

STUCKEMAN SCHOOL FALL 2019

ARCH 497 | ELECTIVE

MOBILE MAKERSPACE

Professor: Laia Celma luc274@psu.edu

Wednesdays 10:10 am to 1:10 pm

3 credits



Tara Donovan. Art Basel 2013

This elective class investigates the design constraints and possibilities that the construction of a mobile makerspace for dyslexic children faces. The program addresses an actual concern of a school in Pittsburgh, the Provident Charter School located in Troy Hill in the West bank of the Allegheny River: the target of the semester is to design and build a makerspace prototype accommodating the multiple needs of children with dyslexia.

Dyslexia is a common disorder affecting the reading and writing of infants in the early stages of their development. Although dyslexia does not affect speech or any other intellectual capacity, dyslexic children are challenged by traditional ways of learning. However, their learning abilities become enhanced when they experiment and fabricate with their own hands. It is through direct involvement that they are able to transform the learning process into a more meaningful learning experience. As Immanuel Kant wrote, "The hand is the window on to the mind," and thus, psychomotor education becomes crucial in the early stages of infants' development. Of all our limbs, the hands make the most varied movements; movements that can be controlled at will. Science has sought to demonstrate how these movements, the sense of touch and the hand's different ways of gripping and handling affect the ways we think. This semester we will pay attention to tactile and manufacturing learning to support the pedagogical program developed at the makerspace.

The Provident Charter School in Pittsburgh has a successful makerspace class and program that assists students. In the past, this methodology has proven to be very effective and beneficial for students with learning disabilities. Now the school is seeking to extend the availability of this resource by creating mobile makerspaces available to all.

The course will be divided in three parts. During the first weeks, we will conduct research towards individual design ideas. The second part of the course will involve shuffling the team members to come up with a compelling design summarizing the most successful elements of the individual designs. The third part of the course will involve every student in a collaborative effort to detail and build a first prototype that will be used by the students in the Provident Charter School in Pittsburgh. Sponsorship to materialize the prototype has been made available to the Stuckeman School of Architecture and Landscape Architecture.