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

Heimdal, Elisabeth Jacobsen; Lenau, Torben Anker

Publication date: 2012

Citation (APA):

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.
**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
4 GROUPS OF 3 OR 4 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

---

### WORKSHOP 2
**PARTICIPANTS**
11 THIRD AND FOURTH YEAR SPATIAL DESIGN STUDENTS
4 GROUPS OF 2, 3 OR 4 STUDENTS

**OBJECT OF DESIGN**
TEXTILES FOR INTERIOR SPACES

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

**TASK**
CONTRAI NTS AND CONTROLLED PROGRESSION
Included a cardboard ‘room’, a scenario, three pieces of translucent textile and restrictions as to what to do with these materials. The restrictions were gradually loosened.

---

### CONCLUSIONS

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.

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.

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.