January 8, 2010

Re: Architecture and Montessori

Dear Philosophers and Philosopher Families,

This past Spring I was lucky enough to get to work with the Philosopher's class on designing the ultimate classroom. Over ten or so classes, we covered a lot of material. We started with basics of the impact of the built environment on our world, and ended up learning some very complicated 3-d visualization techniques. The group's collective insight, global awareness, creativity, and personalities were truly inspiring. Each kid brought their own unique talent to the team. Without naming names, it is clear that from that group will come passionate social equity advocates, talented researchers, artists, builders, designers, engineers, authors, and more. The class worked hard throughout the process. Here is what we covered:

**Session 1. Instinct:** Talked about what it means to be an architect who designs schools and the impact schools have on our environment, economics and future. Class photo documented what they liked and didn't like about their school. Hardest part, finding things they didn't like.

**Session 2. The Site:** We learned about scale. Engineering and architectural drawings are drawn to a reduced scale. The class worked in teams to draw their school grounds to scale. A very tough concept that the rest of the sessions were dependent on. Required the use of a tape measure, engineering scale, hand drawing and stellar communication between team mates.

**Session 3. Sustainable Building:** This class was a tough one. We learned some very complicated concepts, including ecological footprint, triple bottom line, heat island, volatile organic compounds and more. They made a list of items in their school and talked about some of the components of their school and talked why they might be considered sustainable, or not.

**Session 4. The Sun:** Talked about the impact of the sun on our built environment. Built sun shade models to document the path. It should be noted that we do a very similar effort when I teach this class at Cal Poly and Cuesta. Once we figured out that pesky scale issue, the class really nailed it! I was very impressed.

**Session 5. Structure:** The class went in teams around the school to research how their school works. Topics included structure, electrical and communications, water/waste, heating/cooling, and finishes and furniture. After a brief moment of confusion, "what do you mean how do we get electricity, we just do!?" The class amazed me once again. They reported back on their findings. Where mysteries remained, I (or other students) filled in the gaps.

**Session 6. Site Selection and 3-D Visualization:** We learned a great digital method for developing 3-D models of the built environment. There is a free program through Google called Sketch-up that allows anyone to build a relatively realistic 3-d model on the computer. The program can be downloaded here: http://sketchup.google.com/.

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**Session 7. Design Charrette:** With presentation by the class on each of the components of building design, programmatic needs, environment, materials, culture, systems, structural, and more. The class really got busy! We had folks writing descriptions, folks drawing to scale, building physical models, and doing Sketch-up models. For the last hour, the group ate pizza, presented their designs to the rest of the class and celebrated their incredible accomplishments!

The enclosed material is some of the products of their work. I hope you enjoy looking at it, as much as I enjoyed working with them on it.

Stacey White (aka Connor & Quinn's mom)

Montessori Children's School
SAN LUIS OBISPO

## Montessori and Architecture

**Session 1. Instinct**

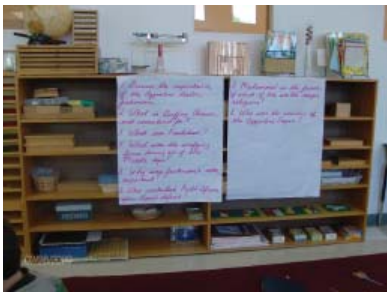
The assignment was to go around the school and document the things, places, activities that the class liked and disliked about the school.

Love the daylight, big open tables and the piano.

They like the yard, but wished there was more of it. This was of particular concern to the soccer players in the audience.

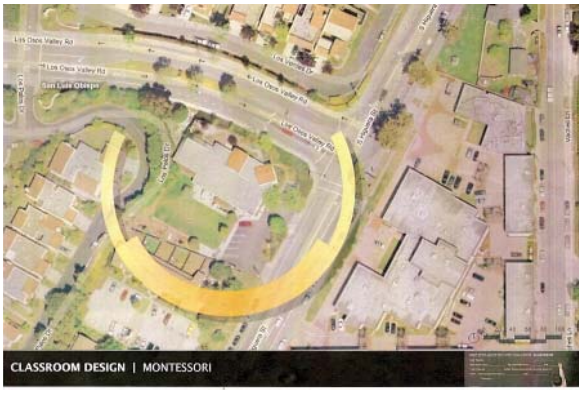
Everyone loved the garden. They like working in it, eating what comes out of it, and looking at it .


They like the fact that they are a Montessori School and were impressively aware of what that meant.



**Session 2. The Site**

The class divided up the school in sections and attempted to draw it to scale.




The Montessori School Site, with sun path.

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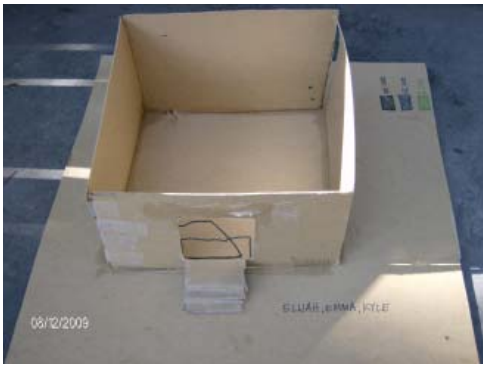
**Session 4. The Sun**

The assignment was to build a physical model and track the path of the sun.  Each approached the assignment in a different way, but they all knocked it out of the ballpark!



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**Session 7. Design Charrette**

Drawing site plans to scale!

Drawing floor plans to scale, with wall thicknesses!

Building physical models

Building physical models

Building physical models

Building physical models

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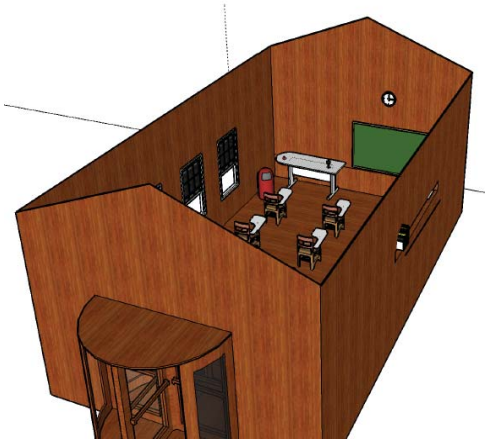
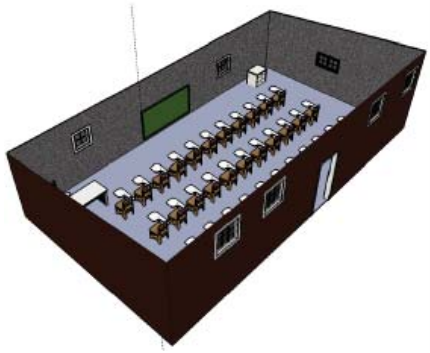
**Session 7. Design Charrette**

Building digital models

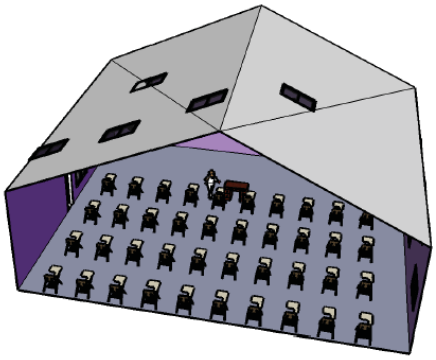


Some focused on roof forms, windows and how to get in and out of a classroom quickly



Some focused on populating their classroom design with furniture.

Some focused on landscaping.



Some focused on daylighting from above