Model-making as a mode of learning Modern Architectural History

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Context

<table>
<thead>
<tr>
<th>Discipline/Course/Subject area:</th>
<th>Architecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact: The practice was introduced:</td>
<td>within a course unit/module</td>
</tr>
<tr>
<td>Length of time project has been running:</td>
<td>three years</td>
</tr>
<tr>
<td>No. of students:</td>
<td>120</td>
</tr>
<tr>
<td>Level/Year of students:</td>
<td>Undergraduate/Year 1</td>
</tr>
<tr>
<td>No. of staff involved:</td>
<td>five</td>
</tr>
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Summary of Case Study:

This case study is of a model-making exercise which has been run in the Bachelor of Architecture Year 1 history module. The group exercise encourages students to learn about the spatial and formal qualities of select seminal buildings built in the 20th and 21st centuries through physical model-making.

Key Words:

Architectural History, Model-making, Teamworking, Group Work

Key Points of Good Practice

- using a group model-making exercise as a way of learning about a seminal building in modern architectural history;
- using non-written techniques to learn about modern architectural history;
- building a model of a building in history so as to enhance model-making skills useful in the studio.
**Description of Implementation**

As one part of the three part coursework* requirements for U30007 Introduction to Architectural History and Theory I ask students, in groups of no more or less than four, to choose an historic building they like and build a scale model of that building. The building is one discussed in the module lecture series and included in a list given to them. The model needs to show the building’s interior, exterior and if relevant, landscaping. The students simultaneously undertake research on that building and make a formal 20 minute group presentation of the model to their nominated tutor and peers. At the presentation, they explain the basic ideas underpinning the building, the relationship between the building’s design and the architect’s philosophy; its significance at the time and their critical analysis of it. Each student in the group participates in the making of the model and in the oral presentation. Between five and six groups of students present their models to their tutor. By doing this, the group of students learn not only about their own building but those built by the others who present on the day.

The students are given three weeks to choose their group members and building. Every group makes a different building. They are given six weeks to build the model. The presentation of all the models takes place in a morning session of the module in the studio space.

[*Note: The other coursework components include 1. Participation in two reading seminars discussing seminal architectural texts from the period (10% per seminar); and 2. The writing of an individual 2,500 word essay which is submitted at the end of the course (60%). Attached to the essay are the student’s lecture notes.*]

**Perceived Benefits**

*For Students...*

- Using physical model-making as another way to learn about a seminal building in modern architecture and modern architecture;
- Improving their model-making skills for the design studio. [For students less skilled in model-making, this exercise allows them to learn from their peers with regards to ways in which to make a model. Some students have taught themselves or each other how to use the Department’s laser cutter in order to build a more precise model of a complex building. In this instance I refer to a model of *The Walking City* (1964) by Ron Herron, Archigram produced earlier this year.];
- Learning about the spatial and tectonic quality of a building by building a 3D representation;
- Improving their skills in working in teams;
- Improving their oral presentation skills.
For Teaching/Support Staff…

- For the teaching/support staff (tutors): being able to encourage their student groups to discuss important buildings in modern architecture using the physical model as a vehicle to reveal the architect’s design intentions, the building’s planning, decoration and tectonic qualities. The students see the same tutor for their reading seminars as for the model-making exercise. Having several sessions with the students benefits the teaching staff by allowing time to intersect discourses arising from the two activities.

Issues/Challenges for Students

- Group work: Since students are allowed to nominate the members of their group most students are happy with the team they work in. However, when students do not nominate their own group members and are allocated students to work with, there is a tendency for the model-making exercise to be problematic. I see no solution to this problem when the student does not nominate their own group members.

- Students weak in model-making: For students less skilled in model-making, this exercise can prove challenging. [Refer my comment above about learning from their peers.]

Issues Challenges for Teaching/Support Staff

- Ensuring the students build their models to scale and of a high quality. Craftsmanship and issues of scale can be a challenge. So as to encourage students to produce good quality models, they are shown a range of good models produced in the previous year.

Enablers that helped the project to work

- The five seminar/model-making tutors enable this project to work. They provide support for students when making the model and allow the students to learn more about the historic building through the public presentation.

- Model-making skills learnt in a separate 1st year representation module enable the students to produce their building model;

- Making this exercise compulsory coursework and weighting it heavily (20% of the module) encourages student participation.

Details of project evaluation

Students are asked to provide written comments on their experience of working in groups to build a model of a seminal building using the ‘School of the Built Environment Student Module Feedback – Questionnaire’ for the module. Student feedback is in this way recorded in the university’s system. As module leader, I go
through these feedback comments when I receive their forms. Over the three year period in which I have run this exercise the students have always been very positive about participating in this exercise. In their written feedback some of them have indicated that they developed a deeper understanding of the architectural history (of their particular building) by making the model.

The supplementary evidence available on the success of this teaching and learning exercise is available from written student feedback which is obtained once a year in the U30007 Introduction to Modern Architectural History module student feedback form. There is a specific question in that feedback form which asks students to comment on the value of this exercise in improving their understanding of the seminal building for which they make a model for. Over the three years I have included this question, some students have revealed that the value of the exercise lies in making a model of the interior and exterior of the building to scale and in context has increased their understanding of the spatial quality of architectural design. Because they also are required to build a scale model the students have to grapple with how the building is constructed. Since the question asks for their general feedback these are the comments received.

In terms of the criteria used to assess the model making exercise please refer to the Appendix.

Having previously taught in Australia, I was aware that Professor Philip Goad had used model-making as part of his architectural history teaching. However, I am not aware of him ever having published on his or his students’ experience of doing this.

**Possible improvements/enhancements**

- In having run this exercise over the last three years, improvements have been made progressively to the exercise. These include: 1. Students choosing their own group members; 2. Students choosing their own building from a list given to them; 3. Having the presentation to the five tutors take place in one open studio space so that students can move between groups to look at the models made by others; 4. To use the model-making skills students learned in a separate representation module to inform their making of this model; 5. To make the model out of cheap/accessible materials. [My idea to make models came in part from finding of a Lego model of the Villa Savoye by Le Corbusier.]

- During 2008-9, I changed the exercise to ask the students to make a birdhouse model of their chosen seminal building. While this proved to be fun, some students became confused as to how practical a birdhouse their model should be or how precise a model it should be. While I consider it important to ensure that coursework is not too repetitive and remains stimulating, I have decided students learn best from this exercise when asked to simply build the
Points of advice for others who may wish to replicate the techniques used

- This is a very stimulating learning experience for students but requires that students and tutors be well organised. It requires the module leader to undertake considerable time in co-ordination of students and staff.

- A leader of a project of this type is recommended to provide a list of buildings from which the students can choose one building of which to make a model. In this way, the project leader can ensure the students will be able to obtain the plans, sections and elevations of their building. The fifty plus buildings offered to students are taken from Richard Weston (2004) *Plans, Sections and Elevations: Key Buildings in the Twentieth Century*, London: Laurence King Publishing. All of this information is included in the module handbook, given to students well in advance.

- Prior to making their model, students enrolled in this module are encouraged to visit the models on display in the ‘Architecture Gallery’, Room 128 at the V&A Museum in London.

FURTHER READING

*Publications in the research literature:*

There are countless texts on model-making but I am unaware of any publications on the use of physical model-making in the teaching and learning of modern architectural history.

There are writings on the virtues of making physical models generally. Here I refer to Peter Cook (2008 March), ‘Peter Cook extols the virtues of getting touchy-feely rather than digitising’, *Architectural Review*, vol. 223, no. 1333, p. 38. In this explanation, Cook describes his experience of making 3-D, handmade architectural models and of understanding architectural space as a consequence.


I am aware of the article by William Boring (1922 June) ‘Use of models in the study of architecture’, *Architecture*, vol. 25, p. 200-202 but have not been able to obtain a copy of it to date.
## U30007 Seminal Building Model Assessment/Feedback Form

<table>
<thead>
<tr>
<th>MODULE LEADER: Igea Troiani</th>
<th>Group No:</th>
<th>Date of Presentation: 17.03.10</th>
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Surnames of students in the group:

Field/Course: BA Hons Architecture/Interior Architecture  
Module No: U30007  
Final Assessment  
Year of Course 1

Building chosen:

NB ACADEMIC CHEATING: In submitting this assignment you are deemed to have read and understood the University’s regulations and you acknowledge that this work is your own group’s original work.

TO THE ASSESSOR: Please mark this work against the criteria stated on the bottom of this sheet (ticking the appropriate level of the work on the marking grid). Additionally, please provide written comments below on how the group could improve future performance.

TO THE STUDENT: Your work will be assessed against the criteria listed on the rear of this sheet. Please note that only summative assessments will count towards your final degree.

### STAFF ASSESSMENT: Please tick the appropriate box

<table>
<thead>
<tr>
<th>MARKING CRITERIA</th>
<th>BEST</th>
<th>GOOD</th>
<th>FAIR</th>
<th>PASS</th>
<th>FAIL</th>
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<tbody>
<tr>
<td>1. The quality and accuracy of the built model including attention to scale, detail and construction.</td>
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<td>2. The quality of the of the group’s description of the building’s design including a response to the following:</td>
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<tr>
<td>· The basic design ideas underpinning the building;</td>
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<td>· The relationship of the building’s design to the architect’s design philosophy;</td>
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<td>· Explain why the building was significant at the time and;</td>
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<td>· Your group’s critical analysis of the design.</td>
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### FINAL GROUP MARK:

Additional Written Comments

<table>
<thead>
<tr>
<th>Marker/s</th>
<th>Date</th>
<th>Final Mark (out of 20%)</th>
<th>Credits 20% of Module</th>
<th>Level</th>
<th>H</th>
</tr>
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