

LEARNING FROM LEARNING SPACES

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ABSTRACT

In March 2007 the University of Brighton and the University of Sussex each opened experimental learning spaces as part of their contribution to the Centre of Excellence in Teaching and Learning project [1, 2, 3]. The flexible, technology rich spaces cost around £1m each and were designed to support the exploration of the role of creativity in pedagogic practice. The universities are currently providing a top down, evaluative overview of this research activity due to be published later in 2010. Few teaching practitioners have however provided their own individual, user specific analysis of the creative learning spaces. This paper therefore provides an analysis based on over 300 hours of practice based research experiences by two key academic users of each learning space.

The analysis highlights comparative and contrasting approaches, issues and reflections. The project is scheduled to end in March 2010 and the analysis therefore also includes the lessons learned from the research which the academics will apply as they return back to more traditional classroom settings. The results are therefore of significance to tutors wishing to explore alternative teaching approaches, creativity and learning environments in their own classroom spaces, particularly those moving away from the didactic towards more student centred forms of learning. It may also offer insights to those seeking the development of their own creative learning spaces and as such the results may be equally relevant to both academics and estates managers.

Keywords: Learning environment

1 INTRODUCTION

Globalisation, the internet, web 2.0, mobile phones, student fees and increasing student numbers are just a few of the technologies and social developments which have appeared in recent times but which are changing the landscape of learning in higher education. Whilst some academics consider a reliance on traditional and didactic teaching methods to still be appropriate and relevant for certain subjects and situations, others are keen to explore alternative pedagogies. In March 2007 the University's of Brighton and Sussex opened two experimental learning spaces designed to be less constraining than formal classrooms and lecture theatres and to support tutors wishing to experiment and be creative with alternative teaching and learning methods. The learning spaces formed part of a wider project exploring the role of creativity in higher education, the Centre of Excellence in Teaching and Learning project (CETL) [1, 2, 3].

The learning spaces were developed independently at each university, although arriving with similar outcomes. Each space is relatively neutral, white and grey toned rooms, but both provide a 'blank canvas' which offers tutors and students real flexibility in that the whole area can be reconfigured according to needs on a use-by-use basis. This was achieved for example through moving partitions, portable hard and soft furniture and fittings, and through technology. The technology included multiple projection and/or large plasma screens, web and hand held cameras, switching, colour and communications features. Other significant features of the spaces included copious white board writing space, environmental control (sound, temperature, colour, smell). Where the spaces differed noticeably was the use of soft rubber interlocking floor tiles and an open ceiling design at Sussex, creating a laboratory/white-cube gallery 'feel' whilst the space at Brighton used a carpet and enclosed ceiling for a more corporate 'feel.' Sussex however used voile curtains to generate an element of privacy whilst Brighton used harder, tracked panels for partitions.

Since opening, the learning spaces have undertaken over 1000 teaching activities involving nearly 20,000 learning participations. The project team have written a number of papers relating to particular elements of these activities [4] and are currently undertaking a top down, evaluative overview of the project. However few teaching practitioners have provided their own individual and bottom up analysis based on their individual experiences of using the spaces. This paper therefore documents the experiences of the two main users at each learning space.

2 METHOD

Benchmarking the efficacy of teaching methods is notoriously challenging. It is difficult to relate the results of a new technique or approach attempted one year to previous years for example due to issues such as grade inflation or random cohort variability. The same reasoning applies to control group experiments which are also subject to ethical considerations. It is hence difficult to provide quantitative data relating to the use of these learning spaces. In this analysis therefore, the outcomes are derived through the ethnographic experiences of two well established academic tutors, drawing on student feedback and observations based over a three year period of usage. Tutor A has approximately 120 hours of practice within the University of Brighton learning space (the Brighton Creativity Centre) and Tutor B has approximately 170 hours of practice within the learning space at the University of Sussex (Creativity Zone). The analysis is supported by student feedback, based on focus groups, on line feedback and 21 semi structured interviews.

The tutors and students at both sites are within the subject discipline of Product Design. This is relevant because product design is a broad based discipline drawing on the humanities, arts and sciences, and both staff and students are therefore familiar with a variety of teaching practices. It is also significant because the courses do not educate students to be able to design one specific product, but to be able to tackle any range of product challenges. There is therefore an obligation to enable graduates to research and work with new data and cognitive challenges accordingly, and design students are therefore exposed at an early stage to an enquiry based approach to learning. Students are also drawn from all years of study, from levels 1 to 3, with approximately 40 students at each level in each university. It should be noted that the University of Sussex is considered a traditional University with a heavy emphasis on research whilst the University of Brighton is a new university, traditionally strong in teaching practice and industrial collaboration.

3 USING THE SPACES

Tutor A has undertaken DP232 and DP332 Professional Practice, and DP330 and DP331 Design Projects, in the Brighton learning space. Initially, during the first year, there was very much a 'see what can be done' approach, exploring different features of the room such as the coloured lights, cabaret style table layouts and multiple projections. The teaching was noted as being very easy simply because the students liked the room as it was different. This effect was soon seen to wear off as students became more familiar with the room, and in the case of final year DP330/1 action learning set students drifted away from the space towards more familiar territories. Initially too, students would fight over the access to the best bean bags, but in time perhaps a quarter of the cohort would migrate back to using traditional chairs.

The power of the large amount of whiteboard space was very much evident from an early stage, allowing notes in any lecture to be written up and to remain written up. These were often referred back to and embellished at times. Students too could also use the space to make their learning publicly explicit either themselves or facilitated by the tutor. It was also evident that this whiteboard space around the room avoided a natural front to the room. The moving boards/wall panels were also powerful in creating intimacy for groups even in large cohorts.

Confidence and familiarity with the room increased in the 2nd year, with less experimenting and more configuration of the room to suit particular subjects and modes of delivery. Coloured lighting was used for example at certain times to emphasise certain stages in a lecture rather than used per se, and violet lighting was usually preferred for presentations, but the value of natural lighting was also seen over longer periods. The multi media capacity was reduced from 7 projectors to 2 or 3 as these were sufficient and wrap around projection can be distracting in peripheral vision. A gallery style lecture using all projectors was retained and enhanced allowing (final year) presenters to mix more effectively with lower years.

The small successes achieved in using the room features in earlier years led to a developed understanding of the value of the learning space and to more time investment in how the now familiar room features could be employed to maximise the student learning experience. In the 3rd year of delivery therefore, the teaching delivery for DP232 was entirely within the learning space. The module content ranges from science, logic and fact, to imagination, empathy and judgement, and utilised the full range of room features, often pushed the boundaries of the room, in what has been described as a 'built pedagogy' [5]. Typically sessions developed as follows:-

- Providing points of interest for students as they arrive and wait for others. These were sometimes related to the lecture subject, at other times they were tangential or just fun. Examples included YouTube videos or music loops, and using the multimedia capacity these were easy to set up and run on a projector separate to, and without affecting, the main presentation to come. Coloured lights and grand entrances formed by panels and plants denoted that students had passed into a learning portal.
- Concise lecture delivery summarising information that is made available in an on line learning environment. Whilst this is no different to delivery in a standard classroom, the multimedia capacity did allow questions and new information to be realised in real time. For example, on one occasion and in response to a student question on a presentation slide, it was possible to access specialist software, Google and the student intranet concurrently providing a very dynamic learning environment.
- Learning was reinforced through exercises and these were provided in a variety of formats, from tables set out in cabaret style where the lightweight tables and chairs proved invaluable, to discussions held in bean bag groups to role playing. The ability of these layout to facilitate discussions and share learning was noted in student feedback as particularly valuable and as a tutor, it was obvious that students liked the switch from listening to information delivery to working with the information plus the comfort and relaxed atmosphere to do this. It was however also evident that students liked the variety not just in the particular session but across each week. One student also noted that the cohort sat in different groups to their normal peer groups. *"Our year have very defined friendship groups who always sit together in lectures, however this seems to be less apparent in the Leonardo room [the Brighton Learning space] when there are beanbags out. Everyone mingles more with people they wouldn't normally"* (Level 2 Design student, 2009/10).

Technology was utilised where possible. Multiple projection with multiple network access, and HD video cameras recording sessions for later playback, where for example both used with some effect. However, interactive whiteboards, visualisers, 3D mice however all remained untouched despite long consideration and although the tutor was technically adept and familiar with the room it was extremely valuable to have a supporting facilitator on hand to run through ideas and to support the technology set up.

As a result of these approaches, it is perceived that a real learning culture and atmosphere was achieved particularly in the level 2 cohort during this last year of teaching in the space. Whilst the module content and delivery remained the same as previous years there appears to be a higher level of student engagement with attendances improved by as much as 13 %.

Tutor B has undertaken modules of study in Visual Communications and Sketching and Design at the Sussex learning space. These courses were originally taught in a more traditional teaching space but were specifically rewritten to take full advantage of the new facilities. As with tutor A the first year was experimental. The tutor tried not to let the space dictate, but manipulated the blank canvas to push the boundaries and aims of the course. The tutor discovered that although the space could be very technology led; projecting images/animations onto walls and curtains, using surround sound, LED Lighting and data projectors to create spaces with different sensory moods and atmospheres to immerse and stimulate students' creative thinking - it could also be used without any technology to encourage different skills and learning techniques. Over time other noticeable observations were made:-

- Beanbags – Although students preferred sitting on the beanbags they were not always appropriate for certain learning experiences, for example, when a introductory talk or PowerPoint was being shown that contained facts or instructions students appeared to "switch off" and become almost too relaxed. In contrast when the beanbags were being used for brainstorming or group

discussions they enhanced the activity by their relaxing nature, stimulating conversation and giving confidence.

- White boards – When a learning experience required the students to write on the walls to work out and explore ideas/concepts, it was noted that the sessions were relaxed and productive. One student commented “*It felt very liberating writing on the walls, I immediately loosened up and ideas began to flow*”. The Walls encouraged learning through peer-to-peer conversation and also enabled the students’ to view each other’s ideas easily. This was hugely motivational and inspiring, “*Seeing what others had done really encouraged me to ‘up my game’*”
- Room Configurations – because of its flexibility, the space could not only be manipulated into many scenarios for motivation and learning but also using the walls and curtains, be divided up and then opened out, so in one short teaching session students could work individually, in groups and then all together making it very versatile for experiential learning.

4 REFLECTION

The learning spaces are capable of enhancing didactic forms of information delivery led teaching, through for example environmental control, on line capabilities, and multimedia screens. The flat seating and low screens are however not conducive to clarity of view and the space utilisation is not efficient. These learning spaces were however designed to enable alternative approaches to didactic and were consequently and evidently seen to work effectively with more social, constructivist approaches to learning. This is understood to include transformative and student led learning processed that turn information into new understanding through reflection, cognition, challenge, argument, discussion, open mindedness. Students placed great value on this pedagogic approach, describing it as “learning” as opposed to “education” which seemed to entail more a process of timetables, modules and assessments as opposed to knowledge and understanding.

The different and varied techniques were noted as popular – a break from hours and perhaps days of listening to powerpoint presentations. Students also noted the importance of the atmosphere in supporting this style of teaching; “*The turn out for the DP232 lectures this year has been noticeably higher than any other module from this year or last year. I'm not sure if this is because the room feels more "casual" and people feel like it is less effort to come and sit in a relaxed environment than in a structured class room*” (Level 2 Design student, 2009/10). Different techniques also appealed to different learners at different times and this often highlighted a more individualistic educational need than is evident in didactic delivery. It is believed that this variety therefore enabled individuals and the cohort to tip over towards a more engaged learning culture [6].

Brighton students, who had sessions delivered in both learning spaces, also felt that the Brighton learning space had a more comfortable, ‘softer’ feel. In a broader ethnographic study conducted by the project teams looking at a wider number of learning spaces and a wider range of students, tutors and modules, it was noted too that the white-cube gallery environment at Sussex had a more ‘clinical’ feel. As a result, the Brighton space was felt to be more convivial to a discussive atmosphere. It is however evident that a softer feel to the Sussex space was achievable through the use of voile curtains and that the ‘harder’ feel allowed for a purer and less distractive space for other forms of pedagogy.

What has been subsequently conjectured from our experience is that any learning space that moves students too far away from everyday experiences and surrounding, or which is too distracting from the pedagogic purpose, might be less conducive to learning. If routine classrooms are seen to be a room at the end of a corridor where students sit and ‘learn,’ then there may be a problem with alternative spaces which deliver exactly the same message; “*Recent attempts to create new teaching and learning facilities on university campuses have often resulted in celebrated architecture that has proved to be educationally problematic*” [9]. This reflection would however stand in contrast to the growing number of architecturally impressive learning spaces that are being developed. It can also be counter argued that lacked the impact that other architecturally impressive learning spaces have.

It was however difficult to see how the technologies in both learning spaces could be used to added effect within this process more than space to move, atmosphere and time. This effect also being noted at the University of Brighton’s other experimental learning space, the CETL in design room and has a resonance among other academics. “*We keep pouring piles of expensive multimedia equipment into our classrooms and declaring them to be smart classrooms. We want our classrooms to be smart because of the mistaken belief that most learning occurs in classrooms and that smarter classrooms will somehow produce better learning. In many cases we have turned classrooms into complex tangles*

of technical gadgets” [7] and “Moving from classrooms to learning spaces involves a conceptual shift as well as a commitment to putting learning ahead of technology” [8]. The experimental nature of the learning spaces did also raise some interesting points around being student led, notably the dichotomy in being student led yet precious about the space and its availability to students. At Brighton, students have been shown how to use the space and are encouraged to make room bookings. This has again re-emphasised the need for accessible technology.

5 SUMMARY

This paper aims to contribute to the growing body of knowledge around the development of bespoke learning spaces. The spaces in this research were designed to be flexible and technology rich. In both cases, flexibility has been key, contrary perhaps to the more rigid but impressive looking spaces being developed elsewhere. The technology has been less valued, again contrary to other common practice.

Both spaces cost of around £1m each, but it does not seem necessary to spend this much in order to capture the key features. Flexibility can for example be adequate space and storage, with chairs that move and face allowing conversations as opposed to serried ranks. Lightweight furniture is easily moved and stacked and likely to be cheaper than heavy duty fittings (which may not in any case last any longer). Even plants mounted on castors or voile drapes allowed quick but effective room transformations. With regard to technology, twin projectors linked to separate computers can achieve much that the multi media achieved. The most effective room feature however, whiteboard writing space, can be achieved very simply cheaply by using stick on vinyl.

It should be clear however that the learning space is only as good as the tutor, and that neither sit in isolation. There is no doubt that there is a need to invest time and effort into maximising the value achieved from the learning spaces. It is for example necessary to think and plan in advance, to arrive early to set the room out and test the technology. Institutional norms can act to work against the incentives to do this. Successful operation of learning spaces therefore requires supporting cultures, systems and organisation. Given the current financial climate then the degrees to which institutions develop these spaces and supporting infrastructure may come down to issues of balancing teaching efficiency over learning effectiveness. In this case, both tutors firmly believe that investments made have been effective and will be disappointed to return to a traditional class space in future.

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