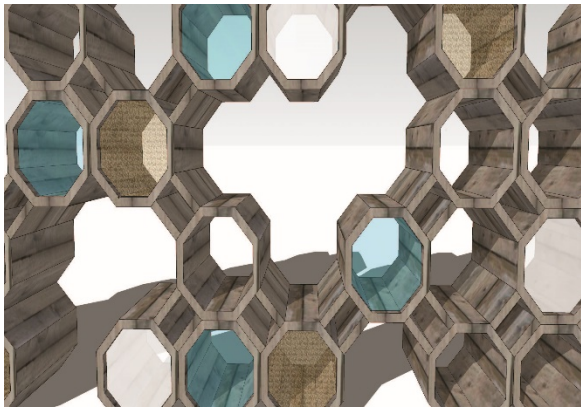


figure 15: process sketches (music)

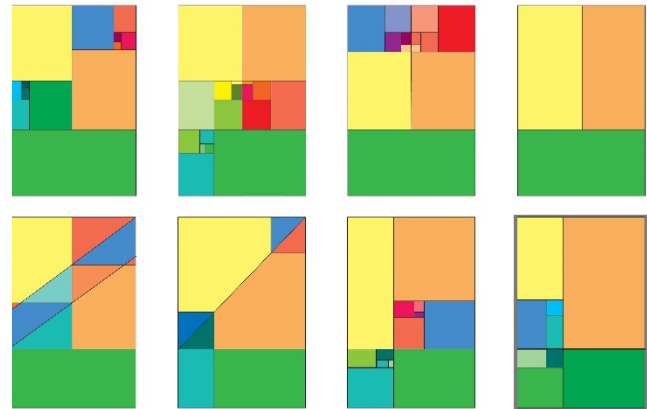
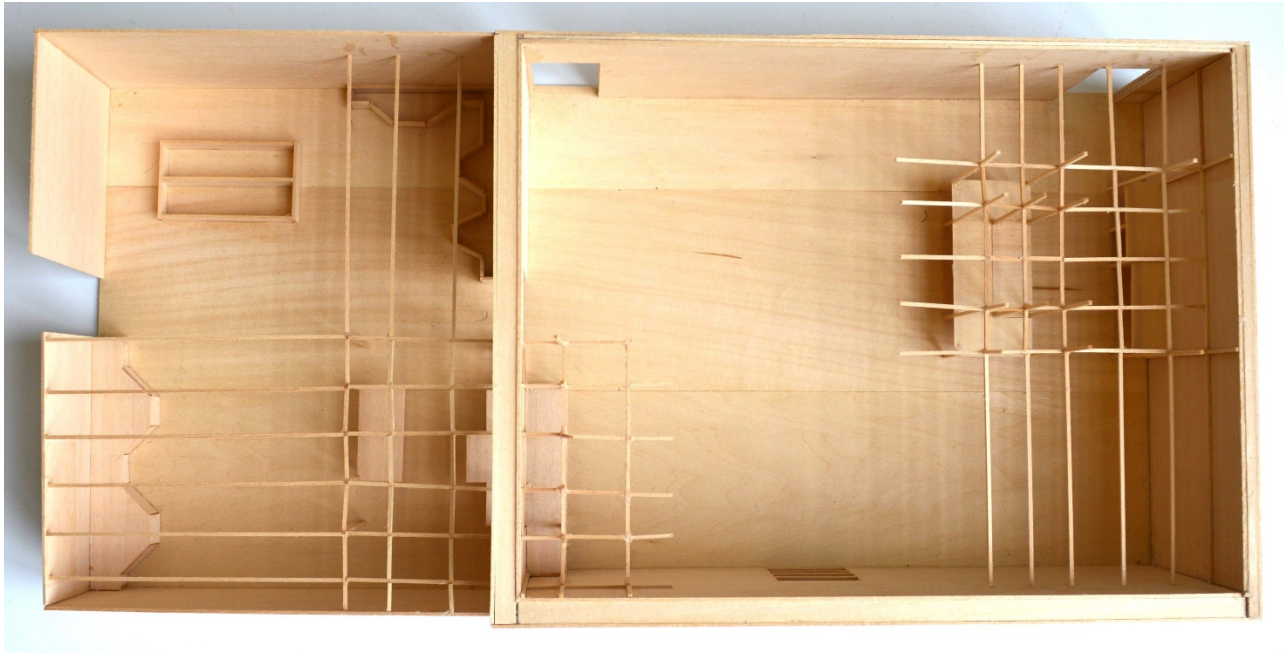


figure 16: process diagram (art)

## Index 02

independent work – final design project model, basswood



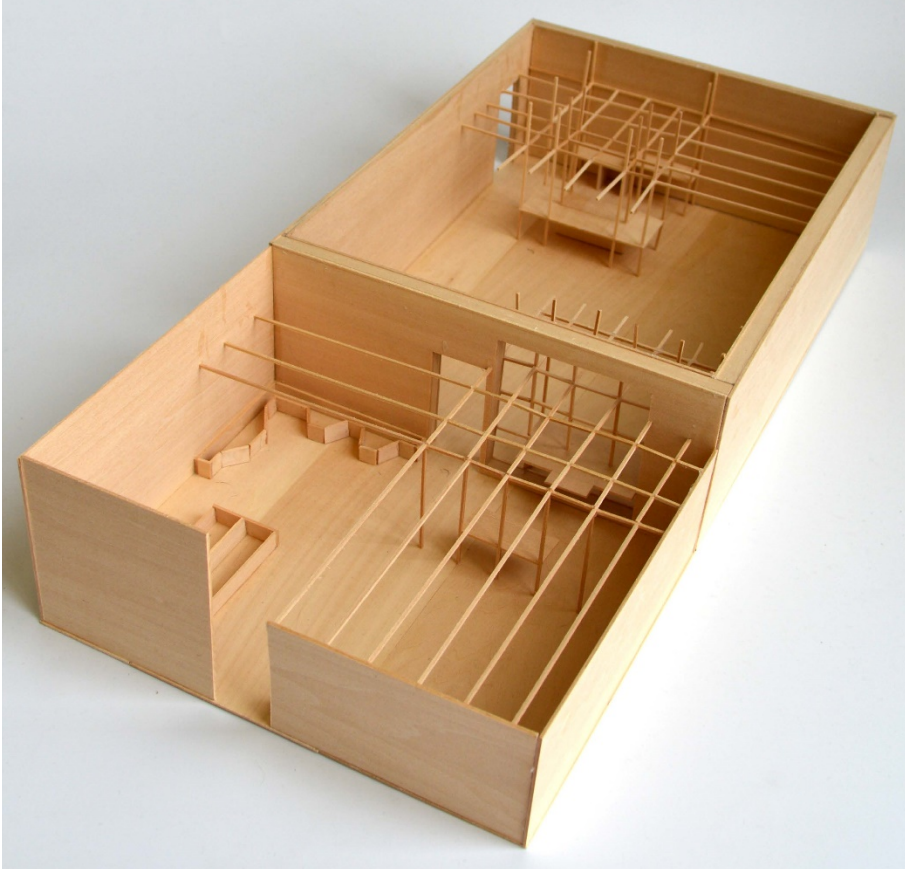


figure 17: graduate student - Williams

## Index 02



figure 18: graduate student – Ye

## References

1. Becchio, C., Mari, M. and Castiello, U. (2010). Perception of Shadows in Children with Autism Spectrum Disorders. *PLoS ONE*, 5(5), p.e10582.
2. Carmel-Gilfilen, C. and Portillo, M. (2015). Designing With Empathy. *HERD: Health Environments Research & Design Journal*, 9(2), pp.130-146.
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4. R, R. (2018). The sensory experiences of adults with autism spectrum disorder: A qualitative analysis. - PubMed - NCBI. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/26422904> [Accessed 10 Apr. 2018].
5. All images provided with permissions by authors and developed in the spring of 2017.