

Chapter 9

Contextualizing and connecting learning

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In this case study, two academics from The Bartlett, UCL's global faculty of the built environment, think through how two modules can bring together research and teaching in interdisciplinary education. They use 'real life' as a resource to bring together a whole range of knowledge and activities by having students explore cities and organizational networks. Assessment is particularly tricky in such courses, as is also argued by Jessop and Hughes in Chapter 5; interdisciplinary learning is messy and complicated, as Davies outlines in Chapter 8; and global perspectives must be embedded for such courses to be meaningful, as Kraska, Bourn and Blum highlight in Chapter 6. The authors turn these challenges into a chance for students to learn not just dry, isolated and theoretical ideas, but rather to engage publicly, for instance through blogs. There are many benefits to such education: the students see the city and organizational networks around them in a new light, and tackle realistic skills such as working in groups along the way.

Introduction

Bringing research and teaching closer together means establishing and integrating students into 'academic communities of practice', according to Brew (2012). UCL has conceptualized this closer relationship between research and teaching in the form of the 'Connected Curriculum', a framework for research-based teaching that aims at fostering student learning through research and enquiry (Fung and Carnell, 2017).

Six different types of connections are highlighted in the framework: 1) students connect with research, 2) students experience a connected sequence of learning activities, 3) students make connections across subjects and out to the world, 4) programmes allow students to connect with wider learning and skills, 5) students connect with external audiences and 6) students connect with each other, across phases and with alumni.

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In this chapter we aim to present the teaching practice of two different modules taught at the Bartlett Faculty of the Built Environment, UCL, which particularly address three of the six dimensions of the framework: connections across subjects and out to the world, connections with wider learning, and connections with audiences.

This means the many different ways in which learning can be connected and contextualized will be highlighted and discussed.

Background: Two built environment courses

This chapter draws on the module Making Cities: The Production of the Built Environment, which is offered to first-year undergraduates taking otherwise separate programmes in Architecture, Planning, and Construction and Project Management; and the module Buildings Organisations Networks, which is part of the postgraduate MSc Space Syntax: Architecture and Cities. We will introduce both modules in the following section to give some background on teaching modes, learning outcomes, cohort sizes and assessment.

Making Cities: The Production of the Built Environment

Although recently restructured (by Jonathan Kendall in 2014), Making Cities is one of the most long-standing components of professional built environment education at The Bartlett, UCL. Its origins lie in the leadership of Professor Richard Llewellyn Davies (Bartlett Professor 1960–9) and his desire to facilitate an integrated and cross-disciplinary approach to the training of architects, town planners and other construction professionals. His concern in the 1950s – no less relevant today – was that built environment education has a tendency towards professional specialization, differentiation and introversion, which is at odds with the inevitable and necessary interrelationships through which practice does (or should) operate. The module is unique within the institution: it is the only one taught to all undergraduate students from the schools of Architecture, Planning, and Construction and Project Management – a total of more than 200 students per year. It takes place in the first term of the first year of the degree programmes, a moment in time when those students are nascent professionals in their own discipline, many with only the loosest sense of their own subject, let alone its relationship to others.

It seeks to build an understanding of how each of these disciplines relates to one another and – as importantly – to the idea of the city as a whole. The focus of the module is on the formation of relationships between members of professional teams, how these teams come together to design

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and deliver projects within the built environment (see also Edwards *et al.*, 2009), and how the accumulation of these projects shapes (and is shaped by) their urban context.

The module exploits London as its primary resource. Students undertake critical and creative research on specific built and emerging projects within the city, which they primarily explore by producing short films, conceived and executed in interdisciplinary groups. A parallel and interlinked programme of lectures and events provides a panorama of perspectives on the process of shaping cities, delivered by a range of speakers from across UCL and those operating in professional practice.

There is a single coursework project to be completed, with two components within it. The project comprises the creation of a four-minute film, and a written and illustrated report regarding the objectives, research, outcomes and process of its creation. The weighting of the marks is 60 per cent film and 40 per cent report. The report is complementary to the film and provides each student an opportunity to submit an individual reflective commentary on the project studied and the lessons learnt in working as part of a group to undertake the research.

Students are organized into ten teaching groups of approximately twenty members, and are supervised in seminars, group discussions and project workshops by a pair of tutors. Student groups, and tutors, are cross-disciplinary in proportion to the numbers of students undertaking the module. Each project is created by a team of approximately four or five students.

Buildings Organisations Networks

The module Buildings Organisations Networks (BON) is led by Kerstin Sailer as part of the MSc Space Syntax: Architecture and Cities (SSAC). The SSAC attracts around 20 postgraduate students, most of whom come from overseas, have a first degree in architecture or planning, and have worked in practice for a few years.

The module focuses on the relationship between architectural morphology, organizations and social networks in complex buildings such as hospitals, schools, offices and laboratories. London-based site visits provide students with an opportunity to reflect on the theoretical arguments presented in the ten-week lecture series and apply them to real-world examples.

Students of the SSAC develop an in-depth theoretical and practical knowledge of the built environment and its functions and acquire a high level of skill in research and analysis. Critical thinking and being able

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to express this in written form is indeed a crucial skill for all students in evaluating ideas, applying concepts to real-life situations and solving problems. (Marton and Säljö, 1976). For SSAC students this can present an additional challenge since they may not have read intensively in their previous studies and writing is not one of the main skill sets for architects either, yet both are required for a successful completion of this particular course. Students choose the course for a variety of reasons, but a desire to become more reflective and critical architects is frequently mentioned. However, as a deep approach to learning, critical thinking is inherently difficult to teach (ibid.).

In order to address this learning challenge and assist the students in developing their critical expression, an innovative assignment system for the module was devised using short fortnightly writing exercises in a blog format that helps students to test their writing in a trial and error mode, allowing them to learn and progress week by week. The format of the blog also highlights that writing is always meant for an audience. This helps the students to avoid jargon, explain their thoughts in detail, and construct arguments based on evidence (things they've seen, heard or read), since there is an audience that needs convincing.

In detail, the module works as follows:² first, in a series of weekly lectures the students are introduced to theories and empirical studies based on original research. Second, in an associated building visit they observe space usage and discuss spatial configuration and behaviours of people in buildings. Third, the students each set up a blog and write an entry (up to 500 words) reflecting on the site visit. Half of the class write in one week and the other half in the following. The students take turns to review the writing of their peers by completing a predesigned form. High-quality blogs from the previous week are praised in class, so that everyone can understand what a successful contribution looks like.³ As the course progresses, ways for improving are highlighted. Midway through the term the students receive a 15-minute one-to-one tutorial, where they discuss their own writing and address any challenges and possible ways forward. For the final assessment, the students choose their three best contributions, receive comprehensive formative feedback in written form and finally turn their texts into a single 2,000-word 'reflective report', which is marked against the criteria in the assignment.

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Both modules, Making Cities and BON, share the philosophy that learning occurs when students make connections – connections between

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academic content and real-life examples, connections between the different stakeholders producing and reproducing the built environment, connections between scholarly thinking and different forms of expression. Thus learning is contextualized and embedded in wider systems in many ways.

In the following section we will show how the contextualization and connection of learning take place in detail by focusing on five different aspects: telling stories, engaging with live projects, using a new medium, team versus individual efforts, and feedback and iterations. We also reflect on student reactions.

Academic discipline: Telling stories and structuring arguments

For *Making Cities*, the use of film places an opportunity and obligation on students to distil a complex situation (a project in the built environment, its agents and the underlying social, economic and creative forces it encapsulates) and communicate its essence within a time-limited format. In doing this, it is inevitable that decisions need to be made in filtering, getting to the heart of a salient issue and, by implication, eliminating multiple other considerations. Film, as a dynamic visual and acoustic medium, supports the telling of stories: a narrative. Its use within an academic context places a requirement on students to do so not in a whimsical manner but as a device for the communication and structuring of an argument, a considered position that supports a research question.

Likewise, BON requires students to learn how to structure a scholarly argument that is communicated in a way that still remains understandable to wider audiences. The format of a blog does not automatically mean subjective and unprofessional commenting, although some students associate blogs with unsolicited and unserious arguments. Quite the contrary, telling a story of how a building is used and how this relates to its physical layout requires systematic thinking. We therefore train our students in writing in understandable ways, but without losing the scientific foundation of considering literature and taking evidence into account. The shortness of a blog requires students to develop focus and choose a single topic for consideration, filtering the wealth of information available from a building visit.

Telling stories, sifting information and constructing a sound and logical argument is a critically important discipline, both academically and within a future professional context. Both modules address this in slightly different ways.

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Engagement with live projects

Making Cities and BON both exploit London as a resource, first in terms of its direct physical manifestation, and second in access to those who live and work within it.

BON chooses a selection of high-profile architecture in London to understand how these buildings afford social life and space usage behaviours, among them the British Library, the British Museum, the of Innocent, but also leading architectural practices including Rogers Stirk Harbour and Partners, Foster and Partners and Zaha Hadid, Kings Place (a hub for music, art, dialogue and food in London's Kings Cross), the Royal Courts of Justice, the secondary school UCL Academy, University College Hospital, the UCL Cancer Institute and many others. Making Cities also engages with one of the most physically significant projects currently under way in London: the construction of the massive east–west Crossrail infrastructure. The module does not focus on Crossrail as a project itself, though the project's Technical Director has provided lecture input to the students, but uses its route as a conceptual organizing device for the investigations. As a contemporary superimposition on the movement systems of the city, adding another layer to networks that have been incrementally grown since the Victorian age, it will significantly increase both capacity and speed of connectivity within and beyond the boundaries of London. It will lead to potentially dramatic impacts as it strengthens connectivity between diverse areas of the city and helps seed change for the decades ahead. Within the framework of the pan-London project, Crossrail is used to establish a conceptual transect through the city. Each tutor group is focused on a specific area, loosely organized around one of the Crossrail stations currently under construction. The groups receive detailed guidance from their tutors regarding specific locations, projects and additional readings that relate to their area of focus. The projects studied range from individual pieces of architecture and landscape through to large-scale masterplans. The intention is to have a diverse cross-section of projects across the cohort that can stand in some way as a representative distillation of the city as a whole. Most of the projects are contemporary (currently or recently under construction) but others are older and subject to ongoing adaptation, or are planned but have not yet been implemented.

Using a new medium

The pedagogical argument for Making Cities is that in many ways the act of film-making is analogous to the formation of projects within the built environment. It requires a clearly defined set of objectives, multiple

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participants to undertake specific roles and collaborate with one another in conceiving and undertaking the production, and it requires organizational skills to synthesize complex overlapping requirements.

One of the reasons for choosing the production of a film as the primary output of the module is the increasing prevalence of low-cost and high-quality video recording and editing equipment in mobile phones or lightweight digital cameras. It is assumed that most students taking the module will already be carrying film equipment with them all day every day – a situation inconceivable only a few years ago. Most desktop computers also include basic video editing software for free.

The emphasis of the module is, emphatically, not on the technical craft of film production. The interest and emphasis are on the creative use of the medium to advance a line of academic enquiry. For any students who do not possess their own equipment, or who want more advanced equipment (cameras, audio recording, additional grips, etc.), these can be accessed within The Bartlett. Software and computers for editing digital footage are available in computer clusters and additional technical tutorials are offered for those who want assistance.

Similarly, BON exploits the fact that blogging, i.e. the creation of web content, has become extremely easy. Within less than an hour, a student can set up their own web presence and start producing content. What is part of the learning here is to make connections to the outside world and train students in responsible and professional use of social media platforms, which will become increasingly important in today's social media and technology-driven world. Within the safety of a learning environment, we discuss what it means to post and go public, but also how blogs can be used as part of an online portfolio and web presence after the end of the course to allow students to shape what is available about them online. Privacy concerns are addressed by allowing students to use pseudonyms if they want to. Still here, as well as in *Making Cities*, advancing a line of academic enquiry is the focus of the module while the use of a new medium adds to the experience and transferable skill sets.

Team versus individual efforts

The act of group working is integral to the *Making Cities* module. As in professional practice, teams are often brought together by third parties (e.g. a client) and it is the responsibility of the team members to work together to achieve the aims of the project successfully. It is conceptually the most important aspect of the module – more so, perhaps, than the specific professional roles and relationships – and is simultaneously the most

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challenging. Many of the challenges are pragmatic and logistical, and derive from the difficulties of alignment of the teaching calendar for three different schools; the afternoon in which the main teaching activity takes place is literally the only moment in the week when all three sets of students are unencumbered by other obligations. The module therefore places challenges on the students to manage their time, allocate tasks and share information.

Working as a group also raises issues of leadership and decision-making that can lead to inevitable tensions. Students often struggle to manage interpersonal relationships that relate to leadership, strategy and implementation. This is exacerbated by the formal assessment of group work, where students can be concerned that their efforts in dragging a reluctant group forward are not fairly credited and recognized, or indeed that those who have contributed less share the same outcome as others. Two important interventions are designed to manage these challenges within an academic context. Students are asked to submit a 'group working declaration' alongside their coursework, in which they can agree to share credit equally or draw assessors' attention to their specific individual contributions. The individual reflective commentary submitted alongside the group written report (20 per cent of the final mark) also provides students with an opportunity to discuss their own role within the group and reflect on their experience. It serves as a useful mechanism to allow tutors to differentiate between students in the assessment process, while recognizing that the predominant output should indeed be regarded as a collective product.

By contrast, BON focuses on individual efforts, but by providing an open forum for exchange and asking students to comment on each other's work, the module highlights the fact that all our endeavours are embedded in a wider context of relationships with others.

Feedback and iterations

Within the compressed period of a single term, it is a challenge to undertake wholesale iteration of the coursework produced on Making Cities. Instead, the tutorial process is structured to allow continuous support for the students throughout the module on a weekly basis, guiding the work as it develops, providing strategic feedback at key stages and supporting the evolution of the work through to the final submission early in the second term. The terminology of film-making is exploited in the structuring of the module, and students are expected, by key dates, to produce a 'pitch', discuss a 'storyboard', submit a 'script' and present a 'rough cut' for review. Each of these terms has direct relevance for the development of a research

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proposal in any other academic context; these requirements could be recast as the synopsis, abstract, outline and drafts of a thesis.

In contrast to Making Cities, the set-up of BON is geared towards an iterative process with a carefully orchestrated system of feedback, both from peers and from the module leader. Keeping the task for each week deliberately small and relatively easy (500 words, with at least one image and at least one reference), the blog aims to take the fear out of writing. The message to the students is that it does not matter if their first attempt is not perfect, since there will be many more opportunities for trying again and excelling the next time. Indeed, seeing students improve their writing week by week is a rewarding teaching and learning experience, both for students and tutors. Peer review is part of the feedback system. It contributes to the continuous learning experience by encouraging students to analyse in detail what their peers have written. Thus they collect ideas for their own writing, understand how others construct arguments and begin to grasp what a good academically grounded text looks like. Despite well-known drawbacks such as reliability of peer assessors and the negativity around receiving peer feedback (Lundstrom and Baker, 2009; McConlogue, 2015), peer review seemed to work well in the context of the small cohort of BON (see similar results in Carnell, 2016). A short survey with BON students in 2015 confirmed the overall usefulness of the method (rated as 5.78 on a seven-point scale). The highest agreement was obtained for the statements 'I felt encouraged to do better next time' (6.04) and 'I believe this process helps me in achieving a better mark' (6.17), while the most critical issues were considered consistency of feedback across reviewers (4.74) and feeling comfortable writing reviews for peers (4.83). Asked what they liked best about the peer review, students commented that it 'challenges your reading skills and makes you reflect a lot on the writing. It is also a joint learning process'; it was highlighted that 'noticing others' mistakes and not to repeat it in your own writing' is positive. Among the negative aspects were 'it feels bad to judge', 'some of the reviews from fellow students do not make sense' and 'can't debate with them'.

Student reactions

Drilling further into student reactions, it can be concluded that views vary for Making Cities. The cohort is large in number and varied by many characteristics, most particularly their disciplines, nationalities and educational backgrounds. They are new to their subjects, and are taking the module at a moment when they may be living in a new city or country or communicating primarily in English for the first time in their lives. Many

are coping with a pedagogical context utterly different to their previous experience, and Making Cities – inevitably, and somewhat unapologetically – confronts them with a challenging combination of issues to address, both academically and socially. Some find it hard and struggle to understand what they are doing or why it is relevant; others relish the module.

On the whole, student reactions to BON are overwhelmingly positive. The students enjoy visiting buildings and exploring London, rather than being stuck in a classroom. Many comment that this has formed the most impressive part of their whole programme. A structured survey in 2013 on the usefulness of different teaching elements revealed that students most valued oral feedback in a one-to-one situation (rated as 4.55 on a 1–5 scale), but also written feedback (4.55). Seeing examples of phenomena on site visits and discussions on site visits were seen as very useful too (4.45 each). However, the students also valued ‘writing blogs’ highly (4.27). Asked about the single best thing about the module, students commented: ‘The weekly blogging exercise. It forces you to quickly assimilate the knowledge and apply it’; ‘The site visits and ... especially listening to what the other students thought of the sites, and how they could connect it both to past practice as architects or planners, but also their way of seeing the connection between theory and the site we visited’; ‘The personal tutorial on my blog writing ... especially the written feedback on my selected three blog posts’; and ‘Learning to write blogs and to talk about buildings’.

Conclusions

We have presented insights from the teaching practice of two case studies, both taught at UCL’s Bartlett. We have focused on the many different ways in which learning is contextualized and connected. In particular, both modules – Making Cities as well as Building Organisations Networks – realize a high degree of embedding learning into the built environment of London, taking teaching and learning outside the context of the classroom and treating the rich architecture of London as a laboratory. Despite their differences, one being offered to a large and interdisciplinary group of undergraduate students, the other a specialized offer for a small cohort of MSc students, the modules share a common understanding of encouraging students to use new media to connect to audiences, to explore issues themselves and to build relationships among each other through group work or peer assessment.

Future work on pushing the boundaries of research-based teaching and making connections might investigate further whether and how the multiple levels of connections students make always have a positive impact on the learning experience, how having gone through the process of learning

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something differently in one module has an impact on their future careers as learners, and how the insights and lessons learnt here can be shared among other practitioners also outside the built environment context.

Notes

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² The described set-up was used in the academic year 2016/17. As an experimental approach, small changes are introduced every year to improve the learning experience.

³ Success is measured against the criteria in the assignment, which are: 1) Choice of topic (original, relevant, clear); 2) Logic and coherence of the argument; 3) Evidence (supporting arguments); 4) Quality of writing (thoughtful, balanced, detailed, key concepts understood); 5) Presentation and language (graphics, written English, expression). An example of a blog from a previous student (which is also shared with incoming students) can be seen at <https://buildingsthesocialnetwork.wordpress.com> (accessed 19 March 2018).

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