Title: Building Online Resources for Post Graduate Online Course Delivery: Reflections, Frustrations and Lessons Learnt:

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Abstract: This paper discusses a number of important issues confronting teaching staff responsible for the development and delivery of online materials. It provides practical insights for the developments of online subject and courses.

Introduction
The Department of Marketing was not new to the creation of flexible delivery materials when staff embarked on the development of a twelve subject web-based Master of Marketing program in March 1999.

The Department became involved in flexible delivery strategies in 1991. The motivation to do so was threefold. Firstly, it had become obvious that many marketing and retail students were employed in careers that involved irregular working hours that precluded them from attending conventional university courses scheduled on a regular weekly basis. Secondly, in relation to Distance Education, it became apparent that students were beginning to expect that the material presented and the overall manner in which they interfaced with instructors, went beyond printed information and telephone liaison. Thirdly, it was becoming increasingly evident that new communication technologies meant that competition for students was no longer restricted by geographical proximity. The national and international strength of our courses could be weakened by international as much as national competition, a point confirmed by Government studies in the mid 90’s (Hesketh et al.,1996).

The team working on the Master of Marketing course creation included content experts, many of whom had taught the subjects for many years. The team also included staff experienced in the instructional design of web-based content; staff experienced in the moderation of online subjects; staff experienced in the creation of distance education materials; and other staff with technical web production skills. We also had a web development team within the Faculty whose role was to facilitate the production of web based subject materials.

Given this breadth of experience one could assume that the task would be relatively straightforward. A good team with a high level of motivation and a demonstrated ability to create innovative and well presented materials, what more could be required?

Some of these staff also had past experience with building online resources for use by undergraduate students, so why then was it so difficult to produce the web-based materials and why did it take so long —twice the amount of time anticipated? While this paper does not pretend to have all the answers to what are ultimately quite vexing questions, it does attempt to demystify some of these issues. It offers considerable guidance in terms of what resources are required for such a process, general lessons about the process itself, and what production principles were extracted from the overall experience.

The first and most important lesson learnt was that the creation of web-based subject
undertaken by the Department. Online subject production is a discontinuous innovation—not an incremental move from Distance Education materials—it demands a new approach to teaching and learning strategies (Hannafin and Land 1997). A successful outcome is contingent on a change in thinking in the way subject materials are perceived and a change in the processes through which subject materials are developed.

**Beyond Conventional Instruction**

The culture within the Department, and typically within universities as a whole, is one of individual responsibility for virtually all aspects of production and delivery of on-campus course materials. On campus teaching materials rely almost solely on the expertise of the deliverer and the producer and deliverer are quite often the same individual. Powerpoint slides and other teaching aids used in the presentation of a lecture program are invariably developed with an expectation that the presenter will value-add as he or she moves through the materials.

Seeing the reactions of students within a classroom to the materials presented provides the teacher with important cues that result in repeated explanations, expanded illustrations and any other intervention or application to alleviate a situation where students have difficulty grasping the concepts. For experienced teachers these added features of classroom teaching become second nature and part of the requisite skill set. They are not part of the formal materials prepared beforehand, but stem from industry experience and knowledge of current events to demonstrate theoretical application in the commercial setting. The completeness of the explanations is not so subject to rigorous evaluation, at least not during preparation, given this fall back position where it is immediately clear if students do not follow what the lecturer, or tutor, is explaining. Questions and queries from Distance Education students also provide cues to deficits in the materials. Changes in the Distance Education and on campus course materials may be built over successive years as a result of repeated student questions or feedback from assignment or exam assessments that highlight if a topic was poorly understood. Both Distance Education and on campus teaching materials are developed incremental with each successive lecturer building on the work of those before them. In addition, in more recent years, there has been a rapid growth in instructional aids provided with major textbooks.

The time allocated for the class, lecture or tutorial determines the amount of material that is covered. Additional materials can be covered in the next lecture or tutorial if time permits, or set as additional reading or work to be completed outside classes. Variations between classes, such as the pace and depth of material covered are accommodated on a week to week basis. The questions raised in classes may prompt discussion of new areas or students may bring their own experience from their own work environment to the classroom. On campus teaching assumes that students will engage with the teaching process, although it is widely recognised there are often significant differences between individual on campus students, in their level of comprehension and engagement.

In the production of Distance Education materials it is possible to include readings and case studies which can provide extensive and practical examples, and the length of these materials is rarely questioned—except from a budgetary perspective when production costs are outside the standard framework. Distance Education print materials are usually created by a single subject expert, although a Distance Education course director may influence the look and quality of materials, such as style guides or the recency of readings and references.
The development of online teaching materials is a relatively new process for most staff. Few staff have past experience to call upon and many are daunted by the technology or the range of tools that they might consider to enrich the learning environment. The number of relevant sites, that provide useful examples of the application of theory, may be small but the volume of sites and other potentially useful materials is vast. For an academic working in isolation the task may be both intimidating and seemingly enormous. Tutors may be able to deal with the facilitation of interactive learning associated with bulletin boards, but they may be little help with the content creation. Staff who have experience with the technology may have little experience with post graduate pedagogical issues, yet the best outcome for the creation of a learning environment requires an approach that integrates all aspects of the learning.

**The Team Approach: A Necessity For Online Course Production.**

The complexities and unique requirements of online production and delivery of subject materials requires a group approach which is often a confronting experience for those accustomed to working on their own. The adoption of a team based approach to the development of online course materials provides a critical approach which would ideally be present in all teaching activities, yet rarely is, because of time, expertise and budgetary constraints.

The content expertise required to teach post graduate courses often means that there are only a very small number of staff who have the necessary depth of experience to judge the quality of subject content and content instruction. While the University has always encouraged the administration of teaching quality surveys, the results of these surveys are often too generic to provide meaningful advice to individual staff about specific aspects of their online teaching effectiveness. They are also open to individual interpretation and are rarely discussed with colleagues, unless they are being used for the purposes of promotion or appraisal.

The preparation of on campus or DE subject materials is guided by accreditation documents that specify the educational outcomes to be achieved over the course of the teaching period and as mentioned by the materials of previous instructors. These pre-specified resources and requirements provide a framework within which a teacher has the freedom to make minor modifications, add examples etc. These same resources are available to online subject developers, so why are they not sufficient to produce high quality online materials?

Some of the problems that arise are the same ones that plague all teaching activities, and produce the qualitative difference between a good teacher and a poor teacher. The elusive teaching style that is the invisible component of all teachers is difficult to translate in an online teaching environment where the focus of evaluation must shift from teaching to learning (Rowntree, 1998). It is also difficult to retain a personal teaching style in a group project, since what one teacher regards as appropriate teacher style may not be supported by other team members. Teaching style is also a very individual phenomena that falls within the realm of academic freedom. The blending of skills and synergistic outcomes that can come by way of adopting a team approach can result in excellent materials, requires a process of compromise and preparedness to change, and thus is certainly not without its pitfalls. In addition to the difficulties that can arise when searching for consensus of opinion amongst a group of academics, a team approach can also produce teaching materials which have so little in the way of idiosyncratic attributes that all teaching style is lost. This can reduce rather than enhance the quality of online teaching materials.
One way to resolve the differences if individual style is to acknowledge that these differences exist and that differences in style may facilitate equally worthwhile learning outcomes for individual students, taking into account different learning and teaching styles.

Time constraints can be a real problem when working on team production of materials. In the marketing Department’s case time constraints had a definite baring on the initial approach in the creation of online materials. Individual team members, working in parallel, undertook to produce different modules of work that would be aggregated to produce the semester long course. This approach was familiar to those involved as it is not dissimilar to joint teaching courses ie having a series of lecturers present individual topics within an on campus teaching subject, and the same problems, soon became abundantly clear in the online teaching development. The benefits derived from allowing academic freedom to dictate the way in which materials were produced on individual topics, produced some examples of good teaching practices but also some examples of poor teaching practices. In on campus teaching, students that adapt to the idiosyncrasies of different teachers can serve to overcome differences in teaching style. These differences in teaching style may be tolerable across a range of subjects, although ideally it was expected that all academic staff would be able to produce high quality, if different, teaching materials, but they were unacceptable within a subject. Consistent teaching style across a subject, regardless of what that style is, makes it easier for the student to follow the development of ideas and the hierarchical building of content. In on line teaching quality differences could be expected to lead to varying differences in expectations of student engagement and the level of complexity of subject materials, an undesirable outcome.

The high level of visibility of web based teaching materials meant that these differences, often undetected between classrooms, were instantly apparent. The production team also discovered that although staff were acknowledged as experts within their own field, many of them, even those who had been teaching for many years, had little knowledge of basic teaching and learning strategies. These are difficult problems since teaching staff who see other experienced academic staff being exposed because of the rigidity of their teaching skills, are unlikely to want to be involved in the production of online subjects. Other staff may shy away from involvement in the development of technology based teaching materials because they may fear that good materials may make them redundant (Lidstone and Duncan, 1996), by demonstrating that students perform just as well, or even better, without face to face lectures and tutorials (McCollum 1998). Staff willingness and enthusiasm for the development of an online course, of twelve postgraduate subjects, relies on the goodwill of a large number of teaching staff because the sheer volume of work required.

The ultimate solution to these problems of individual difference requires a combination of diplomacy and open mindedness. The fourth generation universities (Crock and Andrews, 1997) who embrace and exploit the capabilities of alternative learning approaches are those that are most likely to survive in the more competitive global environment. The ability to produce materials in a wide range of formats has become a necessary skill for academic staff who work in these fourth generation universities.

The online technology expert needs to work with the subject expert, providing academic staff with the opportunity to become familiar with the technology available (Taylor 1997) and there needs to be a sharing of experiences of online learning failures as well as successes. Ideally these experiences should be documented and eventually developed into a manual or protocol type document. Our experiences have also taught us that it is 1) very important to provide clear guidelines about the
expectations of online conversion that will translate across each and every subject. Recognising these two factors is fundamental to the success of such a project and the information appropriate to these two areas should be included in a manual/protocol document.

**Beyond the Classroom**

Students who interact remotely with the University do not discriminate between the different facets of the services that Universities provide. These students define their experience of interacting with the university as a single service experience. They do not divide their views across faculties, administrative services versus academic services, libraries versus computer centres etc. Thus the information requested by students via email or bulletin board enquiries may involve responses from a range of different areas from within the University. Academic staff servicing bulletin boards are no longer able to redirect students to some other geographic location or other staff member who may be able to answer the students question. Just as on campus students can be frustrated by being directed from one office to another, so online students can be equally frustrated by being passed from one part of a virtual campus to another. Integrating links to various aspects of university life can therefore be as important as providing the best teaching materials (Plomp et al. 1997)

Attempting to provide a learning environment which takes into account the diverse needs of students and integrates the range of teaching tools and methodologies that are now available has influenced the way in which the Department of Marketing has proceeded with its online production. Our experiences to date have led to the develop of some guidelines to help those moving into online teaching. While the following list of guidelines may state the obvious to those with more experience, we have found them to be useful for raising central issues for consideration by subject and course developers.

**Online Conversion Guidelines.**

The following list has proven a useful, albeit incomplete, set of guidelines for the development of online materials:

**The order and sequence of materials:**

Online materials can not assume that students will work at a pace that is determined by the subject co-ordinator. Thus topics within a subject must adopt a better integration across the whole unit.

- Learning objectives and outcomes need to be clearly communicated at the beginning of each topic, within a subject.
- The sequencing of materials is very important. Ideas need to build from the simple to the complex.
- Different topic areas need to be linked so that the students understand how the core concepts of a subject fit together. A concept map for each subject should be included.
- Students should have access to high quality materials that encourage their thinking beyond the basic requirements of the material.
- Staff involved in subject development need to agree on style guides, typefaces and heading levels prior to the development of materials.
**Search Characteristics**
Ease of navigation through the site is critical if students are to be provided with an environment that meets their individual needs.

- Major topic sub headings need to be created so that a student can easily search for vital concepts and core principles. Ideally search engines should be available within subjects.
- A range of learning strategies must be catered for. Those students who wish to explore a topic in more detail need to have online resources that extend their thinking, while those students who are struggling to understand the basic concepts need to be provided with sufficient examples enable them to see an issue from different perspectives.
- Pages should be individually addressed so that students can easily go back to where they left a topic.
- Page addresses should use logical names rather than page numbers.
- Navigational tools need to be explained so that students understand when back functions will not return them to the page they are working on. For example if a link takes them outside the subject site.
- Online dictionary or glossaries need to be provided where terms used have a unique meaning within the context of the discipline area.

**Assignments**

**Site links and software requirements.**
The links incorporated into the site must provide the student with the ability to explore their own approach to learning.

- Examples and links to external sites are only useful where they have direct relevance. Examples used need to link to an analytic framework that shows how and why the example is relevant.
- Where links to libraries or administrative information are provided, subject leaders need to check that the type of information available is clear and any additional requirements, such as passwords or students numbers, are clearly spelt out.
- Graphics, audio and video files need to be able to be viewed by students, without the need to buy specific software. Where specific software is required, students should be able to download the appropriate shareware from the subject site. These requirements need to be made clear to students when they start the subject.
Bulletin Boards

Bulletin can provide interactivity with both the tutor and other students undertaking the subject.

- Where multiple bulletin boards are added to subject sites, the purpose of each bulletin board needs to be clear. For example it may be useful to set up individual moderated bulletin boards related to assignment discussion or chat rooms that are unmoderated for social chat.
- Students should be provided with information related to bulletin board etiquette. For example http://www.okefenokeemetro.com/netetq’s.htm
- Discussion groups, or bulletin boards should provide additional value to the student.
- Students may be reluctant to contribute to bulletin board discussion, preferring to see what others have to say before offering their own views. Encouraging students to contribute is important but it must be remembered that many on campus and DE students proceed adequately through their studies with little interactivity with their tutor or class.
- The amount of time that students need to spend on individual research and reading needs to be made clear.
- The moderation of bulletin boards and discussion groups is a new skill, that academic staff need to acquire. The Department offering the subject needs to ensure that staff have these skills by providing training for staff (Salmon and Giles 1997).

Expectations of staff responsibilities.

Expectations of staff are fairly clearly laid out by the University in relation to on campus and DE teaching, but these expectations are not so clear in relation to online teaching.

- Where students email subject queries to a subject leader, acceptable response times need to be established.
- Where a site links to materials that are restricted by copyright, it is the responsibility of the subject leader to ensure that the copyright requirements of the university are met (McCann et al. 1998).
- Subject leaders are expected to check that all links are working.
- Staff are expected to provide detailed embedded comments on all work submitted for assessment.
- Where possible students should be provided with past exam papers, model answers etc. The same on campus student resources that are normally available through the reserve desk of the library should also be available to online students.
- General comments related to assessable work should be posted to bulletin boards.
- Subject leaders need to ensure that materials offered via different modes of delivery cover the same content and match as closely as possible.
Conclusion
Perhaps the overarching lessons learned in this project, at least to this point in the development process, is the fundamental importance of practical, concise documents that outline the requirements of those involved in development and those involved in the delivery of the online education package.

As noted, the newness of the experience across a range of dimensions make it imperative that guidelines are established that accurately represent the amount of time required by subject developers; that spell out the sequence of the process including group development and review processes; and that offer discipline specific direction about how to convert content into an electronic form, including expectations about the depth and extent of conversion, and delivery and service requirements. In our experience such documents (which are in an ongoing process of refinement) include a protocol document for subject development requirements and standards, the instruction manual for subject moderators, and the student induction manual. Nevertheless, even with such documents and guidelines in place, there is no doubt that some knowledge will have to emerge by way of sometimes tedious, and often frustrating, trial and error. However, there is no doubt that the process and outcomes can be made more efficient, and dramatically more effective, if there are carefully conceived educational signals to illuminate the way.

References