Outside in: Beyond blended learning

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A review of the teaching spaces at Charles Darwin University merged top-down directives with bottom-up requirements from user groups (students, academics and support staff). The space of tension between the three top-down drivers from outside and within the walls of a regional Northern Australian university had to be managed and prioritised to ensure the needs of local stakeholders were met as far as economically and practicably possible. By going beyond blended learning the aim is to provide a deeper level of engagement and collaboration to create synergies designed to bring the distant external students into the classroom. This will be mediated by the use of web-conferencing within the teaching spaces. The change process is examined with respect to five issues identified as relevant for this teaching mode to improve the sustainability of our teaching practices.

Keywords: teaching spaces, learning spaces, blended learning, web-conferencing.

Introduction

To initiate and facilitate an innovative upgrade of the video conferencing infrastructure at Charles Darwin University (CDU) a step-wise design process had to be developed. First, a comprehensive review of the centrally managed teaching spaces, and their use, was undertaken by members of the Office of Learning and Teaching (OLT) (West, Billany & Garnett, 2012). Five design factors were identified and examined. Second, recommendations from this review had to be prioritised and operationalised in sequence to create usable outcomes in a climate of change. One design outcome of note is a number of *Collaborate Rooms* which has raised a further five issues which are discussed.

Design Factors

The West et al. (2012) review identified a number of dependent factors that informed the design principles that were applied. These five factors can be categorised as either strategic or humanistic. The three strategic top-down influencers comprise two national and one local strategy, and the humanistic bottom-up influencers are both local based factors. These are:

- Strategic National: Benchmarking with the Association of Educational Technology Managers (AETM)
- Strategic National: Teaching spaces projects funded by the former Australian Learning and Teaching Council (ALTC)
- Strategic Local: CDU strategic plan
- Humanistic Local: CDU students
- Humanistic Local: CDU academic and support staff.

National Top-Down: Benchmarking with AETM Standards

The AETM is an Australasian organisation that represents the audio visual professionals of the tertiary education sector in the promotion, development and deployment of audio visual technology in the teaching space. The audio visual design guidelines (AETM, 2010) for tertiary teaching spaces are intended as an independent benchmark. The AETM defines a teaching space as having eight elements: lectern and control; lighting; information technology and computing; projection and display; other sources; audio; recording; and, video conferencing. The specifications are extensive; however, the primary focus is on internal teaching with remote access and control of lighting, recording equipment and teaching materials. CDU's teaching spaces were benchmarked against these guidelines, a number of other Australian universities, and findings from previous ALTC funded teaching spaces projects.

National Top-Down: Prior ALTC Funded Teaching Spaces Projects

From these projects a range of resources exist that synthesise pedagogical considerations with the principles of teaching space design (Keppell, Souter & Riddle, 2012; Mitchell, White, Pospsil, Killey, Liu & Matthews, 2010). In a previous ALTC funded project one of these was particularly pertinent for CDU. Mitchell et al.

(2010) specifically examined the retrofit of university learning spaces and suggest eight key pedagogical principles be taken into consideration when redesigning existing teaching spaces. These are:

Principle 1: Spaces should support a range of learners and learning activities
Principle 2: Spaces should provide a quality experience for users
Principle 3: Spaces should help foster a sense of emotional and cultural safety
Principle 4: Spaces should enable easy access by everyone
Principle 5: Spaces should emphasize simplicity of design
Principle 6: Spaces should integrate seamlessly with other physical and virtual spaces
Principle 7: Space should be fit-for-purpose, now and into the future
Principle 8: Spaces should embed a range of appropriate, reliable and effective technologies

As a result of this prior project at CDU a number of specialist teaching rooms were modified and are being used very successfully. However, these are heavily booked and not available to most of the teaching staff. It is considered a pilot project and its evaluation informs the CDU strategic Learning and Teaching Plan and hence this present project in a form of a cohesive project with ongoing quality assurance.

Local Top-Down: The CDU Strategic Plan

De Gregori (2011) links the eight general principles listed above to a specific context and this concept is reinforced by Reushle (2012) in the PaSsPorT learning space design model. De Gregori argues that the physical space must be connected to the specific model of learning and teaching adopted by an institution. This somewhat simple principle, while appearing obvious, is often overlooked. However, visionary managers at CDU have chosen to apply these principles in the Learning & Teaching Plan 2012 -2014. Of the strategic areas stated in that Plan one includes improving internal and online student satisfaction with teaching spaces by incorporating digital technology into teaching spaces whether physical and/or virtual.

Thus the CDU self assessment portfolio (2011) is committed to bringing in a 'Fleximode' approach which incorporates the concept that "students may engage with their programs using the combination of methods that is most suitable for their needs, rather than being constrained by imposed study mode parameters ... fleximode aspires to address, in a manner seamless to the student, at least the following variables:
- asynchronous and synchronous engagement by students
- students and staff who are physically present and physically distant, ... and
- individual learner engagement and learner group engagement" (CDU, 2011, p. 30).

This time of change has significant implications: the configuration of the teaching spaces (physical and virtual), curriculum design, how teaching is performed in these new spaces, and how CDU students are expected to learn in these spaces.

Bottom-up: The CDU students

In the last decade CDU has moved increasingly to external delivery, and is "one of only a few Australian universities at which more than 50% of the student population is enrolled in some form of distance education" (CDU, 2012, p. 5). The process of externalisation to meet market forces has created a paradigm shift in how these students are served. The traditional distance education model with hard copy packages has been superseded by technology mediated delivery of units with electronic resources available 24/7. The percentage of external students has grown from approximately 20% in 2001 to 62% in 2010. This has been achieved primarily through the development of online learning systems that are proving equally beneficial for on-campus students.

For a unit of study, both internal and external cohorts of students normally have access to the same teaching resources in a 'blended' site in Learnline (CDU's Learning Management System, powered by Blackboard v9.1). A surface perception of this blended delivery might be that the internal students have gained access to resources designed for the external student in virtual teaching spaces. Blended delivery has blurred the temporal and spatial patterning of traditional learning for the internal student. Now, the teacher, peers and resources are available 24/7 and the place is no longer confined to a university building. This project is designed to redress this imbalance and to provide the external student with an internal experience. For the future, in **beyond blended learning** we are reviewing the teaching spaces at CDU with an aim to upgrade the technologies beyond normal video conferencing. It is hoped that a deeper level of engagement will create synergies that emerge from increasing engagement and collaboration as we bring the **outside in**.

Bottom-up: The CDU staff

In 2009, CDU academic staff participated in an anonymous survey (Voice Project Staff Survey). One item required a textual response about how CDU might be improved. A search of the qualitative responses elicited 35 phrases containing one or more of the following keywords: lecture theatre; classroom; tutorial room; seminar room; a/v; audio; video; audio/visual; educational technology; equipment; physical; resources; and, environment. The comments were generic and often requested 'better' and 'up-to-date equipment' in 'teaching rooms'. To determine specific requirements from academic staff, a number (N=5) were arbitrarily selected from different Schools and based on experience. These were invited to be interviewed about their experiences of using the rooms in the central teaching building, including any constraints in their approaches due to the technology and layout. Also, to gain an insider view on what they, as users, believed should be included in a future upgrade.

From the initial selection a snowballing of participants occurred, as staff were keen to be involved, and saturation (no new information was being gathered) was reached after eight participants. Thematic analysis of the notes taken by the interviewer was undertaken. This was checked by an independent academic to reduce any potential subjective bias during the interpretation stage. All staff members stressed and commented on the following themes/issues:
1. Reliable internet connectivity for staff and students.
2. Standardised presentation computers need to be in placed in all rooms with audio and video capability.
3. Presentation screens need to be better positioned, the correct size for the room, and preferably, moveable.
4. Incorporating methods for Fleximode delivery to allow recording of activities/demonstrations for easy transfer into Learnline, and use of web-conferencing to bring external students into the classroom.
5. The rooms need to be inviting to enhance the experience of being in the space.
6. The furniture, generally small rectangular tables, whilst being easily moveable and adaptable to different teaching situations could be improved for group work.

The five design factors discussed have led to several outcomes. It was proposed that all teaching rooms be equipped with a set of standard equipment as a minimum basic level of technology to be thereafter built upon for specific requirements and to a more advanced level. One of the specific requirements was a number of rooms, *Collaborate Rooms*, which are now being designed to support the use of web-conferencing software Learnline Collaborate.

Outcome: A new room design

The rooms chosen for this design are mostly flat seminar style rooms which will be fitted out between November 2012 and February 2013. This web-conferencing tool is now incorporated into Learnline and brings external students into a live lecture or tutorial. This new room design raises five issues: 1) The types and layout of technology in the room; 2) The interaction between the student groups; 3) The multiple roles of the lecturer; 4) The pedagogical strategies used in the room; and, 5) The support requirements.

The types and layout of technology in the room

In the recent past some lecturers have used web conferencing software with the traditional layout. That is the data projection screen behind the lecturer and in front of the internal students. This has caused problems as the external students are, in effect, behind the lecturer. A lecturer has to pivot from facing internal students to then view external students, who then see the back of the lecturer. The dance continues with no group entirely satisfied with the experience. Example layouts of spatial settings to suit differing educational interactions are discussed in Keppell et al. (2012).

The interaction between the student groups

Even though both groups of students are present for a common purpose, some initial pilot sessions with the traditional setup has shown that there can be some irritation from either or both groups, as each doesn't easily accept the other in what they regard as their teaching space and time. West et al. (2012) report that distance students in the online environment often appreciate the opportunity for interaction with on-campus students. Also, extra time spent on adjusting and monitoring the technology has been reflected in some evaluative comments from students. Strategies will need to be developed to address these and for the lecturer to explicitly communicate the value-add for all the students.

The multiples roles of the lecturer

Lecturer roles; pedagogical, technical, social, and managerial, were described by Berge (1995) and are still widely quoted. More recently, these multiple roles have been further defined by Baran, Correia and Thompson (2011) who critically analysed the literature on online teaching practice. They add the roles of instructional designer and facilitator. Being both an internal and an online teacher blurs roles in time and place. Understanding these roles is important in the professional development for lecturers of the future. Harden and Crosby (2000) summarise six key areas of activity for the teacher. As: 1) information provider; 2) role model; 3) facilitator; 4) assessor; 5) planner; and, 6) resource developer. A key role of the staff from the OLT is to support the lecturer in decisions related to the pedagogical strategies that can be used in the rooms.

The pedagogical strategies used in the room

Emerging for the multi-role lecturer are six key principles which have been identified at CDU as a current focus for learning and teaching. First, to promote *'active learning'* the learning materials should be designed to encourage active engagement. Second, in *'structured learning'* the learning materials should provide a sequence of learning resources and activities informed by the intended learning outcomes. Third, students should be given effective and prompt *'feedback'* on their learning progress, including formative self-assessment exercises. Fourth, there should be a *'teacher presence'* including responding promptly to student queries and actively participating in learning activities. Fifth, '*collaboration'* opportunities should be provided for student interaction and to generate a sense of belonging to a community of learners. Sixth, learning should be *'inclusive'*; designed to allow for diversity in culture, learning styles and abilities.

The support requirements

CDU has just implemented a rapid response team approach to supporting staff with technology in these teaching spaces. Direct phone lines for lecturers to contact support staff will be placed in these teaching rooms.

Conclusion

This has been a review of teaching spaces and a description of the ensuing design process of retrofitting teaching spaces to suit the changing requirements of the university, the students, the staff, and current thinking in educational interactions. CDU is currently purchasing the equipment and redesigning a large number of teaching rooms with specific emphasis on *Collaborate Rooms*, designed to bring the external students into direct live contact with the lecturer and internal students in the teaching space.

Providing the new spaces as one of the foundations of CDU's Fleximode strategy and the challenge for CDU's central Office of Learning and Teaching will be to work with staff and students in using these new spaces to their most effectiveness. In conclusion, learning for the future at CDU will involve addressing the five, not mutually exclusive, issues: 1) The layout of technology in the room; 2) The interaction between the students; 3) The multiple roles of the lecturer; 4) The pedagogical strategies used in the room; and, 5) The support requirements.

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