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# Teaching space syntax through reflective practice and practica

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## Abstract

Space syntax is a set of theories and techniques about buildings and cities and how they function, rooted in a theory of society and space that originated at UCL in the 1970s. The theory and techniques have been built into an MSc course that has run for over 30 years, in which space syntax is embedded into the curriculum initially as a tool for understanding the relationship between spatial configuration and social form to students new to the field. Later in the course it is also used to assist the students to read texts critically, so as to improve their ability to construct and communicate theoretical ideas coherently. Lastly, it is used to train the students to think about buildings and urban environments in relation to their social context, which we see as a critical part of architectural education. We describe the variety of learning modes used; these range from group work comparing and analysing examples of housing. The group work is supported by 'practica', in which the students actively engage with pre-set texts within a tutored workshop to ensure a grounding in spatial theories, including space syntax, anthropology and architectural theory. These are coupled to practical workshops on basic space syntax modelling tools, through which we introduce concepts such as configuration, interface, privacy and permeability. By teaching through action-based learning, with students taking on their own analysis of what is arguably the most complex building type, we suggest that space syntax is an ideal vehicle for taking architects from where they are at the start of the course, with an intuitive understanding of built form, and helping them to build on that foundation, so that they can become reflective architectural practitioners.

*Keywords:* space syntax, learning modalities, reflective practice, domestic space

## 1 Introduction

The MSc Advanced Architectural Studies (AAS) at University College London (UCL) has run for over 35 years and it focuses on an architectural analytic field known as space syntax. The 12-month programme comprises six taught modules, which together with the final 15,000-word thesis, aims to provide a fundamental grounding in an essentially *scientific* approach to architectural research. A typical annual profile consists of approximately 12-15 full-time MSc students accompanied by a selection of doctoral students from our research group as well as interns from UCL's space syntax technology transfer company. One of the main challenges for the course is that we are introducing theoretical and scientific approaches to analysis to students who have had scant experience of research methods in their undergraduate studies. The majority of our students are qualified architects with considerable practice experience and one of the goals of the teaching is to transform their approach to design from an *intuitive* understanding of built form to one in which architectural solutions are *objectively analysed* using abstract modelling techniques. These challenges have led us to seek new ways of teaching an early section of the Housing module.

This paper focuses on a component of the teaching of the Housing module: class-based exercises (termed 'practica') that the students undertake in weeks four and five of the course. We will illustrate how a new mode of teaching was used to improve the learning experience for students on our course. After an overview of the module, its different teaching modes, and the short exercises comprising each practicum, we will discuss the challenges involved in taking the students from their existing intuitive understanding of built form towards an understanding of scientific research, so that they can become reflective practitioners of this complex research field. After presenting the learning experience from the students' point of view we will briefly discuss the main findings that emerged from the exercise. The paper ends with conclusions about the efficacy of the practica and their applicability for the wider architectural teaching community.

## 2 The practicum in context

The Housing module consists of three teaching modes: hands-on workshops for teaching practical spatial-modelling techniques, formal, theoretic lectures and the main topic of this paper, the tutor-led practica, which, synergistically, result in a thorough grounding in spatial, social and anthropological theories. The teaching modes outlined above are reinforced by a group-investigation into domestic space undertaken in parallel by the students.

This section will briefly introduce you to the three teaching modes utilised in the Housing module, ending with the practica. This provides the broader context for the module's teaching. First the workshops: A single building was used as the spatial setting for a series of spatial-analytic tasks intended to enable the students to comprehend the ways in which specific analytic tasks led to subsequent ones and how each of these formed the 'building blocks' of the final dataset

describing the building under study. A personal workbook was designed to accompany, support and record these sequential workshop-exercises. Second, the lectures: these were directly linked to the workshops in order that the students might have the opportunity to immediately apply the theories outlined in the lectures to practical tasks. By completing the workbook (described above), the students explicitly replicated the processes of observation, representation, transformation, calculation and then interpretation that they had just learnt about in the accompanying lectures. Third, the practica: these consisted of a preparatory reading followed by a series of class-based tasks (as individuals, pairs or small groups) introducing some challenging, theoretic (rather than skill-based) concepts. One example being a furthering of the students' understanding of how houses can encode cultural and class differences by how they are laid out and used through time. Each of the practica also had required follow-on reading. Table 1 below outlines the structure of the two practica.

Table 1: Structure of the two Practica

|   |
|---|
| <b>Practicum 1 – Domestic Space Codes</b>   |
| Task 1: <i>Two Familiar Views of Home</i>   |
| Task 2: <i>A Functional View of Home</i>  |
| Task 3: <i>Family Cycles</i>  |
| Task 4: <i>Space and Place</i>  |
| Task 5: <i>Bernstein's Visible and Invisible Pedagogies</i>                                 |
| Task 6: <i>Visible and Invisible Pedagogies Continued - Toilet Rules</i>                    |
| Task 7: <i>Ethnographic Method</i>  |
| Task 8: <i>Lawrence's Study of British and Australian Houses</i>                            |
| <b>Practicum 2 – Social Life as Drama</b>   |
| Task 9: <i>Goffman's Metaphor of Social Life as Divided by Front Stage/Back Stage</i>       |
| Task 10: <i>Space as a Reflection of Society, Synchronic Relations</i>                      |
| Task 11: <i>Changes in the Organisation of Domestic Space &amp; Socio-political Complex</i> |
| Task 12: <i>The Structure of Social Encounters</i>  |
| Task 13: <i>Space as Social Drama – the Second Theatre</i>                                  |

The prior reading for the first practicum was '*A Lived Hermetic of People and Place: Phenomenology and Space Syntax*' (Seamon, 2007: <http://tinyurl.com/6apzqb>) and for the second was from '*The Presentation of Self in Everyday Life*' (Goffman 1959: Penguin Books). The follow-on readings for both practica were selected chapters from '*Decoding Homes and Houses*' (Hanson 1998: Cambridge University Press).

Each of the tasks was designed to last approximately ten minutes with subsequent time for class discussion and summarising between tasks. The tasks ranged from being individual tasks, to tasks undertaken in pairs and small groups. The kinds of tasks ranged from being descriptive-exercises, comprehension/reading comprehensions, discussion tasks, brainstorming and word association, role-playing, extrapolation/novel application of presented concepts and word/concept completion exercises. All of the material had been taught in a traditional lecture format for many years and so we were able to directly assess the differences in learning experience afforded by this new mode of teaching.

### 3 Summary: student feedback

We found that actively engaging students with a pre-set text ensured that the key concepts in some spatial, social and anthropological theories are understood from the start of the practicum. In addition, the dynamic learning environment appears to be particularly good for helping students engage with challenging theoretic concepts. We found that providing a variety of learning modalities suits the diverse range of learning experiences students bring to the course, including those from non-native English backgrounds. The teaching framework also assists the students in becoming reflective architectural practitioners. Finally we found that the guided reading and exercises introduced the students to reading complex texts, but through smaller, more accessible, 'bite-sized' chunks.

We requested student feedback at the end of the two Housing module practica: students were asked to assess, using a discrete Likert-scale from 1 (low) to 5 (high), the 'clarity' and 'interest' of each of the 13 tasks. Further open-comments/feedback was elicited. From the point of view of clarity, it is clear that next year, for a couple of the tasks, we need to allow more time for class discussion of the results. Scoring of interest was more consistently high. Students commented: "*The idea of the practicum is super great!*" and "*It is more engaging than just attending a lecture*". Overall the practica were highly successful from the point of view of the students, who found them far more engaging and interesting than traditional lectures.

### 4 Conclusions

In order to conclude whether the practicum is a more effective mode of teaching, we need to clarify why it is different from either a lecture or workshop. Our suggestion is that a workshop is habitually perceived as being inherently practical: it concerns methods and skills rather than theories and concepts, which are usually the domain of the lecture. In contrast to both of these modes, the practicum is about trying to facilitate and enable the students to work through *quite complex* theoretical ideas by and for themselves. This results in the students having the satisfaction of 'working it out' for themselves, as well as gaining a 'deeper' rather than mere 'surface learning' of the material. The practica's punctuation into short exercises appears, at a first glance, to resemble a workshop but it is the fact that we are guiding the students through difficult theories in a piecemeal yet aggregative fashion that differentiates the practicum from the workshop. Finally, the practicum is far less passive than a lecture (a fact readily appreciated by our more mature students). In some respects, it is more akin to a seminar insofar as the onus is on the students to work through the material, but it is significantly more structured and less open-ended than a seminar. It is for these reasons that we felt it necessary to adopt the different terminology - the practicum. We conclude that the aims of the introduction of the practica were met and that this mode of teaching is highly effective for mature architecture students. We suggest that this mode of teaching might have a more general applicability for the wider architectural teaching community.