Bachelor of Professional Communication learning network: Creating an online community for lifelong learning

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One of the shaping influences in the student journey is the Learning Management System (LMS) used by universities. The Bachelor of Professional Communication (BProfComm) Project at CQUniversity aims to provide students, staff, and industry practitioners with a discipline wide, online learning network, enabled by Web 2.0 technology. This may alleviate some of the inherent problems associated with the LMS, and in so doing, may aid in the construction of discipline based and professional networks. This document is reporting on the development phase of what an educational action research project and its subsequent failure to engage with students.

Background

Academics from the Professional Communication Program have, in 2008, built a 'learning portal/network' (http://webfuse.cqu.edu.au/BProfComm/index.html) where Blackboard incorporated additional features like career information; skill share with professional colleagues working in the industry; feeds from the various blogs, wikis, and news specific to the industry; and peer sharing of information, blogs, and other information pertinent to the students as they progress through the program. This was found to be impossible to do within the confines of CQUniversity's (CQUni) current Blackboard LMS (currently Blackboard 6.3, as CQUni are moving to Moodle as the only LMS in 2010). Due to the proprietary, closed nature of Blackboard, it does not easily allow the integration of tools that are not approved by both Blackboard and CQUni, especially, to the degree that has been proposed by this project.

Henze, Dolog and Nejdi (2004) proposed that adaptive hyper media systems be built taking into account the different needs of the students to facilitate learning. Adaptive educational hypermedia systems are able to adapt various visible aspects of the hypermedia systems to the individual requirements of the learners and are very promising tools in the area of eLearning. Especially in the area of e-Learning it is important to take the different needs of learners into account in order to propose learning goals, learning paths, help students in orienting in the e-Learning systems and support them during their learning progress.

At the moment this technology is only in its infancy at CQUniversity . Learning portals are built as part of the Learning Management Systems within a defined academic learning space, creating duplication of data within a particular degree structure such as the Bachelor of Professional Communication. The situation has been, in some small way, rectified in later versions of Blackboard available to Institutions especially the various web 2.0 features that are being incorporated within these later versions, blogs, wikis, podcasts, and RSS feeds added as building blocks in version 8, and built into Blackboard in version 9.

Utilizing the idea of an adaptive dynamic space is one way that can be found to avoid duplication and to create a learning space that is specific to a program, not just one that links to individual subjects. The concept of an adaptive dynamic space originated in the examination of the Curriculum Design and Development Unit (CDDU) collaborative website (Wiki) at CQUniversity and the main focus of that Wiki can be enlarged to incorporate program offerings, and subsidiary data flows, within those programs.

[H]yperlinking" is the foundation of the web. As users add new content, and new sites, other users discover the content and link to it binding it into the structure of the web. Much as synapses form in the brain, with associations becoming stronger through repetition or intensity, the web of connections grows organically as an output of the collective activity of all web users (O'Reilly 2005).

What O'Reilly is highlighting is the web's power, and our power, as web users, to harness the collective wisdom that resides in hyperspace. The dynamic potential of the hypermedia systems is one aspect that universities are not utilizing as LMS tend to be a one way, dissemination models of user interaction.

The problem

A number of problems with using CMS (LMS) in distance learning have been reported, e.g. students may feel isolated due to the limited contact with the instructor and other students, can get disorientated in the course hyperspace, may lose their motivation, and often find it difficult to manage without appropriate institutional support (Mazza & Dimitrova 2005).

CQUniversity has, as part of its online learning and teaching responsibilities, adopted Blackboard and Webfuse as the Learning Management Systems (LMS). While these are good for the delivery of most courses, the systems do not offer the flexibility and dynamism that is current in web development and course delivery. One situation that has arisen is that there is a lot of duplication of data into the Bachelor of Professional Communication (BProfComm). The disciplines that teach into the BProfComm currently are Public Relations, Journalism, Multimedia, Visual Media, Film Studies, Media and Cultural Studies, Marketing and Human Resource Management. Each discipline, duplicates to some extent, the way that students collect data, and transmit data within the discipline and within the degree. Duplication like this is wasteful for students, it is time-consuming for staff, and it is a simplistic way to build a learning centred environment that is not student centred.

Learning centres are dispersed within their own discipline, they are basic and built on Web 1.0 technology, and there is little dynamic interaction with the vast networks, media outlets, weblogs, and social communities that have developed over the last couple of years. As Beer and Jones (2008, p. 3 of 6) argue, "if a student or staff member wishes to engage in any form of e-learning they must use the system that has been selected by the institution ... the technology available to individuals has been outstripping the functionality and usability of the technology provided by institutions."

There is currently no sense of ownership of place, or space, for learning, or 'for guiding the development of a learning centred learning environment' (Clark & Maher, 2001, p, 2) in the current system. As such, there is dissonance between the end user and the LMS designer and this

dissonance between the needs of a systems users and its embedded world view lead to a number of problems. The dissonance becomes a gap between the users and the system. This gap prevents the adoption of certain approaches and can create additional workload as people attempt to work around it. Eventually, this dissonance gap will lead users to attempting to use alternate means (Jones 2008).

Avoiding the dissonance between the user and the system is what has been attempted in this design.

Limitations of the LMS

The current LMS is basically a static page, and while it can have Really Simple Syndication (RSS) feeds incorporated into its structure it does not have the look and feel of a dynamic learning space that has real world counterparts. The value for a university organisation is that LMS as used provide a sequencing structure that is manageable by administrators and academics (Siemens 2004). The difficulty is in incorporating current Web 2.0 technology such as podcasts, RSS feeds, social blogging, Wikis, social bookmarking, and other web appliances into the above LMS due to the limitations inherit in the philosophy or model used by LMS.

At a fundamental level, the model used by learning management systems is based on the assumption that the instructor or institution is the sole conduit through which learning will occur. This model maybe less the result of deliberate design and more based on the era in which the LMS was created as it predates social media and Web2.0. The LMS model was established in the Web1.0 era where information was

transmitted and consumed as opposed to Web2.0 where the web has become a platform or network where content is created, shared, re-purposed, remixed and passed along (Downes 2005). Some limitations of LMS in general include content focused, organizational and instructor centric, course/term boundaries, does not readily support reflection on prior learning, does not readily support informal learning, and the IT culture itself has a centralized model of delivery akin to Web 1.0, and the functionality of features available to general internet users is outstripping what organizations can provide. Some of the more specific limitations of the LMS are:

- Content focus: Most LMS effectively provide learner-content interaction (Siemens 2004) and there is even some evidence to suggest they do this more effectively than traditional methods such as face-to-face (Ladyshewsky 2004), however, the tools they provide for learner-instructor and learner-learner are basic at best.
- Organizational and instructor focus: According to the Organization for economic cooperation and development the use of ICT within tertiary education has impacted more on administrative services than on fundamentals of learning and teaching (OECD 2005). Siemens (2004) also points out that "Learning Management Systems give value to organizations by providing a means to sequence content and create a manageable structure for instructors and administrators", thus enhancing the productivity of the technical team.
- Course based: An LMS is designed to provide tools for an instructor to deliver a single course for a single term (Beer & Jones 2008)
- IT Culture: Decisions made by IT departments are generally made on the assumption of keeping the management and control of technology centralised within an organisation (Mossberg 2007). Consequently if a student or instructor wish to engage in any form of eLearning they must use the system that has been selected by the institution. However, the technology available to individuals has been outstripping the functionality and usability of the technology provided by institutions (Johnson and Liber 2008). As Kennedy, Judd, Churchward and Gray (2008) attest, "It cannot be ignored that substantial proportions of incoming university students are using and reading blogs, are taking photos with their mobile phones, are regularly using social networking software such as MySpace, are communicating via web conferencing, and are sharing all sorts of digital files using both their mobile phones and the web."
- Informal Learning and situated learning: Often the most valuable learning takes place serendipitously by random chance (Siemens 2004). Typically learning management systems have clear boundaries such as course terms and enrolment that actually inhibit and discourage the development of informal and lifelong learning.

One of the main issues is to provide a place, a virtual centre, where the students have a sense of ownership, and have control over their learning environment. Clark and Maher (2001, p. 2) state that,

> Today, we have the ability to create very sophisticated and complex interactive virtual environments … These virtual environments are populated by communities, which are able to interact and communicate with each other in many forms. These virtual environments have the shapes, form, structures and functionality that are akin to the physical world.

If they have the shape, form and functionality of the physical world then they should have the immediacy of the physical world as well, with the feel of that immediacy. The network envisages the interaction of students, and the wider public, in its growth and development providing the site in which learning can occur. We propose a framework that is built on what Maher and Clark (2001. p. 6) describe as a "model for virtual learning … [where] the technology aspect of a learning environment can be supported by a virtual worlds, the learning theory … is constructivist, and the design model … is situatedness." In other words, principles used in the design of this portal are drawn from a situated learning approach, where learning is embedded "within and inseparable from participating in a system of activity, deeply determined by ... particular physical and cultural setting[s]" (Nelson & Erlandson 2007, p. 622).

Design goals

At the moment 62% of the students in the Bachelor of Professional communication program are flex or distance students, so one of the main foci of the project is to enhance the learner's experience by constructing an online learning network or community of practice that utilizes freely available Web 2.0 concepts and technologies in order to improve the sociability and reduce the isolation effect that these students in particular may experience. It is also proposed that the online learning network model will overcome the inherit limitations of learning management systems in general, and improve the learner's experience through a combination of the following factors:

- Enhanced student engagement through meaningful social interactions with other learners, industry practitioners and teaching staff.
- Informal learning through social interactions with others in the field of endeavour.
- Enhanced learner reflection through their introduction to new technologies that have the potential to facilitate learner reflection.
- Exposure to a reusable and evolutionary online resource that can promote lifelong learning.

The theory behind the model is constructivist, making explicit the learning experience of students and takes into account the situational context in which learning takes place. What is envisaged is a place for interaction, where the learning is authentic and meaningful, where data is gathered to form collaborations between the teacher, student, graduates, industry, and the wider community (Maher & Clark 2001). The BProfComm network is designed specifically for the context in which the students find themselves.

Instead of students, and staff, utilizing static web pages and links to construct learning spaces, the concept is to construct a Learning Network where the information for all BProfComm students is brought to the one place, building a portal for guiding and developing the construction of lifelong learning driven by Web 2.0 technology, such as RSS feeds, social bookmarking (folksonomies), blogging, and other formal and informal learning supports on the one page, making that page a dynamic collection accessible for everyone in the BProfComm. Staff can, for instance, create a collection of tagged pages via Del.icio.us and feed them through Pipes (a data aggregator) to sort and deliver them to the Network in a custom feed. The intriguing notion is that one web portal can facilitate the bringing together of independent disciplines into a transdisciplinary place which is learning centred and designed specifically for the context.

As well as this, and much more importantly, it provides a space where students can become the researchers, teachers, and disseminators of their own creations. What the Network has the capacity to do is to

> imbue students with a sense of intellectual purpose, instil in them a desire to make a difference, provide them with opportunities to reach a wider audience, and furnish them with the tools to break new ground. By recasting students as researchers and teachers, we invite them to participate in what is arguably the most exciting and fulfilling aspect of university life: the production of new knowledge (Sword & Leggott 2007, p. 1).

Journalism students can feed their stories, photo-media students can feed their portfolios, PR students can start to develop their own PR kits, and it can be the one place where students can control what happens to their intellectual outputs.

Methodology

The basic premise for the methodology is Educational Action Research, designed in a collaborative process trying to find a way of overcoming the lack of the LMS, and to incorporate academics, technical staff, and industry peers in an online network designing with student learning, and skill enhancement in mind. With this in mind a small group was brought together incorporating two academics within the Bachelor of Professional Communication Program and one technician to try to build what was envisaged.

Implementation

It was decided to host the online learning network on CQUniversity's own Webfuse system for several reasons. Blackboard does not lend itself to the flexibility required to incorporate some of the freely available tools that are key to the project such as RSS (really simple syndication), Blogs and Wikis. On top of this it is very difficult to allow an external participant access to a Blackboard if they do not have a current CQUni student or staff account. One thing to note is that although we are hosting the project on Webfuse we are not using any of the features that it contains other than its ability to serve web pages to users.

At the outset of the construction of the Web 2.0 page the team made the assumption 'that students are tech savvy, and aware of changes in the online environment', therefore, they would be familiar with RSS feeds and what these entail. As well as this the team focused on some preliminary research questions that are concerned with the basic assumption that was made:

1. If we build this network, will the students, academics and industry peers utilise the feeds?
2. How do we construct in such a way that we are assured of their interest and input?

3. Why a Web 2.0 site? What does this add to the student learning experience that they cannot get elsewhere?

At that first meeting the only thing that was mentioned was that there was a 'problem' with the system but what was needed to fix it seemed nebulous, but the team has some basic ideas of what would be needed. The team wanted 'something' that incorporated news feeds, career advice, and current information from industry (what that was, was not elaborated on). Some of the basic requirements for the learning network are that it has to be low maintenance, it has to be easy to use, the technology and tools have to be freely available (open source), and that it has to be designed in such a way that students, staff and colleagues find it useful and applicable to their personal situation to try to get away from the 'build it and they will come' concerns of the dot.com boom.

Work by the CDDU, and in particular their work into personal learning environments, informed some of the strategies employed in this project. This unit has attempted to utilise Web 2.0 appliances where possible, ensuring a collegial approach in their role that supports staff and students in the use of various educational technologies. They make extensive use of RSS feeds to both receive information and to dynamically populate their website.

The underlying design strategy for the BProfComm project is to connect people and information in a way that is useful and simple. The key ingredient for doing this is RSS. RSS allows the user to automatically receive updates from around the Internet without having to actively go and visit sites to see if they have been updated. Most websites and applications, and in particular Blogs and Wikis, now produce RSS feeds that can be subscribed to. It is also believed that by exposing staff and students to RSS they will gain some valuable information literacy that has the ability to save them time in other areas of their lives.

Some consideration was given to the technologies that students currently use and it could be inferred that what they are using is what they feel most comfortable with. According to research completed by Kennedy et al. (2007) email is the technology that is most used by the students so in the interest of minimizing the effects of cognitive load that would result by having the students learn new software packages it was decided to utilize a freely available service called Mailbucket that is an email to RSS gateway. The students, staff or industry practitioners could simply send an email to the email address provided and this would be reflected in the RSS feeds available on the site.

There are several advanced uses for RSS that make it a valuable tool when creating a site such as the project. The first of which is the ability to take an RSS feed and display it as part of your web page. This allows the page to display constantly changing, or dynamic, content without any action by the designer in a style that matches the web site. The second is a product developed by Yahoo Inc called Yahoo Pipes. Pipes allow you to filter and manipulate multiple feeds and reproduce the output as a single RSS feed. We are using at least seven pipes to feed the information from the various sources into the project site.

According to Beer & Jones (2008) one of the requirements of an online learning network is, "a home page to assert their existence and describe their domain and activities". In this case we chose to host our site using the Webfuse system at CQUni. Hosting it on this system allowed us complete control over the content and the program code that drives the site that Blackboard can not do. There are seven categories which equates to seven RSS feeds that comprise the output from the site (Figure 1 below)

- News Feed. This is an aggregated feed taken from five new broadcasters' sites that is filtered on key words such as public relations, journals journalism.
- Job Vacancies. This is an aggregated feed take from various job vacancy sites around the country.
- Our Talk. Another aggregated feed that combines all of the Blogs that belong to teaching staff and reproduces this as a single RSS feed.
- Industry Folk. At the moment our two participating industry practitioners are actively maintaining their own Blogs that are aggregated here.
- Our Links. This is a feed take directly from the social bookmarking site Delicious.com. Any webpage that is tagged by users with BProfComm will appear in this feed.
- Group Talk. This is a freely available email to RSS gateway that participants without Blogs can use to lodge questions or comments to the entire community.
- Question Feed. This feed will be used predominately for students to direct questions to the participating industry representatives.
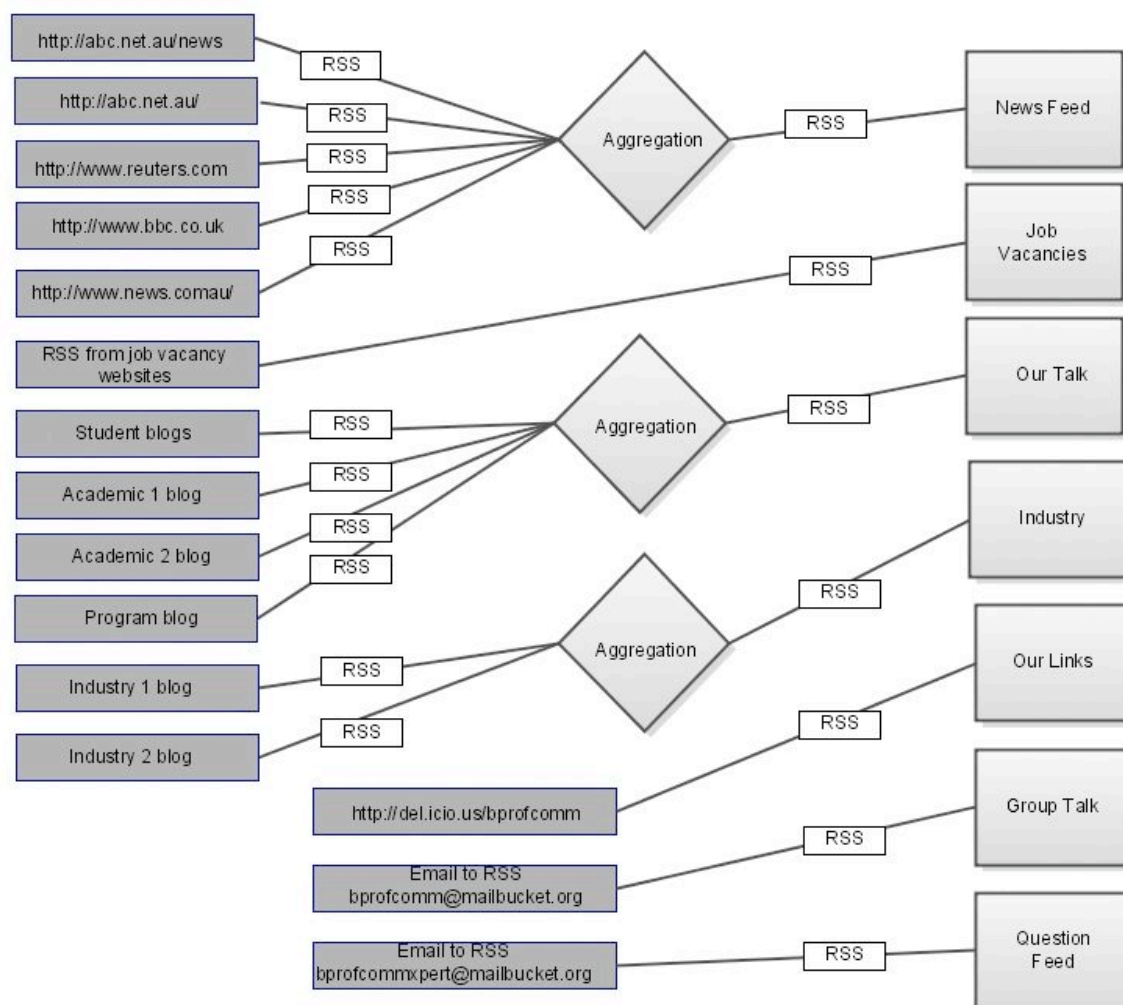
Figure 1: Seven RSS categories that flow from the site

The feeds and the subscription links appear on the home page of the project where the participants can initially visit to subscribe to the feeds contained within. Subscribing removes the need for the participants' to visit the site in order to receive any new postings that may have occurred. Students and staff are encouraged to use Blogging as a means to provide input into the community and a way to comment on current events in the field. Further work needs to be done on information literacy. Demonstrating the usefulness and ease of use of tools such as RSS, Blogs and Wikis is something that will be given higher priority throughout the project with plans for a modular, reusable support section under development. This section is used by other staff to educate users in the use of particular technologies that they are considering as part of their curriculum. Informing users about privacy and explaining steps they need to take to ensure their identity security in a Web 2.0 world is an essential facet. Features like strong passwords and restricting access to all but explicitly exempt Blog postings will need to be explained in detail to the people using the site.

Interestingly, most of the technologies employed in this project are open, which means that membership is not dictated by the institution and is open to the general public. This raises some serious issues that have significant bearing upon the viability of the project. Issues such as privacy, information security and spam need to be addressed before the site opens for business. Because we are using Yahoo pipes for the aggregation and filtering of RSS feeds, the Blogs and news feeds that supply the information have to be explicitly created by the project designers so the ability to spam these feeds is very limited. However, there currently are feeds being fed into the project such as the email to RSS gateways and the Delicious feeds that are coming directly from the sources without any sort of filtering or moderation by teaching staff.

Conclusion

As described, the project is basically a list of RSS feeds that contain information pertinent to the professional communications discipline, and it is not working. Less than ten students have accessed the site, and no meaningful conversation has occurred and no idea exchange happened via the mechanisms described by this project.

Part of the failure has been the 'cyber-optimistic' of the designers, influenced in part by anecdotal evidence that students are at the forefront of technology, and partly by our own experience in using technology. As Bates (2000) states,

> More and more, learners will have developed extensive experience and skills in using information technologies in their nonacademic lives, and they will be increasingly unforgiving of institutions that seem out of touch with developments in the "real" world. Learners are likely to reject higher education institutions that do not integrate technology into the curriculum because of the perceived negative impact on their employability after graduation if they are not exposed to the use of technology.

Our experience has been that students have 'extensive experience and skills using …technology', they will use technology that they see useful, but they will not use technology if they see no benefit. We built it, and students did not come.

We are well aware of the limitation of the "build it and they will come" model that we used. The philosophic approach we took is one of safe fail where we address each failure not with downcast expressions but as a motivation to re-access and change our approach. The technical back-end that drives the site is built from lightweight, modular technologies and as a result we can change major components of the project quickly as required or as suggested by the users of the system. This follows what appears to be a design philosophy used by a great many Web 2.0 applications where you do not wait until all of the bugs are ironed out of the system before it is released to the user community, known as "release early, release often" and affords a very agile, user focused design strategy.

Further investigation is required into privacy and security including consultation with staff from ethics and compliance, however, in the mean time we are recording all RSS feeds automatically in order to identify unsolicited content and establish processes to prevent it. Up until the writing of this document there have not been any signs of unsolicited content making it into the feeds that power the site. Far from being a complete failure there is increasing interest from industry peers, and academic staff, to utilize the Project site so that it informs the development process of the Program. It may also be useful in creating a forum for collegiality, and social cohesion between academics and industry, as well as providing a focus for sustaining the same. More work will need to be done in examining this aspect.

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