



ICT-assisted multi-campus teaching: Principles and practice to impact equity of experience for students

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Given the range of ICT-assisted delivery options available today, the uninitiated might assume that teaching across multiple campuses no longer presents any significant challenges. Further, it could be argued that terms such as multi-campus and distance teaching have less relevance now that ICT enables flexible learning beyond the time and spatial confines of the physical campus. In fact, research literature indicates that multi-campus teaching continues to present some unique pedagogical, technical, learning support and administrative challenges. Based on a search of Australian University Web sites, this paper examines principles, practices and challenges for ICT-assisted teaching and learning at multi-campus institutions, at the same time noting a lack of comprehensive online resources that address ICT-assisted multi-campus teaching as a distinct category of flexible learning.

Keywords: Multi-campus teaching, learning, higher education, education technology

Background

Information Communication Technologies (ICT) can enable flexible learning beyond the time and spatial confines of the physical campus. These “improved access” benefits are widely acknowledged (Allen & Seaman, 2007, p.2) even by educators who raise concerns about “the push for flexible learning” (Lynch & Collins, 2001, p.1). While in respect to educational value, recent studies have produced evidence of online learning that has surpassed face-to-face teaching. Based on a meta-analysis of over one thousand empirical studies of online learning the US Department of Education found that, “on average, students in online learning conditions performed better than those receiving face-to-face instruction” (2009, p.ix). Similarly, a case study conducted by the Australian Government Department of Education Science and Training (DEST) Programme Research, Analysis and Evaluation Group found that “online education provided a powerful pedagogical tool ...” (DEST, 2011, pp.150-151).

In the light of promising evidence about the educational value of online learning, and faced with increasing student demand, many education institutions in Australia and internationally have “tended to see ‘flexible delivery’ as a panacea ...” (DEST, 2001, p.iii). It follows, therefore, that the uninitiated might assume the solution to multi-campus teaching is to simply “put it on the web” (Lynch & Collins 2001, p.380). In fact, best practice literature shows that effective online and blended learning involves much more than simply uploading books and multimedia with some links and ad hoc questions “added to make them ‘interactive’”(Gayeski, 2005, p. 98 in Herrington et. al. 2007, p.1).

According to Ebden (2010), universities have drawn largely on “technology-driven solutions to overcome some of the challenges posed by multi-campus learning but these pose their own set of challenges” (p. 267). For example, writing in relation to alternative methods trialed at Deakin University, “such as narrated PowerPoint presentations and videoconferencing in place of face-to-face lectures, and e-Live tutorials instead of face-to-face tutorials,” ... Ebden notes that “no solutions or combinations of solutions were deemed instrumental in addressing all of the challenges adequately” (ibid).

Cognizant of Ebden’s observation concerning a lack of evidence to guide the development of multi-campus course delivery, the present study was designed to examine how Australian universities are endeavouring to foster good practice and equity in their MCT operations through their online resources and relevant policy documents.

It was anticipated that the results of this web-search could in turn inform the development of evidence-based resources and guidelines for ICT-assisted teaching across multiple campuses at the authors’ home institution.

Method

A qualitatively driven mixed method case study approach was adopted to “illuminate contextual complexities and nuances on multiple levels” (Hall & Ryan, 2011, p.1).

A web search of policies, strategies and resources used by Australian universities for multi-campus teaching was conducted using the same search strategy for every university site. This was done by first ascertaining whether the university was a multi-campus institution, then searching the university’s web pages using "multi-campus", "multi campus", "multiple campus" and "cross-campus", also "multi-campus teaching" and multi-campus policy." This search was of publicly available information and may not reflect the internal policy, strategy and resource generation processes currently in action.

Additional insights into how institutional policy and principles are interpreted and applied in practice were gained through semi-structured interviews with staff (n = 15) at the authors’ home institution. To gain a cross-discipline perspective, participants were recruited from a variety degree programs: Mathematics; Music; Education; Information Communications Technology; Indigenous studies; Marine biology; Cultural studies (Media); Physiotherapy; Nursing; Pharmacy; Architecture. Transcripts and quotes extracted from transcripts were routinely coded to help preserve the anonymity of participants. Using an “interpretive approach” (Neuman, 1997, p.71), inductive category coding and comparing of meaning across categories” led to “an understanding of the people and settings being studied” (Maykut & Morehouse, 1994, p.135).

Results and discussion

Results of the web search indicate that there are 37 (of 42) universities in Australia that have more than one teaching campus. Readily accessible were the publically available web pages or documents of five universities that have policies, strategies and resources specifically addressing MCT (Table 1, also highlighted in yellow in Table 2). In addition, two universities have developed policies and strategies to support specific technologies used in multi-campus teaching and flexible learning (highlighted in green in Table 2).

Table 1. Evidence of university-wide equity of experience principles for students on different campuses

University	Principles*	Recommended Strategies †	Evidence
LaTrobe University	√ x	√ x	Multi-campus Teaching by Videoconferencing http://www.latrobe.edu.au/teaching/assets/downloads/VideoconferencingGuidelinesVer6.pdf
Monash University	√ √	√ √	Multi-Campus Consultation for Unit Management http://www.eng.monash.edu.au/secretariat/policies/download/multi-campus-consultation-policy-v0.1.pdf
Central Queensland University	√ x	√ x	Multi Campus Roles & Responsibilities http://dfm.cqu.edu.au/FCWViewer/getFile.do?id=3105
University of Tasmania	√ √	√ √	Cross-campus teaching http://www.teaching-learning.utas.edu.au/orientation/cross-campus
Griffith University	√ √	√ √	Program leadership in multi-campus universities, http://www.griffith.edu.au/education/program-leaders

At the time of the initial web search, University of Tasmania was identified as having the most comprehensive publically available online resources addressing MCT pedagogy and equity principles directly. The essence of the MCT principles noted by most other university sites were represented in the UTAS publically available online resources, therefore, an abridged summary of these are included in the following legend for table 1. Note that * stands for Principles whilst the symbol † represents Strategies.

* Principles:

1. Equity and equivalence – Irrespective of the campus at which students and staff are located, all must be treated equitably. In addition, teaching and learning standards must be equivalent at each of the campuses.
2. Equivalent not identical – Specific learning activities can vary in the way they are taught yet still result in equivalent learning outcomes for students (UTAS, 2010, p.1).

† Strategies:

1. Learning decisions should come before delivery decisions – Decisions about the most appropriate means of delivery should begin with consideration of the teaching/learning situation and the intended learning outcomes.
2. Integrate, don't duplicate – "Multi-campus teaching is generally not about using identical strategies at all campuses." Rather, it is about using "an inclusive suite of flexible teaching/learning strategies for all students" (UTAS, 2010, p.1).

Seventeen universities have developed strategies or resources or recognise that they need to develop policy, strategies, resources and/or research related to MCT. The remaining 14 do not appear to have documents on MCT publically available online. None of the 37 multi-campus universities had markedly comprehensive publically available multi-campus teaching resources.

Table 2. Publicly available statements on the Principles, Strategies and Online Resources used to support MCT

University	Principles	Strategies	Online resources
La Trobe University	To ensure that high quality teaching and academic support are effectively and equitably provided to students on all La Trobe campuses.	Multi-campus teaching 'Alert' brochure: "Importance of Training" and "Next Steps".	http://www.latrobe.edu.au/teaching/assets/downloads/multi-campus-teaching-alert.pdf
Monash University	With a growing number of units being offered on more than one campus, it is important that the equivalent academic standards be maintained across all sites.	Multi-Campus Consultation for Unit Management.	http://www.eng.monash.edu.au/secretariat/policies/download/multi-campus-consultation-policy-v0.1.pdf
Central Queensland University	To sustain an autonomous, multi-campus, Central Queensland-based university	Multi Campus Roles & Responsibilities	http://dfm.cqu.edu.au/FCWViewer/getFile.do?id=3105
Griffith University	Guidelines for Cross-Campus Consistency: Maximum use of Expertise Efficient use of Resources Coherence and Consistency of Presentation http://www62.gu.edu.au/policylibrary.nsf/	Developing Program Leader Networks and Resources to Enhance Learning and Teaching in Multi-campus Universities.	www.griffith.edu.au/data/assets/pdf_file/0017/100556/Developing-Program-Leader-Networks.pdf
University of Tasmania	A guiding principle for multi-campus operations: to ensure that all students and staff are treated equitably and equivalently: http://www.utas.edu.au/university-council/university-governance/university-guidelines/teaching-and-learning-quality-issues-related-to-the-multi-campus-nature-of-the-university-of-tasmania	ALTC-funded research: Enabling and developing leadership in multi-campus universities through the development of communities of practice [at] universities [in] Cross-campus teaching	http://www.altc.edu.au/project-enabling-developing-leadership-utas-2007 http://www.teaching-learning.utas.edu.au/orientation/cross-campus
University of Southern Queensland	USQ made a commitment to mainstream the use of Virtual Classrooms into its core Technology Enhanced Learning infrastructure.	Virtual classrooms ... collaborative media allowing cross-campus and multi-campus teaching.	http://www.usq.edu.au/extrafiles/ltsu/PRP/tel_flexdel/virt_class/virt_classr.htm
Curtin University of Technology	Flexible Learning mode provides students with comparable learning experiences in respect of the course and unit learning outcomes...that are available to students through traditional campus-based methods of delivery.	In regard to multi-campus and international partnerships. Suggestions for use of Elluminate Live to facilitate individual or group meetings, mentoring, exam/assignment moderation.	http://cel.curtin.edu.au/tools_tips_training/LetsGetFlexible/email_template/Issue13_elluminate.html

The five universities identified in Table 1 were active in addressing the principles of equity of experience of MCT as follows:

1. Latrobe has a guide to *Multicampus Teaching by Videoconferencing*. Key principles relating to equity of experience, student engagement and the alignment of relevant content, activities and assessment to intended learning outcomes are addressed in relation to best practice teaching by Videoconferencing. The document includes advice on lesson preparation including practical student engagement strategies such as welcoming students (especially those at the remote sites), structured discussion mediated by a facilitator at the remote venue, and 'wrap up' time to clarify anything that remains unclear for students.
2. Monash University (Engineering) has a policy document titled *Multi-Campus Consultation for Unit Management* with links to other relevant policy documents (referenced in Table 1). This document provides a clear rationale and list of responsibilities for multi-campus unit management groups (key teaching staff involved in offering the unit from campuses involved). These are consistent with those outlined in the UTAS principles used as a point of reference in Table 1.

3. Central Queensland University (CQU) has a Multi Campus Roles & Responsibilities Fact Sheet that provides a concise plain language explanation of the key responsibilities of the Course Coordinator, Lead Lecturer, Head of School, Associate Deans (Teaching and Learning), Associate Director Academic Programs, Campus Directors & Heads of Campus, and Deans.
4. UTAS, similarly, has a web site that clearly articulates principles and practice information specifically focused on multi-campus teaching. Importantly, a number of these principles are unpacked to clarify how particular principles can be applied in practice. For example, in regard to equity of experience for students, UTAS note: “The specific details of an assessment task might be varied if aspects are unsuitable for a site at which the course is offered. For example, assessment details may be altered if students are required to undertake a project or task that relates to the local context” (UTAS, 2010). UTAS also provides links to additional documents that can assist lecturers in planning for multi-campus teaching and learning, such as: a) *learning and delivery systems*, a flow chart model that prompts the user to consider the alignment of intended learning outcomes, learning activities and assessment before making decisions about the most appropriate combination of delivery systems; and, b) *delivery systems capability considerations*, a grid that provides an overview of the various *delivery system options from face-to-face to web/Internet, print, and multimedia*, and the suitability of each for various types of interaction and real-time versus delayed asynchronous communication in lecture, tutorial or seminar contexts.
5. Griffith University *has developed a publically accessible web site* titled “Program leadership in multi-campus universities.” With a clear emphasis on supporting the practice of program leaders through professional development resources, the site features a range of evidence-based strategies and ideas for effective program leadership stemming from an ALTC funded project with partner Institutions University of Western Sydney and La Trobe University. Embedded video clips of program leaders responding to hypothetical questions about improving quality in multi-campus teaching contexts add a degree of authenticity and authoritative voice, at the same time capitalizing on the power of interactive multimedia to engage the viewer at their own pace, scrolling forward and back to replay at their discretion. The amount of MCT-targeted content on this site appears to have grown from the time of the initial web-search for this study (early 2011) to the time of publication.

Common to the five Australian university web sites categorised in Table 1 were resources that enable lecturers to translate general policy and principles concerning flexible delivery into practical strategies for ICT-assisted multi-campus teaching. One that stood out as useful to guide course design and planning for multi-campus delivery was a “learning and delivery decisions” flow chart published online by UTAS (2010) that could, ideally, be used in conjunction with a grid that compares the strengths and weaknesses of different ICT tools for various teaching and learning contexts (e.g. Thomas, R. & Presley n/d). Towards understanding how similar policies and principles are translated into action at the grass roots level, the first of a series of interviews with staff responsible for MCT were conducted at the authors’ home institution.

Interviews with staff involved in ICT-assisted multi-campus teaching

In the following summary and discussion of interviews with teaching staff, coded initials representing each participant are used as in-text references to indicate the volume and source of quotes and summary statements.

Almost half of the participants had recently taught courses entirely online to cater to the flexible and/or distance learning needs of their postgraduate student cohort (LB; DE; GL; WJ; BC; BMC; WGM; FG). Some of their students were geographically dispersed parents studying for a graduate qualification part-time while employed full-time. Other categories included undergraduates based at smaller satellite campuses and those based temporarily off campus during practicum or workplace integrated learning placements (GL, GP, SS).

Most participants used the Learning Management System (LMS) Blackboard in keeping with the University's guideline that all courses should have an online presence (described as an 'institutional factor' in Stacey and Gerbic (2008, p.966). Their general approach to course design and facilitation corresponded with Oliver and Herrington's (2001; 2003) description of the online learning experience as a "network of three overlapping elements of a learning design, that is, learning tasks, learning resources and learning supports" (ibid).

The teaching context of two participants stood out as they deliver courses across institutions as well as multiple campuses. Their interaction with students relied primarily on room-based videoconferencing used in conjunction with electronic whiteboards, email, and occasional desktop videoconferencing and telephone calls. The videoconference and electronic whiteboard (Smartboard) technology infrastructure was installed as part of a national initiative to support cross-institutional teaching and learning of mathematics. One lecturer explained that this essentially predetermined their approach to ICT-assisted teaching:

"Well the [ICT-equipped] room was set up first and the challenge was to use it" (WGM).

While this is not a text-book example of the principle "make learning decisions first" (UTAS, 2010) ahead of choosing the most appropriate delivery system, both lecturers agreed that the videoconference system used in conjunction with Smartboards has been appropriate for teaching of maths in this cross-campus/cross institutional context, especially since it enables synchronous, real-time interactive communication.

I think that mathematics really is an activity, ... you need to actually do it and demonstrate it when teaching – and so that's what I tried to do using the Smart whiteboard. One of the advantages ... is that you can save everything as a pdf, and so I saved everything I could and circulated that to the students as well after the classes" (WGM).

The second mathematics lecturer had arrived at similar conclusions about the immediacy of communication enabled by videoconference, and the benefit of being able to save electronic whiteboard presentations for students to view before and after lessons.

(BMC) The combination of the Smartboard and the video camera facility ... were just perfect! ... I can talk it through and they [students] can ... actually watch me drawing it ... so I think that helps reduce the anxiety factor about the maths. ... And it's the ability to even interact with the students and ask them questions, you know "well how would you do that?" ... So the ability to have them actually participate in the process ... while still having prepared materials ... that I can put up on Blackboard afterwards, just the combination was fantastic!" (BMC)

Although the literature suggests that room-based videoconferencing is not a panacea for multi-campus delivery (Downey and Brown, 2009; Ebdon, 2010) the immediacy afforded by videoconference and electronic whiteboards was clearly valued by these mathematics lecturers as a means to interacting with and engaging students at remote campus locations. The ability to save, distribute and reuse digital resources was also valued by their colleagues in other disciplines (JS; WJ; JC). Combined these practices correspond with a number of established best practice recommendations for blended learning, such as: a) develop shareable and reusable digital resources to ensure that blended learning is sustainable (Littlejohn & Pegler, 2006 in Stacey & Gerbic, 2008); and, b) design courses for "strong integration between the two environments" [face-to-face and online] (Garrison and Vaughan, 2007 cited in Stacey & Gerbic, 2008). It is also significant to note that these lecturers stressed the usefulness of the electronic whiteboard to make the most of the videoconference-mediated teaching. This corresponds with Downey and Brown's (2009) reflection that not being able to simulate an electronic whiteboard contributed to "a lack of interactivity" in a cross campus videoconference-mediated teaching situation they describe (p.220).

Asynchronous discussion via forums on the LMS (Blackboard) discussion board were the primary means of online communication used by most participants. Several staff responsible for teaching smaller groups used synchronous communications technology such as Chat in the Blackboard virtual classroom environment. Two lecturers (LM; NO) were enthusiastic about Chat citing positive feedback from students. One spoke about the social learning aspects of using a 'talking circle' approach in the context of an online indigenous studies course:

Being an aboriginal studies area, and being indigenous myself, we put a lot of store on the fact that it is a relationship environment and in class you get great opportunity to do that interaction and personalize the delivery. Online was a challenge, Chat was perhaps the best that I could do to try to create that same

classroom environment, and as a whole I think we achieved it. (Lecturer, 'NO').

This example of using Chat successfully to facilitate a learning activity normally conducted in a face to face setting is indicative of an 'equivalent not identical' learning activity (a common principle in multi-campus university policy statements and guidelines (e.g. UTAS, 2010). The lecturer conceded, "it took a little while for the students to warm to it [as] none of the students had been exposed to chat before." However, in terms of achieving intended learning outcomes by a different means the ICT-assisted 'talking circle' approach in real-time (synchronous) was considered a success.

In contrast, several lecturers at a small satellite campus perceived that most of their students prefer 'asynchronous' communication tools largely due to their circumstance as distance learners with professional and personal commitments that are easier to balance with the flexibility afforded by discussion boards and other asynchronous communication tools.

I got no takers [for Chat] in the time slot. ... I guess because they are at a distance from the campus and they've often got other work commitments that preclude them from always being in one spot at one time, so it's about them juggling their commitments so that's why the asynchronous method I think still is more attractive to them (LB).

Summary of Interviews

Interviews with teaching staff helped to identify the variety of ways that multi-campus teaching equity principles are applied at the grass roots level. Not surprisingly, factors such as size and geographic location of students, and the nature of the course being taught influenced decisions about asynchronous versus synchronous online communication tools, course design and facilitation methods. Most significant to note, however, was the evidence of stated course objectives and outcomes being achieved in spite of being taught in different ways across multiple locations. For example, talking circle learning activities and advanced mathematics being taught in a blended mode to some students and fully online (including by videoconference) to others were two such examples.

Conclusion

Results of the literature review revealed a growing body of scholarly literature on the challenges of multi-campus teaching. However, few concrete solutions or comprehensive models to assist decision-making and planning were found in the literature or by following links identified through a search of Australian university web sites. Only a small number of universities appear to have developed publically available resources that treat ICT-assisted multi-campus teaching as a distinct category of flexible learning that is worthy of special attention. This accords with Ebdon's observation that "despite the growth of multi-campus teaching, little evidence exists to guide the development of multi-campus course delivery" (2010, p.1). Interviews with teaching staff helped to identify various ways that multi-campus teaching equity principles are applied in practice at the grass roots level. Importantly, these participants were in the habit of critically reflecting on their new innovations and practices, although only a few had formally written up results of systematic evaluations for dissemination among colleagues and scholarship of teaching and learning publications. It is anticipated that more investigating, aggregating and sharing of such information could inform improved guidelines, teaching practice and equity of experience for students at multi-campus institutions.

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