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ABSTRACT

This paper presents a case study of distance education at the University of Southern Queensland (USQ) in Toowoomba, Australia. Begun in 1977, distance education at USQ moved from the correspondence model to the multimedia model, to the telelearning model, and finally to the current flexible learning model characterized by on-line delivery via the World Wide Web. It is noted that as universities move to this fourth model of on-line delivery of distance education, institutions will have opportunities to develop more flexible policies and procedures in regard to student selection, student enrollment and progression, and the teaching and learning processes. The paper then examines current USQ practices, the challenges presented by the on-line environment, and possible solutions in regard to student entry requirements, student enrollment periods, student progression, the nature of study materials, and approaches to student assessment. It is concluded that if flexibility and students' control over their own learning are taken seriously, institutions must devote as many resources to the review and development of academic management strategies, including student support systems and professional development of faculty, as they focus on the development of delivery technologies. (MDM)

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Introduction

The University of Southern Queensland (USQ) in Toowoomba, Australia was founded as an institute of technology in 1967 and became a university in 1992. As a regional university (approximately 90 minutes west of Brisbane) the feeder area for on-campus students is somewhat limited. As a result, USQ has increasingly turned to distance education to develop its profile and establish a niche among Australian higher education providers.

Since commencing its involvement in distance education in 1977, and following successful efforts in establishing niche markets, USQ's major strength has become the development and delivery of distance education programs at both undergraduate and graduate levels. USQ's leadership, in the area of distance education, is recognised both nationally and internationally. Consequently, USQ currently enrolls over 21,000 students with more than two-thirds of these students studying in accredited degree programs offered by distance education.

Prior to 1996, the university's distance education degree programs were delivered almost exclusively via print using audio-visual, CMC and teletutorial support. Since 1996, the university has moved increasingly to online delivery for its graduate programs. However, at this point USQ does not aspire to be an open university. It is a dual-mode institution.

Generations of Distance Education at USQ

The evolution of distance education delivery at USQ is central to the content of this paper. It may be helpful to employ a framework developed by Taylor (1996) in describing the evolution of distance education delivery. In 'Models of Distance Education: A Conceptual Framework', Taylor outlines four generations of delivery technologies along with his perceptions of the corresponding characteristics of each. Details of the four generations of distance education delivery appear in Table 1.

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Table 1 Models of Distance Education: A Conceptual Framework

Models of Distance Education and Associated Delivery Technologies	Characteristics of Delivery Technologies				
	Flexibility			Highly Refined Materials	Advanced Interactive Delivery
	Time	Place	Pace		
First Generation - The Correspondence Model					
• Print	Yes	Yes	Yes	Yes	No
Second Generation - The Multi-media Model					
• Print	Yes	Yes	Yes	Yes	No
• Audiotape	Yes	Yes	Yes	Yes	No
• Videotape	Yes	Yes	Yes	Yes	No
• Computer-based learning (e.g. CML/CAL)	Yes	Yes	Yes	Yes	Yes
• Interactive video (disk and tape)	Yes	Yes	Yes	Yes	Yes
Third Generation - The Telelearning Model					
• Audio teleconferencing	No	No	No	No	Yes
• Videoconferencing	No	No	No	No	Yes
• Audiographic communication	No	No	No	Yes	Yes
• Broadcast TV/Radio + Audio teleconferencing	No	No	No	Yes	Yes
Fourth Generation - The Flexible Learning Model					
• Interactive multimedia (IMM)	Yes	Yes	Yes	Yes	Yes
• Internet-based access to WWW resources	Yes	Yes	Yes	Yes	Yes
• Computer mediated communication	Yes	Yes	Yes	No	Yes

For the purpose of this case study and without debating the validity of Taylor's claims regarding the characteristics of the various delivery technologies, there are several issues, which will be highlighted by examining Taylor's framework.

Firstly, the delivery generations are not necessarily linear, exclusive or discrete. A provider of distance education programs may be operating across more than one generation at any given time. For example, in terms of delivery technologies, USQ currently operates across all four generations. Although the number of programs characterised by fourth generation delivery is increasingly significant, at this time, degree programs operating across the first three generations continue to account for the bulk of USQ distance education programs.

Secondly, the framework outlined in Table 1, while valid for the purpose of describing the inherent technology characteristics of distance education delivery, focuses only on that particular aspect of implementing distance education programs in tertiary institutions. What the framework in Table 1 does not consider (nor makes any claim to do so) are other contextual issues which impact on the effectiveness and efficiency of distance education programs, irrespective of the delivery model utilised.

Relevant Literature

Gellman-Danley & Fetzner (1998) and Berge (1998) identify and discuss a range of contextual issues arising from teaching online programs. These authors conclude there is a need to examine current academic, governance, technical, cultural, legal, labour-management and fiscal practises as universities increasing move to online education.

Numerous articles and documents have been written about the management of distance education. The International Centre for Distance Learning (ICDL) Distance Education Library and the Educational Resources Information Center (ERIC) alone contain hundreds of such documents. Most of these documents, however, examine distance education policy, institution management, student support systems and student administration relevant to the first three generations of distance education delivery models. Surprisingly little appears to have been written about the academic management and administration of what Taylor (1996) labels as fourth generation distance education delivery.

Taylor suggests that as distance education moves towards later generations of delivery the primary benefits for learners are flexibility of access and increased student control over their learning. "In effect, these 'flexible access' (1992) technologies have the potential to allow the student to access learning at will, as lifestyle permits... Such flexibility has a major pedagogical benefit - it allows students to progress at their own pace. Thus varying rates of individual progression can be accommodated, unlike typical conventional education practices..." (Taylor, 1996:3).

An editorial by Michael Moore in the American Journal of Distance Education ask, "What are the barriers to the adoption of distance education?" In his commentary, he suggest that in higher education, part of the answer is that many of the administrative systems were originally designed to service traditional students taught by traditional teachers. He goes on to say that these traditional administration systems now constitute a barrier to the adoption of distance education. Moore (1994:4) recognised this in writing "...the barriers impeding the development of distance education are not technological, nor even pedagogical. We have plenty of technology, and we have a fair knowledge about how to use it. The major problems are associated with the organizational change,

change of faculty roles, and change in administrative structures. Here we desperately need all the ideas and all the leadership than can be assembled. The starting point is to expose the problems”.

Issues Emerging from the USQ Experience

In line with Gellman-Danley & Fetzner (1998) and Berge (1998), it is clear from the USQ experience that as each delivery generation evolves, there will be a requirement for teaching staff to adapt and extend their repertoire of instructional strategies/techniques and to develop the necessary technical skills required to maximise potential teaching/learning benefits offered by the new delivery technologies. As well, our experience suggest that the current concerted move towards online delivery of educational programs generates tensions, which seriously challenge the existing systems for academic program management and student learning support. Resolving these tensions are equally important, if the maximum potential benefits of evolving online delivery technologies are to be captured. Academic managers must look ‘outside the square’ to develop more student-centred, rather than institution-centred policies for the administration of academic programs.

Our experience also suggests that as we move to online program delivery, there will be increasing pressure for change to established teaching/learning practices. Paralleling these emerging pressures for change to established teaching/learning practices are pressures to significantly rethink policies and procedures governing the academic management and administration of distance education (and possibly on-campus) programs. We also argue, that as providers of tertiary distance education programs using fourth generation delivery technologies, there must be a major shift in 'what is generally known to be true' (Imershein, 1976) in every area of our work as tertiary teachers and program managers and not simply in the development of new delivery technologies and instructional strategies.

As institutions move towards more flexible delivery and online models of distance education i.e. Taylor's fourth generation of delivery, institutions of higher learning will have real and significant opportunities to develop more flexible policies and procedures to manage such areas as student selection, student enrolment and progression and the management of teaching and learning processes. It is in these areas that our experience with online programs at USQ highlight opportunities to 'value add' to the learner's (and teacher's) total educational experience. Perhaps the greatest challenge to the future of successful distance education delivery is the development of policies and practices, as shown in Table 2, which parallel and keep pace with developments in the area of delivery technologies. This is especially so as online delivery via the World Wide Web means the potential student market for any institution of higher learning is worldwide.

Table 2 Models of Distance Education: An Implementation Framework

Models of Distance Education and Associated Delivery Technologies	Characteristics of Delivery Technologies	Roles, Skills & Instructional Techniques of Teaching Staff	Student Support Mechanisms	Program Management Systems
First Generation -				

The Correspondence Model

Second Generation - The Multi-media Model

Third Generation - The Telelearning Model

Fourth Generation - The Flexible Learning Model

Challenges to Established Academic Management Policies and Practices

Issues raised in this paper have arisen over the past two years from experiences of the Department of Further Education and Training (FET) at USQ, with the teaching and academic management of two online degree programs i.e. the Graduate Certificate and Masters in Open and Distance Learning. The Department of FET since 1997 has offered these two post-graduate degrees exclusively online. It is on the basis of this experience that we identify a sample of management issues to illustrate that an increasingly flexible learning environment, using online delivery technologies, raises major challenges to the established practices and policies for the management of academic programs and teaching/learning at this university.

For each issue, existing USQ policy and procedures and the challenges generated by online delivery are briefly outlined. While acknowledging that the issues raised are often more complex than may be displayed in these brief descriptions, we provide two possible solutions as to how management policies and procedures at USQ might be changed to maximise the benefits of developments in online delivery. At this point, we make no overt judgment about, or indicate a preference for any of the suggested solutions. We conclude by suggesting that if a tertiary institution wishes to maintain its reputation as a market leader in distance education there is little option as to which of the solutions it adopts (at least to these selected issues). We also maintain this will require a significant change to an institution's academic management policies and practices if those policies and practices are to productively support the new delivery technologies.

Monitoring Student Entry Requirements

Established USQ practice:

Formal entry requirements are set for all degree programs. Applicants are required to establish through hardcopy documentation that they meet entry requirements before a) they are enrolled in a degree and b) are allowed access to study materials.

Online challenge:

Applicants enrol online claiming to satisfy entry requirements for the selected degree. Individual applicants have no way of providing documentation online. With applicants potentially worldwide, submission of hardcopy evidence may take months.

Possible USQ solutions:

- 1) Students enrol online with acceptance into the degree and full access to study materials provisional until the university receives and assesses hard copy documentation of the applicant's credentials.
- 2) Degree requirements are rewritten to emphasise outcomes as the criteria for student progression and eventual completion. This shifts the major focus from selection at entry and the emphasis on demanding hardcopy documentation of the applicant's credentials before confirming enrolment in the course and ongoing access to study materials. The focus now is more on students demonstrating ability to meet progression and completion criteria.

Student Enrolment Periods

Established USQ practice:

Degree enrolment periods correspond to established semester timelines. Thus, students can enrol in a degree at the start of any of three established semesters (February, July, and November). Students submit applications well in advance of the start of semester, but often do not receive notice of acceptance for several weeks. Study materials are available only at the start of each semester.

Online challenge:

Applicants have year-round access to online enrolment into degrees with university acceptance given within a few working days. Student motivation to begin study is enhanced by this immediacy of the online enrolment process and knowledge that study materials are readily available. However, if students are required to wait until the start of a new semester to fully access study materials, there is the potential to generate frustration and the possible loss of the student.

Potential USQ solutions:

- 1) Maintain the set enrolment periods per year. Allow online students to enrol in their degree at any time and provide limited access to study materials on enrolment. Students officially commence study, gain full access to study materials and complete assessment items only in the next full semester.
- 2) Online degrees have either a) continuous enrolments with students permitted to commence study as soon as they are accepted into their selected degree or b) more frequent set enrolment periods, e.g. six times a year or perhaps monthly with full access to study materials at the start of the next minimally delayed enrolment period.

Student Progression

Established USQ practice:

In line with set semester timelines, students who complete a unit of study (course or subject) in a time less than or longer than the set semester of fourteen weeks, must wait until the start of the

subsequent semester before commencing study in their next unit. Additionally, not all units of study are taught in all semesters and many have prerequisite units, often within quite structured degree study sequences. As well, grades for units are recorded on university records only at the end of each semester, which impacts, on when students are able to demonstrate official completion of prerequisites.

Online challenge:

With materials available online at all times and individual students able to manage their own study schedules, they tend to complete units of study at times other than the normal end of semester. Such students often wish to have their grade registered and commence study of their next unit as soon as possible, especially if the next unit enables them to build immediately on work done in the unit of study just completed. Requiring students to wait weeks or even a full semester (because of patterns of unit offerings or pre-requisite requirements) before accessing their next unit of choice detracts from the student's educational experience and satisfaction with provider service.

Potential USQ solutions:

- 1) Maintain the current set enrolment and unit completion timelines, but increase the frequency of offering units of study and reduce prerequisite requirements as much as academically defensible.
- 2) With online courses, have more frequent unit enrolment times, register grades at the time the student completes a unit of study, offer all units at all times and reduce prerequisites where ever possible. Thus, facilitating increased student freedom to self-structure the sequence and timing of their programs of study.

Nature of Study Materials

Established USQ practice:

Essentially, many distance education materials are primarily print reproductions of face-to-face lectures and tutorials. These materials are often written around a prescribed text with additional readings provided.

Online challenge:

To maximise the potential of online delivery, it should not be seen as simply using computers to replicate face-to-face teaching. Nor should it be seen as a mechanism for scrolling pages of print-based study materials or as a way of simply transferring the costs of printing study materials to the student. The challenge is to develop a pedagogy, which capitalises on the unique potential of the web as a vehicle for materials delivery, teaching, information retrieval and group communication while maintaining academic integrity and quality of content and learning outcomes.

Potential USQ solutions:

- 1) Reproduce print-based study materials online and snail mail selected readings and locally non-available texts to students. When copyright clearance is forthcoming, some selected readings are put online or made available to students through an online library storage and retrieval system.
- 2) Significantly reduce the reliance on copious teacher generated study materials, prescribed texts and selected readings. Develop study materials and teaching approaches that are focused on facilitating student achievement of stated learning outcomes with reduced core informational material provided by teaching staff. Guidance on how to access and employ non-institutionally

based web materials would be provided through online discussion groups, real-time audio, video and email thus, allowing students to use locally available resources, which address the same content as previously prescribed text and readings materials. This also affords students an opportunity to contextualise content in their particular cultures and work environments while still achieving common learning outcomes.

Approaches to Student Assessment

Established USQ practice:

Approximately 75% of USQ distance education units continue to employ formal, set date examinations as a major component of student assessment. A central division of the university manages these examinations and is responsible for organising the scheduling, distribution and supervision of the examinations.

Online challenge:

With the increasing flexibility afforded by online offerings, students are able to commence and complete units of study outside set semester timeliness. The challenge is to develop forms of student assessment which compliment this flexibility and that are both educationally appropriate and economically viable.

Potential USQ solutions:

- 1) Continue to use formal examinations in those units that choose to do so. Offer a formal examination in each unit of study, in each semester examination period, irrespective of the semester(s) in which the unit is taught. Students nominate to sit examinations in the semester of their choice. While this option may be educationally defensible there remain questions as to its logistic and economic viability with large numbers of distance education units.
- 2) Employ alternative forms of student assessment that are more online friendly and support increased student control over learning e.g. various forms of online examination, projects, papers, multi media presentations, etc. While there are a range of considerations including technical issues, security and costs considerations, the overriding criteria for online assessment must be the maintenance of academic quality and integrity.

Conclusion

It is the emerging challenges to the parameters under which we operate as educators in an environment of online delivery which have been raised in this paper and more specifically, how these may impact on the academic management and administration of online education programs.

Our experiences suggest that if flexibility and student control over their learning are taken seriously then tertiary institutions must devote as much resource to the review and development of academic management strategies, including student support systems and professional development of teachers, as are focused on the development of delivery technologies. To do otherwise, will almost certainly result in fourth generation delivery technologies being managed with policies and procedures designed to manage first, second and third generation delivery. This situation could be described as using old and outdated tools for new jobs. The claimed potential of online delivery technologies, to increase flexibility of access and increase student control of their learning, cannot

be fully realised unless developments in delivery technology are accompanied by parallel developments in institutional functions such as those identified previously in Table 2.

With each academic program management issue discussed in this paper, the first listed potential solution is indicative of institutional attempts to accommodate the online challenge with minimal disruption to existing academic program management policy and procedure. Collectively, procedures such as those identified as the second possible USQ solution represent a direct challenge to the established academic management paradigm in many tertiary institutions. To adopt these or similar solutions would necessarily require a radical shift to fourth generation management policies and procedures.

The logical result of the latter approach to academic program management would be to maximise the potential flexible and student centeredness, which Taylor ascribes to online delivery technologies. Only when this is accomplished will institutions of higher learning be as open and flexible as their public assertions regarding online delivery maintain. Paul (1998:124) comments on this in writing, "... if our institutions are to be as open as we say they are (and it does not take very much insight to recognise that they are not), management too must be open and driven by the same values which are represented in the organisation's mission statements and strategic plans".

In a nutshell, this paper attempts to explore some of the problems (and opportunities) that traditional academic administrative structures impose on the new delivery technologies. Admittedly, discussion in this paper represents a limited selection of academic management issues which online delivery experience at USQ has highlighted. Clearly, as we have noted earlier, there are additional related issues in areas such as teaching strategies and technical support for staff and students.

In 1976, Perry the first Vice-Chancellor of the Open University in the United Kingdom, reported on the intense scepticism he faced from traditional university academics in establishing the Open University (Rumble, 1992). Perry maintained the only way forward was to establish an entirely new single-mode institution dedicated to distance learning, an institution able to determine its own rules and regulations.

It is interesting to note that in 1999, the current Vice-Chancellor of the Open University in The United Kingdom, in discussing the ways in which universities can respond to the opportunities presented by new technologies, reinforces the importance of academic rules and regulations appropriate to online delivery. Daniel (1999:5) in discussing this issue makes the following distinction between hard and soft technologies. "Hard technologies are bits and bytes, electrons and pixels, satellites and search engines. Soft technologies are processes, approaches, sets of rules and models of organisations". He then concludes, "...that if you want to use the hard technologies for university teaching and learning (in a way) that is both intellectually powerful and competitively cost effective you must concentrate on getting the soft technologies right". This is essentially the point being made in this paper. If institutions are to capture the maximum benefits of online delivery technologies, additional work must be done in critically and strategically examining existing policies and procedures for the academic management and administration of online programs.

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