SEEING THE BIGGER PICTURE: EXPERIENCES OF EMPLOYING ONLINE LEARNING WITHIN TAFE AT RMIT

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Abstract

This paper explores some of the challenges of a large cross-sectoral university and considers how online learning has enabled one TAFE department to become more fully engaged in the wider university context.

Keywords

TAFE, institutional policy, cross-sectoral university, cultural change

A University of Technology: TAFE and Higher Education

Since RMIT University opened as the Working Men's College in June 1887, there has been a strong focus on providing opportunities for students to prepare themselves for employment, whether it be in specific trades or in broader professional roles. Reports such as OTFE (1998) provide clear evidence of the link between a healthy economic sector and investment in appropriate training. Since the mid 1990s, there has been a commitment at university level to the development of a close relationship between the TAFE (Technical and Further Education) and higher educations sections of RMIT University.

The Australian Vice Chancellors' Committee (1997) is clear in its support for the benefits of cross-sectoral collaboration. They note the need for "a diversity of responses from both within universities and within TAFE to provide the flexibility needed to stimulate life-long learning and develop a highly skilled workforce". They outline the benefits of interaction between TAFE and universities as including:

- "diminution or eradication of the need to cover subject content in higher education already learned in VET;
- savings in time and cost in formal study for the student;
- 'second chance' opportunities to gain university qualifications, especially for mature-aged students;
- the ability to market joint programs overseas; and
- working together in areas where there is commonality or complementarity of objectives, universities and TAFE can assist each other in meeting their own objectives more effectively and in serving the community better."

The Australian Qualifications Framework (online) shows how TAFE and higher education qualifications are related. In an outcomes-based curriculum framework, TAFE qualifications are increasingly based on Training Packages, defined by the Australian National Training Authority as "a consistent and reliable set of nationally endorsed standards and qualifications for recognising

and assessing people's skills. A Training Package describes what skills and knowledge you need to perform effectively in the workplace without prescribing how you should be trained" (online). There are currently 66 Training Packages, all based on industry-defined competencies. The difference between Training Packages and traditional TAFE curriculum specifications is that there is increasing flexibility in methods of teaching and assessment. There are learning pathways and guidelines but a prescriptive lock-step approach to training no longer exists as official policy. Increasingly, the use of technology is seen as providing tools to make use of this increased flexibility.

The theory of cross-sectoral collaboration is fine. How does this work in practice? Are TAFE and higher education staff really equal partners? Ramsey, Tranter, Kain and Sumner (1997) reported on cross-sectoral linkages at the University of South Australia. Their comments reinforce the 'vision' at the top that may not be matched by the reality at the coal face: "There is a strong commitment at the senior leadership level to the principles of credit transfer and recognition of prior learning. However, this commitment is not yet reflected across the wider University community." In many cross-sectoral institutions there is a continuing cultural divide between TAFE and higher education, often not articulated and hence often quite hard to bridge: training as being inferior to education; TAFE staff as less qualified than higher education staff, etc.

In this paper we will examine how online learning has been used within one TAFE department at RMIT University. Has the advent of a more open TAFE curriculum framework, together with access to the use of technology at RMIT, brought tangible benefits to the department? The Department of Health and Biosciences is the only TAFE department in the Faculty of Life Sciences at RMIT where there are six higher education departments. There is a strong interest in scholarship in the department (approximately 40% of the staff have higher degrees). There is a sense of sharing ideas at a local level with other staff in the faculty but no specific collaborative projects. Staff report a sense of being 'forgotten' in faculty policy discussions. In discussions, one gets the sense of a department 'almost' in the faculty.

Unlike other TAFE institutions, at RMIT, the TAFE sector is integrated within the university system, and many educational initiatives introduced to higher education are also implemented within the TAFE framework. Over the past few years, RMIT has made a substantial investment into the use of technology (e.g. see Fallshaw, 2000). This initiative, called the IT Alignment Program (ITAP) involves investment in infrastructure, enterprise computer-based systems, Library resources, staff development, and program and course renewal (Note that RMIT, like several other Australian universities, has adopted the nomenclature of programs and courses: program for the university's provision of an entire student educational experience leading to a formal qualification and course for the component subject, unit or module.) (online). Funding for course renewal is seen as a high priority both for higher education and TAFE, and access to online resources and support is the same for both. This is seen as an important step for TAFE and higher education because it is believed that a more coordinated and synergistic effort can be created through sharing experiences and expertise that would otherwise be lost if the two sectors were separated in this renewal initiative.

Reasons for Engagement: Pedagogy or Compliance?

It is not easy to determine how rapidly teachers are likely to take up online learning strategies. In a recent investigation into the factors supporting the adoption of computer-facilitated learning (CFL) at Australian universities (McNaught, Phillips, Rossiter & Winn, 2000), three major themes emerged. These were *Policy*, *Culture* and *Support*. There is considerable overlap between and within these themes. There needs to be a congruence of policy, culture and support factors if significant adoption of CFL strategies is to occur.

Ultimately, to make online learning a successful tool for the real or virtual classroom requires that teachers understand the place of online learning within the overall RMIT Teaching and Learning strategy (online). With the rush of information technology currently being researched and used in a variety of areas, many teachers, and students, are left confused as to how online education fits into

the overall scheme of things. Are these online tools really useful for learning? Is this another RMIT fad? Just another funding hoop we have to leap through? Or even more threatening, is the IT 'revolution' simply a precursor to 'redundancy' for teachers?

Many teachers, and indeed students, in the Department who have been accustomed to teaching and learning with current materials and resources are generally unsure as to how online learning can feasibly benefit education. Apart from the acknowledged ability of web-based materials to be time-flexible, and provide a graphics-user-interface that is aesthetically pleasingly, most staff and students are, initially, unable to see the bigger picture of the online learning revolution past the 'whizz-bang' entertainment value. Furthermore, because of the sophisticated software and hardware that is constantly being expanded and updated, apprehensions abound as to the why, where, what and how to implement the 'unknown' online learning environment within the 'known' face-to-face teaching and learning paradigm. How do student contact hours (the way in which the length of TAFE courses are currently measured) translate into learning specific competencies, both online, in the classroom and in the workplace?

All these questions cannot be treated philosophically or demonstrated theoretically, because, inevitably, the people who have to use the technology and make it work are the people who probably understand the complexities of it the least, that is, staff and students, compared to the people creating and evolving online learning education. The education of teachers and students in online learning is a gradual process and major steps are being made to that effect. However, there are still many staff who have little experience with IT, especially web-based learning, and even less experience at understanding the role of online learning in education. To overcome the initial barriers of apprehension, and to plant the seeds of creativity, online learning was introduced to staff, not as a distinct entity separate from the overall teaching-learning strategy, but as an integral part of it. That is, any implementation of online learning was seen as a part of the entire teaching program and not a separate or supplementary component.

One of the most important aspects of the online initiative in the Department of Health and Biosciences has been the active support of the Head of Department, who sees the new technology as vital to the development of the TAFE sector, and TAFE teachers, to meet the demands of industry.

Anatomy Online

The Learning Hub environment, developed by the Distributed Learning System (DLS) at RMIT, (e.g. see McNaught, Kenny, Kennedy & Lord, 1999) using a suite of online tools (chiefly Courseinfo/Blackboard), can be used by teachers to allow students the opportunity for self-directed learning. For example, in early 2000, under the direction and support of the DLS, an anatomy development site for the Myotherapy program was created in the Learning Hub as part of the Learning Technology Mentor (LTM) program (McNaught & Kennedy, 2000). The site was designed to be used as a prototype for teaching other staff members the framework of the DLS, and demonstrating online learning and teaching strategies.

Building the Course

One of the biggest difficulties in planning what to create for an online learning environment is trying to limit the almost endless material one can use. There are literally hundreds of applications and ways of creating a suitable online environment and it is very easy to become immersed in it all, leading from too much 'playing around' with software to outright confusion and bewilderment. Thus, from the very beginning, a strategic online learning plan was to be clearly set out and thought through in order to focus the aim on the specific needs of the course, students and teachers.

One approach to thinking about implementation of online courseware was to ascertain the way in which it should be used in the TAFE sector, and the logistics of employing it. The strong vocational emphasis in TAFE requires a substantial oral tradition to relay an understanding of the relevant industry characteristics to students. That is, TAFE courses are designed with a large practical

component that is ideally transmitted through the experience and expertise of staff. However, most industries are rapidly advancing in their use of information technology, and thus, TAFE students require to be taught the practical application of online technologies. Three fundamental principles were used for TAFE as a starting point for online development:

1. **Keep it simple:** Because online learning is relatively new to TAFE (staff and students), software and hardware should be kept as 'user friendly' as possible. Also, reliability is an issue because if students and teachers are unable to access resources promptly, this makes using online learning a frustrating experience.
2. **Use online learning for what you can't achieve with other resources:** This means that 'data-dumping', i.e. placing large files of text in any format on the DLS is not desirable. Simply putting a textbook online is ineffective use of resources, and from an ergonomic perspective, having students sitting at a computer reading screen after screen of text is not a healthy or sensible strategy.
3. **Employ strategies to encourage students to use the online resources:** Human nature being what it is, if the students can get away with not doing certain tasks, they will! By giving students a reason for accessing online resources that is perceived as beneficial to themselves, then the likelihood of them using it effectively, and learning something from it, is greatly increased.

In the anatomy course, the DLS was an ideal environment because of its easy-to-use template of Courseinfo/Blackboard software that provides a stable backdrop for the teacher-student online experience. All enrolled students can access the Learning Hub environment to gain entry into their specific courses using a simple menu format that can be easily recognisable, even by first time users. The broad lay-out and effective use of graphics, that is similar across all courses developed in the DLS, makes the experience pleasant and familiar, and free from 'unwanted noise' such as subtle advertising that seems to be increasing in many open educational websites. The DLS, in general, is quite reliable, and with its simple user-interface, creates a friendly environment for the student and teacher to work in.

Format

The basic format of the anatomy course using the principles cited above (especially principle number 2), are developed in accordance with the software template. There are various on-screen 'buttons' which students can access once they have gained entry into their enrolled course that direct them to specific online activities or information. All of these areas have been used. A description of these buttons and their significance follows:

- **Announcements**: this button is a great way for the teacher to disseminate information concerning class timetables, schedules, change of lab times, etc., that would normally take a lot longer if the teacher had to pin these things up on the local student notice board. For the anatomy course, announcements of these kinds are updated and posted immediately, and are used as an initial way to encourage students to access the online course frequently.
- **Course Information**: the teacher can easily update information relevant to the course, such as course guides or outlines, for student access. Specifically, this area contains all information regarding week by week learning outcomes for the student.
- **Staff Information**: students have access to a picture, and a basic history or curriculum vitae about the teacher managing the anatomy course. This can help to instil confidence in students because, generally, most are hesitant about asking questions concerning teacher history. Nonetheless, it is important for the student to feel as though they are being taught by qualified staff.
- **Course Documents**: only documents that cannot be found elsewhere were to be placed into this button. These included concise anatomy notes derived from class discussion which were posted here. Once again, the principle of limiting text to a minimum was to be observed. Also, if certain documents are to be placed online, this gives the student an opportunity to down-load or copy these files into a format of their choice in order to either add or subtract information according to their particular style of learning. Thus, a sense of student empowerment can be achieved.

- **Assignments**: this is the most essential area because it contains quizzes and/or surveys developed by the teacher specifically for the course. The teacher can create multiple-choice, true/false, ordering, matching, fill-in-the-blank, and short answer based assessments designed to informally examine the student. These assessments have in-built feedback processes that allows the students to immediately know their results under timed conditions or repeated attempts. This is ideal for students, especially in anatomy, because they can better gauge teacher expectations from such a diverse subject. Also, the teacher is relieved from extra marking duties, and once the assessment(s) has been created it manages itself to the advantage of the teacher and student.
- **Communication**: this is where the teacher can set up forums in the discussion board or use virtual chat areas to increase the willingness of students to use online material. This gives students the chance to interact and communicate in a different medium than the classroom that has the added advantage of increasing the opportunity for students to think about what they say by putting it into written form. Also, it helps to build a sense of ownership in the online learning experience by allowing the student to actually see how they contribute to the learning development of the course site. This is important if students are to be encouraged to participate willingly in trying to understand concepts in anatomy, rather than regurgitate volumes of facts. The wording of discussion topics is important in order to engage students. For example, two topics currently under discussion are:
  * The skeletal system is piezoelectric, meaning that, with deformity, bones will produce an electromagnetic current, and, exposing bone to an electromagnetic current will deform it. What implications does this have?
  * How important is understanding the client's psychology, as well as one's own, in myotherapy practice?
- **External Links**: students and teachers can participate by placing relevant website addresses in the course, saving student research time, and once again, allowing the students to actively participate in the development of the site. The websites chosen are based on different anatomical approaches to similar problems.
- **Student Tools**: extending the theme of ownership, this button is dedicated to the student as a place in the course that is theirs to use and develop according to their own initiative.
- **Resources**: a smaller button located below all the other buttons is automatically configured to course specifics (the health sciences, specifically, medicine) when the teacher is in the process of developing the site. It gives the student an opportunity to research information that is geared specifically towards their particular area. Therefore, the students have no excuse not to be able to gain access to readily available research information.
- **CONTROL PANEL-Course Statistics**: this button can only be accessed by the teacher and has the advantage of providing information concerning a statistical analysis of course use. For example, the teacher can generate a report presenting information on when and what areas of the course were accessed. The teacher can use this information to further develop the course by adding or subtracting parts that are or are not being used effectively. Individual students visits are recorded to give the teacher an indication of who is actually using the website, and a summary of individual assessment results can be generated by the assignments area. This helps in judging student progress and gives an opportunity for early intervention for 'at risk' students.

The end result of implementing the online learning strategy in this way is that teachers can reduce the amount of 'fact giving' and 'note taking' in class. This can now be the responsibility of the student because they have 24-hour access to specific information and assessments relevant to the course that was developed by the teacher. Furthermore, it frees up the teacher's time in class for actually performing the role of a teacher. That is, the students have more access to the teacher's experiences and practical advice in attempting to understand issues in the workplace or industry by allowing an increase in teacher-learner interaction. Thus, in one respect, it provides the learner with an opportunity to deepen the understanding of their topic by enhancing the oral tradition of teaching that is so important in TAFE, while simultaneously offering an avenue for self-directed learning that is becoming more significant in the workplace. Also, it provides teachers with the chance to be more creative with their oral presentations in class, and their online presentations in the DLS. Overall, if used appropriately, the online learning experience can supplement,

complement, and replace those areas of learning that students can perform individually while utilising the experiences and aptitudes of staff more effectively.

Student Learning

Does this all work for students? The anatomy course site is part of the Myotherapy program in the Department of Health and Biosciences (online). The program is structured so that four times a year staff-student feedback meetings are held. These meetings, which are well attended, allow students and staff an opportunity for constructive criticism towards the aim of improving the quality of teaching and learning, and the overall evolution of the course. A pilot study for the Anatomy 2 course was conducted during semester two of 2000 using first year students with positive student feedback at meetings, surveys and discussions. Table 1 shows the access statistics for the pilot in 2000.

Area Type	**Visits**	**Percent**
Content Areas (inc. quizzes)	1384	81.9 %
Communication Areas	95	5.62 %
Group Areas	1	0.05 %
Student Areas	209	12.3 %
Total	1689	100 %

Table 1: Statistics for second semester, 2000, for Anatomy 2: Pilot with 50 first year students

It is interesting to compare these figures with those for another group of 50 first year students, not doing a pilot but as 'normal' students in first semester 2001 (Table 2). The site is used much more, but the ratio between areas remains essentially the same.

Area Type	**Visits**	**Percent**
Content Areas (inc. quizzes)	5054	88.4 %
Communication Areas	284	4.97 %
Group Areas	3	0.05 %
Student Areas	358	6.26 %
Total	5711	100 %

Table 2: Statistics for first semester, 2001, for Anatomy 1 with 50 first year students

This is a fairly normal pattern for many courses at RMIT. Despite the fact that we seek to emphasise communication and student-initiated construction, there is no doubt that accessing resources and specific exercises is still the main reason students go to online course sites. We intend to monitor this over time to see how the pattern changes as staff become more skilled with online design and students more comfortable with the environment.

Following the pilot in second semester 2000, a completely developed online site was employed with first, second and third year students in semester one of 2001.

The main criticism against online learning from students was the frequent errors in using user-names and passwords to gain access to the DLS. In most part it was due to the various hiccups in central operating procedures on behalf of the DLS, that have now been rectified, but also many of the students were not careful enough when entering passwords or user-names, considering that they are case-sensitive. However, once these problems were solved, most of the criticisms came from students who did not wish to have a change in the mode of course delivery. These students did not criticise the content of the course; they just wanted to continue with the face-to-face classes they had grown accustomed to. It takes a long time for some students to change their preferred ways of learning.

For example, the third year students who were used to the traditional ways felt that the implementation of online learning was 'too much' to handle, mainly because of the initial accessibility problems, but the attitude expressed was one of 'resistance to all things new'. That is, they view online learning as extra work and a hindrance to the previous ways of learning. Comparatively, the attitude by the second, and especially the first year students, was more positive and less critical than the third year students, revealing that they perceived that online learning was an acceptable part of a learning environment. However, what was universally agreed upon was the advantage of accessibility to specific resources that could very quickly be updated. This was especially emphasised in relation to the Assignments and External Links sections that the students felt was very beneficial to study.

As a spin-off to using online learning, the students' computer and web-based skills significantly increased. This was mainly due to students assisting each other in accessing information or helping with menu options. This was unforeseen but proved to be a practical way that students could increase student-to-student interaction while simultaneously acquiring skills beneficial for their future careers.

Impact on Colleagues

Initially, staff were apprehensive about engaging in online learning because they felt that it would be extra work forced upon them by the hierarchy that they deemed not being relevant to the business of teaching. However, with the support of the Head of Department and the prototype of the Myotherapy anatomy site, it was demonstrated how online learning could be a valuable tool in the ever-increasing teacher tool-box. Once the site was up-and-running there was very little maintenance required by the teacher; this allows plenty of work to be conducted by the student with reliable and accurate feedback for both parties concerning the validity of the course. However, it is crucial that support come not only from the University, and specifically the DLS in this case, but also by the people directly overseeing the process; that is, the Head of Department and the specific online learning educator, or in this case the Learning Technology Mentor. A comfortable environment whereby teachers can affordably make mistakes and receive responsive assistance is essential to allow any creative process. Also, once the teachers experienced for themselves the user-friendliness and application of online learning, to their credit, they took up the challenge with a positive attitude. There are currently 20 courses in the DLS, 14 of them live and the rest under development. At this stage, about half the Department staff are engaged in or about to embark on online learning, about the same proportion as in other higher education Departments in the Faculty.

How does this assist with TAFE/higher education synergies? The fact that this department has active and successful online courses is tremendously important in the Faculty. At Faculty forum events, there are now specific courses to showcase. Also, the Department is now well placed to engage in faculty-wide projects. It is early days but, in life sciences, the development of suitable digital visual resources is a major challenge for the development and enhancement of online learning. The Department of Health and Biosciences now has a skill base and experience to engage in these projects as they arise.

Conclusion

The experience of this department is that practical implementation of online education is a positive initiative. It requires educational support and encouragement from IT support staff, centrally and at faculty level. It clearly has university policy support but this needs to be actively reinforced at a local level by the Head of Department. Overall, the departmental staff have embraced the new technology to develop the TAFE sector, and TAFE teachers, to meet the demands of industry.

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