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Blended learning: an Asian tale

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Over the past few years increasing online learning is part of the normal educational experience of students. This paper examines the changes faced by two universities in different countries as they move to blend traditional face-to-face learning activities with those online. In particular, it reviews lessons that can be drawn for others moving into blended learning environments for successful implementation.

Introduction

The last decade has seen unprecedented change in higher education throughout the world. Predictions of wholesale moves to totally online degrees, greeted initially with enthusiasm, and by some with total scepticism, have proved elusive. The recent closure of the UK eUniversities Worldwide (UKeU) follows earlier failure of such schemes in the US, where the low numbers of enrolled students indicate that this is not always what the majority of students seek for their university education. When reporting on the closure of the UKeU, the funding body reported that universities now favoured a blended approach "involving a mixture of IT, traditional, work-based and distance learning to meet the diverse needs of students" (HEFCE, 2004). While some distance education universities and their partners have achieved moderate success in the area, many campus-based universities have taken a more conservative approach, opting to increase student numbers through the expansion of their structures, and through international partnerships.

Many higher education institutions have been bombarded with change efforts, driven by the new market economy that found universities competing for funds in a changed resource environment (Adams, 2002). Universities looked beyond their walls for ways to increase funds and became more entrepreneurial in their outlook through the inclusion of full fee-paying international students and more vocationally-oriented postgraduate courses to raise revenue (Gallagher, 2000). They looked offshore, forming relationships with other institutions to provide a university education in partnership, or establishing their own offshore campuses. Within Australia, they also competed for students and extra funding. Any opportunity for access to growth funds was essential to universities, particularly regional institutions with limited and reducing budgets.

Universities worldwide were finding it difficult to meet the challenge of decreased funding from government sources with requirements to improve access to education and the quality of the educational experience, pressures and agendas supported by typical government reports (NBEET, 1996). Whilst attempting to reduce costs created a challenge for universities, many believed this could be met by improving teaching and learning, especially with information and communication technologies (Yetton & Associates, 1997).

However, the history of technological innovation in higher education (Hedberg & McNamara, 2002) demonstrates that technological solutions do not always address pedagogical needs of learners and teachers and often they are looking for a problem to solve. The educational technology literature supports the view that pedagogy not technology should determine how it is best used (Collis & Moonen, 2001; Laurillard, 2002). As the use of technology matures in the learning environment in higher education, a more pragmatic approach is being demonstrated. Universities are combining the best features of distance and face-to-face learning environments to produce blended learning environments supported by the use of technology.

An effective blended learning environment takes a learning design approach which looks at the learning goals and aligns them with teaching and learning activities and assessment, thereby ensuring the integration and appropriate use of technology (Boud & Prosser, 2002). This integration can also be reflected in the wider university through, for example, the provision of student portals where students can manage and interact with all administrative areas, including subject choice, timetable changes, and personal information management (Cornford & Pollock, 2003).

A context for blending

The first institution in this tale is located in Australia. This university adopted a blended approach to meet the requirements of institutional change that resulted in a radical change to the nature of the student body. The composition changed from a largely local body of students, attending the local campus and coming straight from high school, to one which included a very diverse range of students, in a number of locations, and which also included a significant increase in the percentage of mature age and international students. We provide an overview of the strategic changes this university made to pedagogy and provide an example of implementation of a new degree developed specifically for students located at a satellite campus and access centers. From this case study, we identify aspects of blended learning that support and challenge improvements for student learning.

Government imperatives to increase access to higher education for rural and remote students in Australia have seen the provision of a large pool of money for development of satellite campuses and access centers. The use of technology combined with a desire for increased flexibility for students, saw a blended approach to teaching and learning underpin many of the developments, combining strategies from distance and traditional education with many of the latest technological developments at many of these campuses. Several studies, in fact, documented the challenges faced in establishing these new learning environments (Chalmers, 1999; Taylor, 1999).

In contrast, the Singapore institution adopted the technologies as part of a major government initiative to quickly develop the technical expertise of its teachers and students. The emphasis was upon the modernisation of educational practice, to some extent the improvement of the learning experience for the student often taught in large classes, but most certainly to be seen as using the most modern tools to familiarise a technically oriented workforce. The employment of ICT technology in blended ways was seen also as a mechanism by which the university would be able to participate in global alliances and to demonstrate levels of sophistication in modern teaching approaches. In short, it is the story of many universities as they seek to establish their reputations and to focus more on postgraduate and research studies. From these contexts, we develop some broader ideas that are still proving elusive as the institution attempts to change its teaching strategies and create greater invention and challenge in the curriculum. We use the Singapore Institution by way of a contrasting and matching comparison as we explore the blended learning context.

Blended learning in Wollongong

The University of Wollongong is a regional university in south-eastern Australia with approximately 20,000 students. It includes the main campus in Wollongong, a campus in Dubai in the United Arab Emirates, a satellite campus about one hour from Wollongong, and four access centers for students (up to four hours drive from the main campus). The university received substantial government funding to establish the satellite campus and access centers to promote access to education for students in remote and regional areas. Blended learning at the University of Wollongong involved a number of early adopters in the mid-nineties but by 2000 the impetus for change was driven by the needs of the Australian and overseas students studying away from the main campus.

At the University of Wollongong, approximately 35% are international students, with 66% of this group studying on the Wollongong Campus and the rest studying in their homeland through partner universities or at the Dubai Campus. Only 50% of students are studying full-time. A large portion are mature age students, often balancing work, home, and study, attending the Wollongong or Shoalhaven Campuses or attending one of four access centers. Finally, with only 25% of all students under 21 years, there is a much smaller cohort who have just completed secondary school. Many of the school leaver cohort are also working part-time to support themselves while at the university. As a result, such individuals require flexibility but still want an on campus experience and opportunity to work with and meet other students and their lecturers.

One single model of blended learning would not meet the needs of the different student groups and consequently there are a variety of models in use. They may vary from a traditional one-hour lecture, two-hour tutorial with supplementary resources provided through a web-based learning management system (LMS) for students on campus to subjects where the majority of communication and collaboration occur online with only occasional face-to-face meetings with tutors. Other subjects rely on web-based streaming audio of lectures supplemented by resources accessed through the LMS but supported by weekly face-to-face tutorials with a local tutor. Many of the overseas cohorts see a different blended model whereby they meet regularly with a local tutor to work on identified learning tasks designed by the Wollongong lecturer then come together for a block teaching session of a few days, once during the semester to meet with the lecturer from Wollongong.

A particular case study of one program provides an example of how subjects were tailored to meet the needs of the students (Lefoe, 2003). The Bachelor of Arts was a new degree program developed specifically for the satellite campus and access centers. The program was designed to be flexible in terms of time and place, and to use a student-centered approach to learning to assist students to take responsibility for their own learning. The program was designed to use a blended approach for teaching and learning; involving the combination of reduced face-to-face teaching with both synchronous and asynchronous interaction often mediated by technology to produce an environment for learning which is student-centered. As the locations were geographically distributed, the teaching and learning activities were dispersed across a number of settings, including the centers, the library, the main campus, and the student's home; across time; and through a variety of technologies, including print, videoconference, and online tools.

The core subjects in the Arts degree were not designed to use traditional lecture delivery methods for transmitting information to students. They used a student-centered approach requiring students to take responsibility for learning the content through either reading material themselves, watching a video, or engaging in activities during the tutorial and then making their own connections with the concepts discussed or presented in the tutorials or practicals. Students were required to prepare for the tutorials in some subjects by reading the lecture notes or content modules before attending the tutorial, so that they could participate in the tutorial activities and discussions.

There were seven subjects on offer in the first year of operation through the Bachelor of Arts, which included five compulsory subjects and two elective subjects. The perceptions of academic staff and students on the first year of implementation of four subjects were assessed through focus groups, semi-structured interviews with staff and students, and subject surveys. There were a variety of teaching and learning strategies used in the first year. Tutorial or practical support was provided locally through tutors, while course design and coordination occurred at the Wollongong campus. A number of common themes emerged in the perceptions of the benefits of teaching and learning in a blended learning context. The supportive areas identified included:

- the opportunity for students and tutors to participate in higher education in their local community;
- the commitment of the local tutors and the benefit of the small tutorial classes to student learning; and
- the student-centered subject designs that included workbooks or study guides containing learning objectives, content, learning activities, and assessment tasks.

There were six common themes identified in the perceptions expressed by those interviewed of the constraints of teaching and learning in a blended learning context. These were:

- teaching and learning strategies chosen were not always the most appropriate;
- emerging roles were different to those experienced on campus;
- improved communication was required between the main campus and the centers;
- a need to develop new skills and understandings related to the changed learning environment;
- workloads were perceived as high by students and staff; and
- the role of technology was new and unfamiliar.

Singaporean blended learning contrasts

Singapore is a nation state of approximately four million people. The major resource is seen as the people and indeed the educational systems and aspirations seem to be overarching issues in daily life. Access to schools and universities is highly competitive and the demand far outstrips the places available. The undergraduate programs are largely populated by students who have come directly from school; only in the postgraduate courses do mature age students

predominate. However, the strong tradition for many polytechnic diploma students to study offshore to gain their degrees has created an increase in interest to enrol some of these students into the undergraduate programs. These students are also slightly older and are often more prepared to study in blended learning contexts.

Overall, the tertiary system is highly evolved with a strong emphasis on business, technical, manufacturing and the new information economies. Unlike situations in larger countries, for most Singaporean students, blended learning is a convenience to decouple time and space rather than a necessity for access. However, travel, while not costly, is time consuming and the educational institutions are not necessarily centrally located.

While blended strategies are used in on-campus courses, largely they have been supplementary rather than key to addressing core pedagogy. The challenges of campus extension have largely not been present. However, while students have attitudes with varying degrees of ambivalence towards the blending of approaches, some notable initiatives in terms of strategic benefits about the nature of blending have been adopted. The use of blended approaches has been to support international linkages and to establish specialised niches for high level of technical skill. Alliances have been developed with prestigious international institutions to leverage off postgraduate specializations with particular relevance to a planned and controlled economy. One such alliance has been with MIT to teach a special masters program in engineering (http://web.mit.edu/sma/). Here, the technological connection was maintained with video recording and conferencing to expertise in North America with local tutors providing face-to-face support. Interestingly, the program also supports and attracts students from other southeast Asian countries to study in Singapore. Thus this linkage is seen as a "cheaper" alternative to living in the USA with some of the benefits of accessing cutting edge ideas.

Another unique point of departure is the use of blended approaches that focus more on matching the technology's affordances and the learning task. Choosing learning tasks, which cannot be undertaken without a blended approach, is not just a convenience but a necessity. One such initiative is the development of students creative skills as they can be applied to the design and programming of computer games. Rather then simply playing them, the students integrate skills sets that have practical commercial potential.

Conclusions about blended learning

While the two contexts we are describing are very different, there are some common elements that can provide some guidance in selecting and designing blended learning contexts.

Choosing student-centered teaching and learning strategies builds on blended contexts

Delivering and accessing a blended program requires new ways of thinking about teaching and leaming. In the Australian case, the project team had determined that traditional teaching paradigms used at the main campus would not meet the needs of students and academic staff in the distributed context. This meant that the courses had to include appropriate learning outcomes, teaching and learning strategies, content provision, assessment strategies, and learning resources, as identified in models of teaching and learning in higher education (Biggs, 1999; Laurillard, 2002;). Such courses typically include an activity-focused study guide, which incorporates more than just content or lecture notes by providing scaffolding for student learning. They also require strategies that engage students by encouraging them to make the links between theory and practice and provide feedback on students' learning performance. Blended approaches are ideal for presenting illustrations from different areas and online components can support access to a wide diversity of resources which can be integrated by students as part of their assessable tasks. In the Singapore context, this approach is also used however, the focus on international business issues and linkages with the large economies of China, India and the USA require the compilation and explication of multicultural resources.

Establish clear roles and responsibilities

A dominant theme from the perceptions of students, tutors, and course coordinators is the need for clarity of the roles they play in a distributed learning context. This affects the level of responsibility they assume for aspects of teaching and learning. Students indicated some uncertainty about their roles, a common problem for first year university students (Pargetter, McInnis, James, Evans, & Dobson, 1998). In a student-centered learning environment students need to understand their own role and that of their instructor, since this may differ considerably from their previous experience if they have only participated in teacher-centered instruction, such as, at high school. If students are to

take responsibility for their learning then, they need to have a clear idea of what this entails and from both cases, those more mature students are often more comfortable with this expectation.

New roles are also required in the distributed learning context. Course coordinators, for instance, saw their role as administrative; however, the distributed context meant that they needed to take more responsibility for communication with the tutors and students, and also had a more proactive student advisor role. One coordinator felt his responsibility ended with the preparation of the resources, and in another, the coordinator taught the same subject to 180 students on campus. In both cases, they responded to questions from the tutors but had little contact with the students. As roles emerge, it is important to recognise the need for supportive understanding of the changes required and to acknowledge the changes through policy documents, increasing new forms of communication and writing role statements.

Ensure communication matches the type of blending

In the evaluation of the experience, communication was identified as the third concern for students and tutors. Collaboration between the course coordinators and tutors across the distributed sites may have prevented some specific problems. Such problems included an inconsistency with implementation and marking of an assessment in one course, and the perception of the coordinator in another course that students were not capable of the work yet they achieved better marks than the main campus cohort in the final results. Regular meetings during the semester would have helped to address these problems. For example, given the distance, they could have used teleconferencing, online chat, or videoconferencing if people were available at the same time, or they may have used an asynchronous discussion forum or email to address concerns and share strategies. The divergence between design and teaching expectations has not been as critical when the one teacher is responsible for both.

Develop supporting academic skills and understandings

Some students require support beyond the initial orientation for the development of new academic and technical skills especially when they are in their first year (Taylor & Blaik, 2002). Students often require skill development for technical and information literacy and for tertiary literacy skills development. They need effective just-in-time support but to make use of this support they need knowledge of the support available and flexible access to it (Choy, McNickle, & Clayton, 2002). Incorporating skill development such as computer and essay-writing skills within core courses could improve the overall outcomes for students.

Support and encouragement is required for tutors and academic staff to engage with their changed roles and responsibilities to develop basic student skills, and this needed to be enhanced by changes in the institutional recognition, reward, and incentive systems (Anderson, Johnson, & Saha, 2002). For the course coordinators, there will be changes in workload allocations, which take into account the changed nature of the work (Coaldrake & Stedman, 1999; McInnis, 2000) and policy changes, which reflect the changed role of the course coordinator in a blended learning context. Such actions will require changes to the institutional rewards and incentives systems which truly value teaching as much as research, especially in the promotions system.

Expect higher workloads with blended learning

Students, tutors, and course coordinators identified increased workloads in the blended learning context. Some students perceived the workload as high and measured their workload as related to the amount of time they spent on campus or in an access center. The reduction of face-to-face time meant increased responsibility for students to work outside the class. Not surprisingly, such an expectation needed to be made clearer to students. In two courses, students specifically commented on the high workload. For one course, this was due to misunderstanding of the requirements of the assessment task in one centre, and, in another course, this was due to the separation between the lecture material and the practical classes. A tutor expressed a concern that students saw the independent work they were required to do as additional to their load, rather than part of the student role in this environment.

Choose appropriate technologies for the learning tasks

Technology plays a critical role in the delivery of blended courses which use communication technologies to carry the key information and interactions, such as, videoconferencing, audio and videotapes, email, and aspects of a LMS. The use of technology requires the development of new skills for students, tutors, and lecturers. The participants often report concerns about inappropriate use of technology, such as videotaped lectures and online lecture notes; the need to learn computer literacy skills; technical difficulties with equipment including the videoconference facility,

computers, and printers; and the difficulties of relying on critically time and place dependent media like videoconferencing, which invariably requires technical support to be available.

While quality, access, and cost are identified as major issues for higher education in the future, sustainability of new developments in an era of increased workload and the lack of "down time" is becoming a major contention for the academic staff involved. The notion of blended learning, combining the best features of traditional and distance education with appropriate use of the affordances of technology, may serve the sector well, allowing for a better balance between teaching and research but still providing the quality and flexibility that students and faculty expect of a 21st century university. Getting the right mix in the blended learning context will be the challenge for the future.

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