

# Youth decarceration: Using sketch models to explore non-punitive attitudes

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## ABSTRACT:

Many forces drive change in the youth incarceration system in the United States, including a newly appreciated need to treat youth offenders with trauma-informed care (Olafson et al 2016). In the case discussed here, the University of Minnesota, and Hennepin county in Minnesota, USA, interested in replacing the existing suburban youth correctional facility with community-based treatment facilities, worked together to explore the role of architecture in creating appropriate settings. The design of existing youth incarceration facilities despite intentions of rehabilitation and treatment, often conveys negative ideas such as punishment, privation and shame. The design studio asked how to design architecture that supports positive attitudes such as pride, hope, curiosity and safety? The focus of this paper is an exercise in which students were asked to explore different attitudes using sketch models.

Sketch models, rough, quickly made, ambiguous physical models, “crafted for their own ends, separated from the goal of a final design.” (Morris, 2006:37), allowed students to explore how architecture conveys and/or supports feelings, attitudes and behaviors. This paper presents student explorations that combine models with annotations and drawings, demonstrating their value in exploring attitudes. Such models show spatial arrangements without a big investment of time, allowing spatial ideas to be quickly developed. Combining comparative models with annotations and drawings allowed for development of more detail and examination of design intentions, often generated unconsciously, to be made explicit. The exercise gave students an understanding of how the attitudes they were exploring could be manifest in design, thus permitting their pursuit consciously in later phases of the project. By pursuing two contrasting attitudes students came to understand how they could combine ideas to make more complex designs.

**KEYWORDS:** Youth; Incarceration; Trauma-Informed Care; Sketch Models; Attitudes

## 1.0 INTRODUCTION

In the United States a concern with mass incarceration, high rates of minority confinement, and in facilities for youth, has generated a national movement toward deinstitutionalization and inclusion of trauma-based treatment. There is increasing awareness internationally, that youth who get in trouble with the law often are subject to trauma in their home and community (Royal Australasian College of Physicians, 2011), and that facilities need to treat youth for this condition (Ford et al, 2006).

The research described here took place between 2018 and 2019 in the context of an architectural design studio that was jointly taught by Julia Robinson a university instructor, Daniel Treinen an architect in BWBR Architects, a firm that designs justice facilities for youth, and Angela Cousins, a government official in the local, Hennepin County department of corrections who works with facilities for adjudicated juveniles. The purpose of the studio was to investigate new approaches to program and design of facilities that move away from older attitudes of punishment toward youth, and toward education, rehabilitation, transformation, and de-institutionalization. The studio, taught for two years with anticipation of at least one additional year, was conceived as a research-based course that engages in exploratory research as community-engaged scholarship (Robinson & Christenson, forthcoming). The first year it was taught, working with the corrections data, the class identified two neighborhoods from which most adjudicated youth in the juvenile facility originated. The subsequent year, the studio affiliated with the University Research and Outreach-engagement Center, a university neighborhood research center, and worked with

community participants to understand, and design for the specific neighborhood context of North Minneapolis.

A central purpose of the studio was to understand how ideas, attitudes and behaviors represented in architecture can inform the design of youth facilities in support of healthy environments. Sketch models are described by Morris as “three-dimensional sketches, ideas made visible but not concluded in any way. They need not strain to arrive at a definitive model, but can be crafted for their own ends, separated from the goal of a final design.” (Morris, 2006:37). They were chosen as a way to explore the relation between design and attitudes. These are accompanied with sketches and annotations that explore why and how the models are designed, addressing assumptions, hypotheses and design directives.

## 2.0 SKETCH MODELS AT THE UNIVERSITY OF MINNESOTA

The material architectural sketch model is an acknowledged form of investigation in architecture (e.g. Mills, 2005), but there is little scholarship around its use to study sensory ideas of materiality and relationship, rather than such concerns as structure and buildability. In contrast to the study model, or the digital sketch model, which represent an already-formed design idea, the content of the material sketch model emerges as it is constructed.

There is a history of the use of sketch models at the University of Minnesota School of Architecture. In the 1980s inspired by design instructor and phenomenologist, Gunter Dittmar, who introduced the Rip-N-Tear model to the school (Mulfinger, 1985), many colleagues began to use sketch models in a variety of ways (e.g. Weeks, 1985; Robinson 1990). Dittmar saw the sketch model, or Rip-N-Tear model as he named it, as a way to explore the phenomenological aspects of design. He assigned the models for their potential to suggest the ineffable, of the poetics of space. The ambiguity of the models allows designer and viewer to read many possible ideas into them, which interested other faculty to apply them in a variety of ways, even though Dittmar thought his colleagues used the models incorrectly.

Several faculty members used the models to explore narrative; for example, students might read a provocative story and design the place it evoked. Students would model and sketch the settings, using the narrative descriptions as the basis for a design. Other faculty members saw the possibility of annotating models and drawings to making implicit ideas conscious. For example, Dale Mulfinger (1985) and I (1990), have paired sketch models with annotations that encouraged students to identify elements in the model that could be used in design. In a studio with Stephen Weeks in the early 1980's on the design of a Sherlock Holmes library, he and I were interested in annotated drawings and had the students make sketch models as well as drawings that they annotated (see Illustration #1). Additionally, in studios

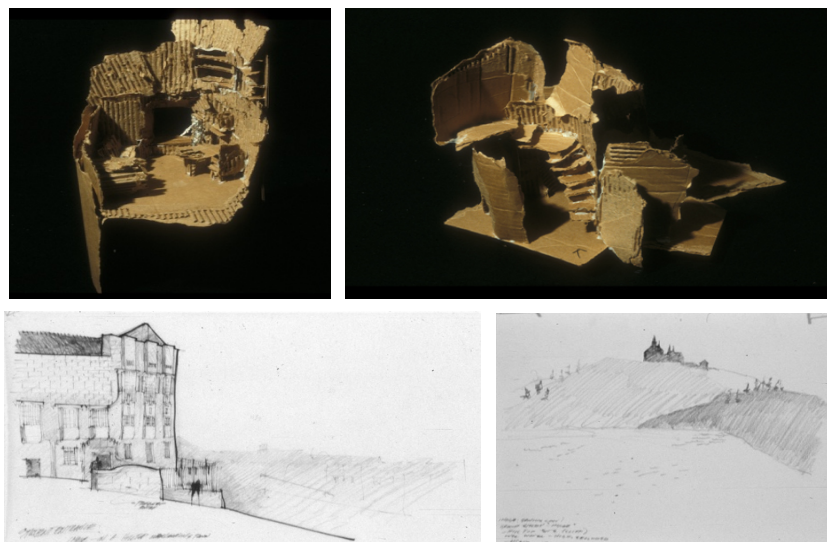
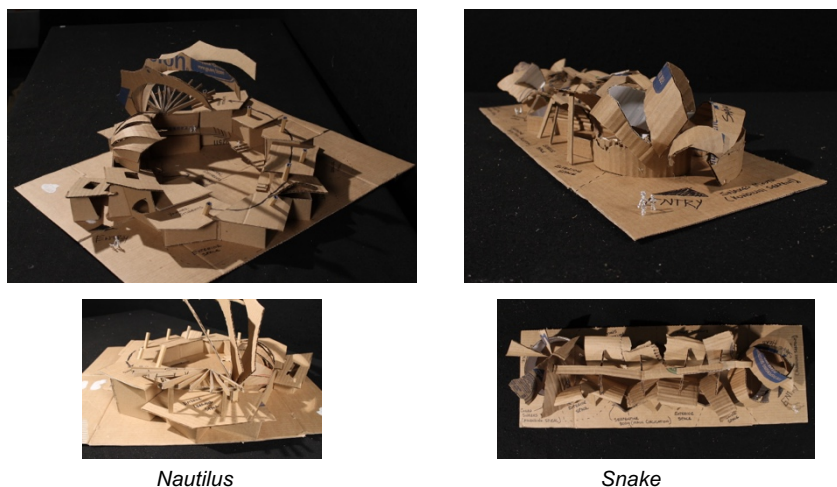


Illustration 1.

*Sketch Models and Annotated Drawings Used to Explore Scholar Spaces at a Sherlock Holmes Library  
Work by Julie Maple, 1988, Instructors, J. S Weeks and J. W. Robinson*

with Dale Mulfinger and Lance LaVine we assigned sketch models along with drawings and annotations for several different exercises. Sketch models continued to be used by a variety of faculty as a teaching tool into the 1990's, and early 2000's, although recently their use is significantly reduced.

Nevertheless, I have continued to employ sketch models in my teaching as a way for students to examine the relation between ritual and place, and, often using analogy, to bring all the small explorations together to develop an overall design, using exercises from *Programming as Design* (Robinson & Weeks, 1984). Typically, the ritual-place exercises ask student to include scale figures in the model, to make annotations on the model, or to make sketches of their key findings and annotate the sketches. The exercises examining individual spaces are combined to make several optional spatial arrangements for the building. The annotations of the individual spaces and of the overall arrangements are used to make the ideas explored in the models explicit, so they can be consciously used in design. This is the approach taken in this research.



*Illustration 2. Sketch Models Showing Two Arrangements of a Waldorf School Developed Using Analogy  
(note annotations on the models)*

*Mark Norberg for Arch 3282: Architectural Programming, Spring 2012, taught by the author*

### 3.0 INVESTIGATING YOUTH INCARCERATION

In the fall of 2017, stimulated by Angela Davis's and Michelle Alexander's work on prisons and Jim Crow (Davis 2003; Alexander 2012), I decided to apply earlier research on de-institutionalization (Robinson, 2006) to incarceration. Being without funding or expertise on incarceration, but having made contact with other researchers working on the topic at the university, especially law professor, JaneAnn Murray, I saw an opportunity to begin research on the issues with students in design studio classes. The names of the classes show the evolution of research and understanding between the initial semester studying incarceration in general and the later studies about addressing youth: Reconceiving Incarceration (Spring 2018), Reconceiving Youth Incarceration (Fall 2018), Preventing Youth Incarceration (Fall 2019), Expanding Youth Opportunity (Fall 2020).

#### 3.1- First Studio: Reconceiving Incarceration for Adults

I organized the first iteration of teaching by myself with advice from faculty members from the Law School and Public Affairs, as a 7-week vertical (for years one and two) graduate student design module that focused on adult incarceration. During the module, students visited a local adult correctional facility, completed assigned and discovered readings, watched videos on prisons and Jim Crow and solitary confinement, and engaged in discussions with invited speakers. The instructional approach included exercises on preconceptions, precedent analysis, ritual-place analysis, and schematic design development. The studio assignment was the design of a non-punitive prototype to be located an ideal site type of their choosing.

The sketch exercise was a central feature of the process of designing a non-punitive facility. It was seven days long, beginning in the third week of the seven week course. At this point in the research, several invited speakers had described their experiences 1) being incarcerated, 2) as parents of adjudicated youth 3) as lawyers working with the incarceration system, 4) as designers of youth facilities for incarceration or mental health, or 5) as workers in incarceration facilities. Several of these individuals also participated in reviews. The just-completed precedent analysis included innovative European sites for adult and youth offenders, as well as other institutional settings where non-incarcerated people live in (dormitories, nursing homes, summer camps, convents, monasteries, etc.). In consideration of such precedents, the sketch exercise explored such attitudes as education, normalization, and therapy, some proposed by faculty others by students.



**Therapeutic: Living Units**

Units emphasize daylighting and connection to nature, containing expansive views and direct access to the outdoors. Cushy furniture, a bathtub, and personal artwork provide therapeutic touches.



**Individual Growth: Living Units**

Units are customizable and furniture rearrangeable to individual tastes and are meant to teach residents how to take responsibility for maintaining their own living spaces.

*Illustration 3. Sketch Models Exploring Non-Punitive Attitudes for Incarcerated Adults  
Design Module Spring 2018: Arch 5250: Reconceiving Incarceration taught by the author*

Students were asked to choose two contrasting attitudes to represent, and most took normative incarceration as one attitude and another attitude for contrast. The paired models and associated sketches and annotations led to design features the students employed (see Illustration 3), although the annotations were somewhat limited, and the level of insight was inconsistent across students, with some students identifying a number of specific features, and others providing more generalized conclusions. The graduate students understood the purpose of the exercise and used it effectively, including generating a final schematic design from the sketch models of the parts.

The guests at interim reviews included faculty from the law school and the institute for public affairs as well as several from the county department of corrections, including Angela Cousins from juvenile facilities, with whom I agreed to continue to research the following fall. The reviewers were especially fascinated by the explorations of alternative attitudes.

### 3.2- Second Studio: Reconceiving Juvenile Rehabilitation

The second iteration of the class was a 15-week design studio in which pre-professional undergraduates in their last year of study work with practicing architects. In most instances, practicing architects with teaching experience lead the students in a project that their office has completed or is working on. The studio is conceived as providing the opportunity for students to complete the design development of a project, providing experience with working drawings. In contrast, this project was research-oriented and both the practicing architect and the instructor from the county department of corrections were interested in understanding more about youth incarceration. The architect's firm designs facilities for adjudicated youth, and the department of corrections was interested in improving their youth facilities as well as developing a spectrum of care for youth.

Because we had fifteen weeks, we were able to visit more facilities, this time including the adult incarceration facility visited in iteration 1, but also the local site for youth offenders, and as an exemplary comparison, an architecturally notable addiction treatment center for adolescents. Again, during the semester the students completed assigned readings, identified new important areas for research, watched



the videos on incarceration, and heard guest speakers, but this time focusing on youth and including a psychiatrist who spoke on adolescent mental health. The instructional approach was similar, but with the extra time, included neighborhood and site analysis.

The two-week sketch models assignment took place in week four, right after the precedent analysis exercise and lasted two weeks, again exploring the themes of non-punitive design. Unfamiliar with sketch models, it took the undergraduate students a while to understand how they could reveal attitudes, and how to use drawings and annotations to document their learning. Some students grasped the idea (see Illustration ), but others did somewhat impoverished models and drawings.

Once again students were encouraged to understand attitudes such as education, normalization and therapy. As before, they were asked to make paired models of a range of place types such as social spaces, eating places, circulation or corridors, sleeping areas, etc. Students used the models to explore different attitudes about spaces, but only loosely used pairing as a tool. Nevertheless, most students carried ideas identified at this stage into their final designs. We did not ask students to use their sketch model explorations to generate the overall design.

Subsequent to the sketch model study, students deepened their research, and in response to research specifically on adolescents, included consideration of trauma-based care. Additionally, students became concerned for institutionalized racism in response to our site visits, where we found that youth in the county facility housed exclusively youth of color, while the addiction treatment center housed 90% Caucasian youth. Statistics from the department of corrections showed that the youth in the county facility came almost exclusively from impoverished areas. As a result of these discoveries, the class decided that it was not appropriate to simply design better facilities, but that youth incarceration needed to be prevented. The county had suggested the class develop a spectrum of care for adolescents, but due to our findings, the group decided we needed to understand a spectrum of care for the families and the neighborhoods as well as youth. These discoveries led many students to consider designing places not just for youth, but also for families. At the end-of-semester review, the students suggested moving the sketch exercise to later in the semester when they had selected their program.

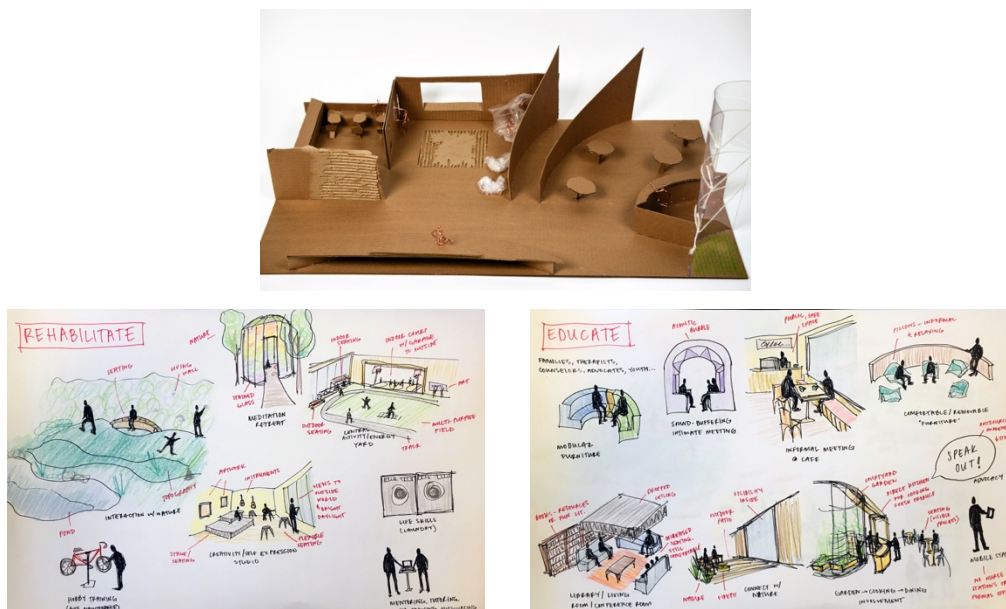


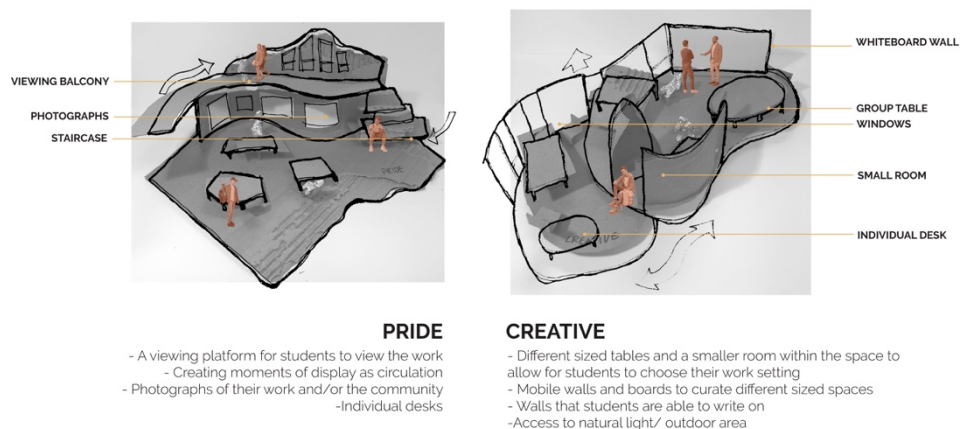
Illustration 3  
Model Exploring Entry & Annotated Drawings Identifying  
Architectural Characteristics of Rehabilitation and Education for At-Risk Youth,  
Kelly Mork, Architecture 5212: Reconceiving Youth Incarceration, Fall 2018

### 3.3 Studio 3: Preventing Juvenile Incarceration

Iteration three took place in fall of 2019. Because the previous studio had identified neighborhoods as being important contributors to the solution, this year -again working with architect Daniel Treinen and department of corrections juvenile representative, Angela Cousins- we decided it would be important to include community members in our research. The studio affiliated with the University of Minnesota's Robert J Jones University research and Outreach-Engagement Center on the city's Northside that was the site for a community meeting at the beginning of the semester and four additional reviews. These reviews included community participants who had been identified by a consultant recommended by the center and who received a stipend to work with us.

Like the previous year, the fall 2019 class engaged with readings and videos, visited the two incarceration facilities and the center for teen addiction, and heard from various experts. The class also toured the neighborhood and visited a neighborhood health center. Whereas previously the sketch exercise introduced the program, following the recommendation of the previous year's students, this semester we assigned the sketch exercise in week seven, after students had identified their program, as a way to explore the character of the facility. The exercise only lasted one week, which turned out to be more successful, as the students were motivated to explore spaces they knew were part of their design. Probably as a result of this improved understanding, the choice of attitudes transformed from being what one might call "building function-based," such as "education," "normalization," and "therapy", to more specific terms, such as "curiosity," "transparency," "vulnerability," "security," "pride," and "creative" that captured the feelings they were trying to engender in their buildings. Again, students were asked to select contrasting terms to represent, and to feel free to represent apparent contradictions in the models.

#### STUDIO

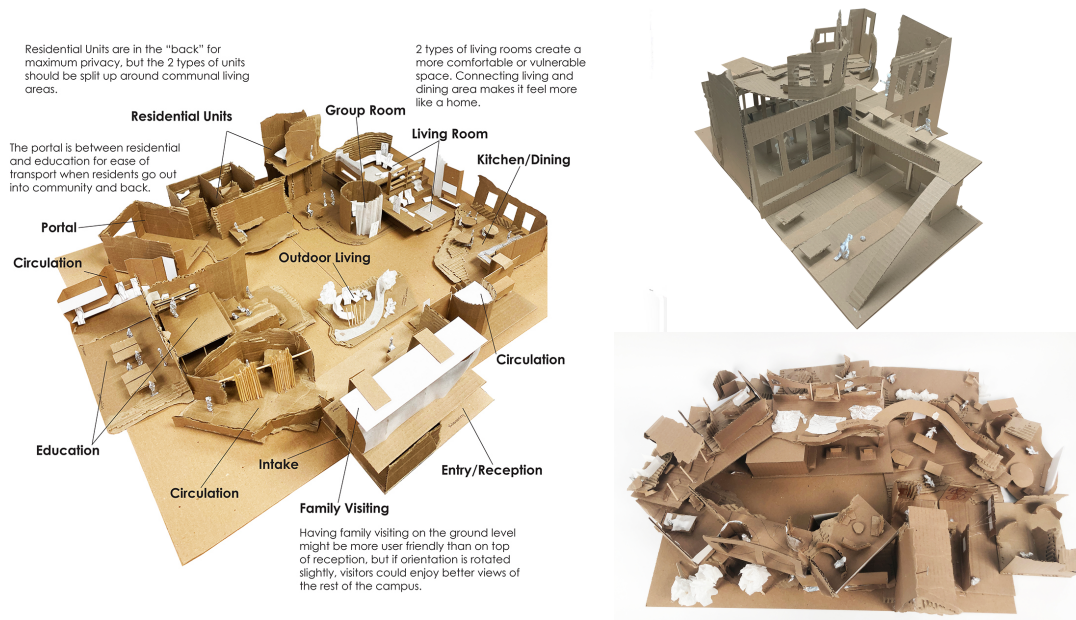


*Illustration 4. Paired Sketch Models Exploring Contrasting Attitudes for a Studio Space in a Residential Videography Job Education Facility, for Post- High School At-Risk Youth*  
Maura McDaniels and Assia Rodriguez, Architecture 5212: Preventing Youth Incarceration, Fall 2019

As typical, on the first day of the assignment, students made a series of models in class and discussed everyone's models as the afternoon progressed. The big challenge the first day of the exercise was to choose contrasting terms that related to their projects. By the next class, once they had selected their contrasting ideas, they had successfully developed a series of contrasting models and fully understood the purpose of the exercise (see Illustration 4).

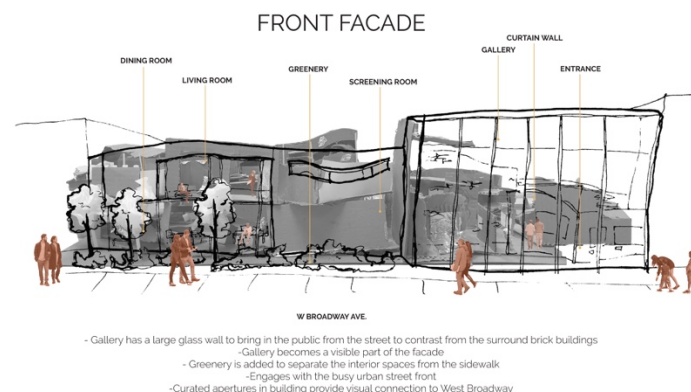
For the final day of the exercise they combined their paired models to create a sketch building layout. During this phase they were excited to discover that they could take the attitudes they had explored independently and combine them in various ways for different parts of their designs, this was especially interesting to those who at first thought their two ideas were oppositional. For example, the students who chose vulnerability and security realized if they could incorporate both attitudes in their spaces, it would allow more richness and choice to the people who would use them.

This time, we asked students to make a large model from their accumulated sketch models to represent their overall building design. This turned out to be very successful, and students developed a rich set of designs based on this exercise (see Illustration #5). This exercise was followed by a site exploration exercise in which students had to make 2 contrasting organizations and locate them on 3 different sites.



*Illustration 5. Combined Sketch Models Representing the Whole Building, one annotated Transition Residence by Jillian Gelle & Kristin Just, Neighborhood Youth Center by Angelo Davalos, and Videography Facility by Maura McDaniels & Assia Rodriguez, Arch 5212: Preventing Youth Incarceration, Fall 2019*

This year as last, most students didn't annotate the models, and only some annotated associate drawings. But several of many of them annotated photographs of the models. And one group used their photos of the combined model to develop an interior courtyard and façade design (see Illustration 6).



*Illustration 6. Annotated Model Photograph Used to Design a Façade  
A Residential Videography Job Education Facility, for Post- High School At-Risk Youth  
Maura McDaniels & Assia Rodriguez Architecture 5212, Fall 2019*

The final projects for this third iteration exhibited a much better understanding of attitudes than previous classes. In the final course evaluations, one student commented "Exercises like the attitudes and rituals, with quick sketch and modeling were great! They were very helpful at visualizing the space as a design tool." Having changed the timing of the sketch exercise to later in the semester when students have chosen their program, they are in a better position to explore attitudes using sketch models.

#### 4. Conclusions

Sketch models were chosen to explore attitudes because of their three-dimensionality, their ability to generate ideas in the process of making (as opposed to representing ideas already formed), their ambiguity that allows multiple readings, extending the imagination, and the ability to create many models quickly. By repeated use of the models over three years we discovered that the timing and pedagogical sequence of exercises significantly affected use of sketch models as a tool to explore attitudes. When we realized their best use was not as an introductory exercise, but as one to develop the architectural program, it more significantly influenced the schematic design.

At the first iteration, the graduate students seemed to be able to understand the purpose of the exercise from the beginning, and were pleased to explore the issues, although the annotations were not as prolific as had been anticipated, and the attitudes were accepted as given, likely because of the placement in the semester. For this course, the students assimilated the ideas successfully, and the final projects reflected an understanding of how attitudes affect the design of places. For example, students were concerned to incorporate such ideas as choices in the way that residents of their facilities would inhabit their facility, sequencing activities to encourage engagement while assuring control, providing beautiful materials and comfortable furniture and locating facilities in a wooded area or incorporating natural light and plants in interior areas

The undergraduate students seemed to need more time and motivation to explore attitudes. The first year, they fully engaged in the exercise, accepting the attitudes they were given, but were not able to take the ideas as far as the previous year. Although originally, it seemed that sketch models would be a good exercise to introduce students to the challenge of designing with an understanding of how spatial configuration and arrangement affects people's attitudes and behaviors, this did not turn out to be true. At the beginning of a semester devoted to gaining an understanding of the importance of preventing incarceration, students have insufficient knowledge to know which attitudes are important, and why, and then to care about how to design using attitudes as a generative idea.

The sketch study exercises worked best when students had a greater understanding of the issues based on such information on readings, site visits, experts such as community members and had selected their program. Such knowledge enhances not only the comparative sketch model analysis exercise, but also the newly added combined model exercise so that it more effectively influenced the quality of the final design. When students understand and identify not only the qualities they are trying to embody, but also have criteria for generating and evaluating their designs, they can design with more nuance, more confidence and can achieve better outcomes.

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