A Hands-On Approach for Exploring Textiles and Daylight in Architecture

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**RESEARCH QUESTION:**
How can the making of models make architecture students explore and develop architectural concepts that include textiles?

**METHOD OF INQUIRY:**
In two workshops at the University of Technology Sydney (UTS), textiles’ lighting and spatial possibilities were explored through the making of three-dimensional architectural models by hand. The students, all ‘textile novices’ experimented with two tools for three-dimensional sketching consisting of model making materials. This approach is supported by earlier work by Gutierrez and Popovic (2005) exploring small-scale textile membranes in similar workshops.


### WORKSHOP 1

**PARTICIPANTS**
14 SECOND YEAR ARCHITECTURE STUDENTS

**OBJECT OF DESIGN**
EXTERIOR BUILDING SKIN

**MATERIALS & TOOLS**
- Cardboard “corner”
- Wire
- Textile
- Scissors
- Cutters
- Stapler

**OPEN**
Make a mock-up of a building skin for the UTS Tower Building

**PROCESS**

**RESULT**

**PARTICIPATION IN DESIGN CRITIQUE**

**VIDEO AND PHOTOGRAPHS**

Three material strategies were indentified: the materials were either used to materialize, to illustrate or to develop a concept. The tool’s openness seemed to be a limitation, resulting in a somewhat shallow exploration of textiles’ effect on daylight regulation.

### WORKSHOP 2

**PARTICIPANTS**
11 THIRD AND FOURTH YEAR SPATIAL DESIGN STUDENTS

**OBJECT OF DESIGN**
TEXTILES FOR INTERIOR SPACES

**MATERIALS & TOOLS**
- Cardboard “room”
- Foamboard in ceiling and on floor
- Textile
- Pins
- Scissors

**TASK**

**PROCESS**

**RESULT**

**FOLLOW-UP**
INTERVIEW WITH TEACHER AND ARCHITECT NICOLE GARDNER

**DOCUMENTATION**
VIDEO AND PHOTOGRAPHS

Contrasting workshop 1’s openness, the restrictions in workshop 2 resulted in better and more solutions showing a deeper exploration of textiles’ possibilities for daylight regulation.

The interviewed architect argued that the tools would be suitable in professional practice where they could be used early in the design process, as a way of literally sketching with textiles to expand one’s material repertoire.

### CONCLUSIONS

We argue that this type of tangible modelling makes it more likely that textiles will be used in the final design and contributes to bridging the gap between the model and the final building.