Evaluating visual learning spaces

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Abstract

In recent years there has been a strong emphasis on building imaginative new learning spaces in higher education. Some such spaces are designed to foster independent student learning, and many offer opportunities for various kinds of visual learning. We have a well established interest in such developments and a particular concern to develop effective evaluation strategies, themselves involving visual methods, which can lead to meaningful insights concerning the behaviours and learning outcomes assumed to occur in such spaces. Indeed, recent research has suggested that the lack of evaluation strategies to provide such insight is a key inhibitor affecting the design of effective future learning spaces.

This paper draws both on our knowledge of innovations in visual learning in higher education as well as our interests in educational evaluation designs. We will illustrate our theoretical ideas through a case study of evaluation design in an innovative new higher education learning setting.

Overview

For some time institutions, governments and funding bodies have been investing large amounts of money into the construction of innovative physical learning spaces — although crucially, these are often viewed as 'innovative' by virtue of their inclusion of novel learning and teaching technologies, rather than by explicit links to new forms of learning or pedagogy. Recent scholarship has argued that the exploration of such explicit links is a key factor currently missing from learning spaces research for two key reasons. Firstly, there is a mismatch between the ingenuity, expense and effort expended in the design of new learning spaces and the paucity of imagination, priority and budget devoted to their evaluation (Bligh, Pearshouse & Lewthwaite, 2009). Secondly, even where considerable effort is directed towards evaluation, most approaches focus upon demonstrating post-occupancy and a degree of student popularity, rather than the effect upon learning and teaching, and remain confined methodologically to a small niche within the possible spectrum of learning space evaluations (Pearshouse et al., 2009).

A key finding of the studies above was the complexity of the perceived relationship between evaluation and research. The fact that evaluation is often regarded as a low priority activity while research is viewed with apprehension by "ground level" support staff, who view it as the sacred territory of academics, was seen to constrain the scope of debate and ambition within the context of learning space evaluations. Viewing research being opposed to evaluation is an established orthodoxy (Cronbach, 1963) for which a credible defence can certainly be mounted: evaluation is seen to be of specific purpose and difficult to generalise, while research seeks to draw conclusions at

a broader if more tentative level. However, within this context the dichotomy seems puzzling if the aim is to link an understanding of innovations from the technological and built environment spheres with that of the needs of learners, teachers and support staff in an iterative process seeking to improve the design and use of learning spaces both in situ and elsewhere.

For these reasons, we argue here for the evaluation of learning spaces to adopt approaches more usually associated with research methodology while retaining some characteristics associated with formative evaluation. In proposing projects which directly impact policy while applying and revising theory we are hardly the first, though the parallels with engineering identified by others (Burkhardt & Schoenfeld, 2003) are outside our current scope. Contextually, this is likely to necessitate an interdisciplinary approach involving, at a minimum, insights from education, psychology, the built environment and computer science. Our focus within the Visual Learning Lab, of course, is upon the visual aspects of teaching and learning; others, interestingly, seem to equate this with lists of technology (JISC, 2006) in a seemingly autonomic response, while we take a more holistic standpoint. However, ours is hardly an idiosyncratic obsession since the majority of innovative learning space designs seem centred around a degree of visual innovation.

To illustrate the argument, we briefly outline a concrete example of how such an evaluation might be carried out. Our central aim is to illustrate our distinction between a formative evaluation and a practically formulated learning spaces research project; it is not our intention to rehearse arguments in favour of research ethnography or observational approaches in toto, hence our brevity.

A number of Higher Education institutions are investigating the use of automated lecture capture (Burdet, Bontron & Burgi, 2007) in flagship large lecture theatres. Current evaluation centres upon surveyed reactions to prototype systems from users including lecturers and students, and is phrased in terms of whether the systems have enhanced the lectures. Of course, such questions themselves seem rooted in a mindset of technological determinism, but the problems run deeper: firstly, introducing new technologies actually reconstitutes learning scenarios entirely (Fisher, 2009) while, secondly, current evaluations gauge perception rather than focussing on visual, interactional aspects of learning within spaces.

Our first step is to identify the evaluation with a purpose — here, to feed back into those institutional policies driving lecture capture adoption. A second step would be to identify subjects and to engender an atmosphere of two-way communication, since participatory evaluation is key here. It is necessary to understand the interactional component of the scenario and to understand how the design of the space itself is intended to impact upon this; we can draw upon prior research upon lecturing, identify an interactional hypothesis such as a reduction in note taking, and speculate about causes such as the persistence of the lecture through its availability on the web. From this a research design can follow: naturalistic observation of the setting, the potential for the use of video methods, an investigation into the browsing of the lecturer, etc.

While the terse description here is necessitated by brevity, it has already become clear that the introduction of a research approach results in a qualitatively different investigative approach. This can serve, based upon an understanding of the visual and interactive nature of teaching and learning, to address an important issue within the learning spaces agenda.

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