



Innovation and entrepreneurship education: Embracing Web 2.0 across a postgraduate program

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In recent years there has been much discussion in the literature about the potential of Web 2.0 tools to enhance the learning process, in terms of their collaborative and connective nature and their potential for the transformation of pedagogy itself. Wikis in particular are recognised as a useful platform for collaboration and knowledge sharing within a tertiary context. This short paper describes the experiences of setting up a wiki for a large cohort of students with diverse learning needs in the Innovation & Entrepreneurship program at The University of Sydney. The purpose of the wiki was to act as not only a repository of collaborative knowledge but also an assessment tool, complementing the program learning outcomes – to “develop skills and perspectives relating to opportunity seeking, initiative taking and ownership, and curiosity.” This paper will describe the process and its successes and shortcomings from the perspective of the educational designer, academics and tutors.

Keywords: Wiki, collaboration, assessment, entrepreneurship, postgraduate program

The rise of Web 2.0

In recent years web 2.0 tools have become firmly accepted within many Tertiary institutions as part of ICT (Information and Communication Technologies) and teaching and learning initiatives. Wikis seem to tick a number of pedagogical boxes in terms of their potential for collaborative/social constructivist activities: they provide a space for sharing, reading, editing and collaborating on texts and projects (Lamb, 2004). In particular, the collaborative nature of wikis offers an excellent opportunity to stimulate reflection, critical thinking and knowledge sharing (Scardamalia and Bereiter, 2003), all desirable attributes for graduates. In addition, they arguably provide a transformational platform from the point of view of both teacher and users: a wiki typically divests responsibility away from the teacher towards a more anarchic, free-form environment for sharing knowledge (Lamb, 2004). This paper describes a work-in-progress wiki being used by the Faculty of Economics and Business at the University of Sydney.

Why a wiki? Entrepreneurship and the teaching and learning challenge

The reasons for choosing a wiki for the innovation and entrepreneurship units at The Faculty of Economics & Business at The University of Sydney were many and varied.

Firstly, the wiki potentially provides a platform for out-of-class learning and understanding. Each year the various entrepreneurship units include approximately 450 post-graduates from a diverse range of backgrounds with varying degrees of knowledge about business topics such as marketing, accounting, finance and strategy. For example, in any class there will be some students with an undergraduate degree in business sitting between a research student completing a PhD in physics and an international student with no business studies. Participants need to get up to speed on various unfamiliar topics quickly. The wiki was seen to be a possible solution to the problem of how to provide this type of information.

Secondly, the fundamental wiki philosophy was felt to be a highly appropriate one for a program that seeks to encourage the innovative and entrepreneurial ‘attitude’ (recognising there is some debate as to whether students can actually be taught to be entrepreneurs (see for example Fiet, 2000 and Aronsson, 2004)). If entrepreneurship education is to advance, as much attention on the ‘how’ as the ‘what’ is required:

On the one hand creativity and innovation are linked to the contents of education renewal. On the other hand an important objective for renewal in entrepreneurial education is the simulation of the 'entrepreneurial attitude' among students. In this case the focus is not so much on what is to be taught, but on how it is to be taught (Bellini, Capaldo et al. 2001 p. 454).

By encouraging students to explore various topic areas, and research and write up other topics and problems of interest, the wiki becomes another tool to be leveraged. For example, one intended program learning outcome at Sydney is to "develop skills and perspectives relating to opportunity seeking, initiative taking and ownership, and curiosity." Thus a wiki, with its focus on mass author collaboration and peer editing as opposed to rote and directed learning would seem to be a useful arena for fostering an entrepreneurial spirit.

Thirdly, as evidenced by a review of the entrepreneurship field by Katz (2003 p. 298), entrepreneurship education has "just gone through one of its periods of greatest growth, perhaps growth that was so fast that it might have outstripped the available intellectual resources". It is critical that innovative teaching methods are developed for entrepreneurship (Fiet, 2000b; Fiet, 2000a; Aronsson, 2004; Honig, 2004; Bechard and Gregoire, 2005). At The University of Sydney, the teaching and learning objectives have focussed on developing the skills, knowledge and attributes associated with entrepreneurial activity as well as leveraging the experience and expertise of a cohort of practitioners, academics and guest presenters. Providing a rich online learning resource to complement the problem-based learning activities is important to the overall program goals.

Successes and shortcomings

The wiki was initially set up in Semester 2, 2008 and during the first iteration, was used as a repository of user-generated knowledge and as an assessment tool. It was felt that assessing entries in some way was an important means to get student users involved and to provide some extrinsic motivation, although the idea of using a wiki as an assessment tool does go against its intended use, that is a forum for construction and sharing of knowledge. In terms of assessment, users were required to add a page to the wiki on a topic deemed relevant to the field, and in which they felt they had some expertise. In addition, they were assessed on an edit of another user's entry. This counted for 15% of their overall assessment for the unit. Users were assessed on the following criteria:

Entry criteria

- topic focus, appropriateness and interest
- inclusion of academic journals and books
- inclusion of industry opinions and perspectives
- interesting and engaging
- informative and insightful
- appropriate references

Edit criteria

- improving flow and accuracy of existing entry
- editing for grammatical accuracy
- adding depth to entry
- appropriate use of references and additional material

Each of these criteria were given a score of excellent, v good, good, fair and poor

During the first iteration there were both successes and shortcomings. The wiki was initially set up using a plugin (Team LX) in the Blackboard Learning Management System (LMS). The plugin was chosen because it could easily be integrated into the online learning system that was already being used in the Faculty. It was used throughout one semester with some success as an assessment tool. There was a high degree of engagement with the wiki, with 140 entries made. However, as the number of entries grew, it became more and more difficult for tutors to extract the correct cohort for marking purposes from the various units of study and years who contributed. It was also hard to assess the edits. When editing, a student typically made more than one saved edit, but it was not possible to compare the final edited version with the original using the history function of the Blackboard wiki. This meant that the tutors had

to resort to asking users to print out their work and submit it in hard-copy for marking, a rather counter-productive process, and one that was rather time-consuming.

As a learning resource it was also problematic, not due to the content, but again mainly due to issues with the software. First, tagging was not supported by the Blackboard wiki, which made it very hard to search. It was also difficult to impose any kind of structure, as the software did not generate any index pages or categories. In addition, the layout of the wiki was clunky and hard to navigate. The pages were listed in a long list in a frame on side of the screen, necessitating a large amount of scrolling. By the end of the first iteration the wiki contained 140 entries that were not classified or grouped, 5 student podcasts from India, and 4 SME podcasts from the Faculty. It was starting to have some use as a resource, but was in need of a better platform in which to reside.

The next stage

The second phase of the project is now in progress. The original wiki has been migrated to a new version built in Media wiki. This has several benefits for ease of organisation and navigation. Primarily, it has allowed us to add groups and categories to the wiki so that student and faculty users can more easily locate and add information to a logical category. Instead of the long lists of subjects, there are areas for functional expertise such as Strategy, Finance, Management and Marketing as well as enterprise themes such as Early, Growth and Late Stage Ventures. There are also areas for podcasts. This makes the wiki easier to navigate and more visually appealing.

In addition, Media wiki allows tagging of pages through the adding of 'category' pages. This creates an indexed page that makes it easier for users to search. In terms of assessment, the software allows users to choose which versions to compare. It is hoped that this will make the tracking of edits easier for tutors to assess. Informal evaluation will be administered to tutors at the end of semester to discover if the new environment has improved the ability to track and assess student entries.

It is hoped that improving the look and functionality of the wiki will make it a less of a burden for users, so increasing the likelihood of its use.

The future

The Entrepreneurship and Innovation wiki is still very much a work in progress. The goal is to ensure that the wiki becomes not only a place to 'deposit' learning but also a place that students will continually 'mine' for learning. The first years of operation focus on developing the structure for content and the encouragement for the students. In light of this, much focus in the first iteration has been in terms of useability and functionality – we would recommend the most user-friendly software is chosen, rather than the one that is easy to integrate.

The second stage of development is now being realised – gardening (as outlined above) will continue to ensure tighter and more focussed content. Furthermore, student user evaluations will be carried out at the end of this semester and feedback received will be used to develop and improve it further.

Through these user evaluations, we hope to explore a number of areas surrounding the teaching and learning of entrepreneurship. On a purely practical level, we hope to pinpoint any issues of useability and functionality concerning the wiki itself. In addition, we hope to explore a possible link between entrepreneurial attitude and learning style preference: that those with a more entrepreneurial tendency will prefer a more experiential and 'emancipatory' style of learning to the more traditional didactic methods of lectures and teacher-directed learning. Data from this evaluation will help us to improve the overall teaching and learning strategies of the program.

Although the wiki has so far had a fair number of back-office issues, it is hoped that it will continue to grow and develop as a useful resource. This will hopefully involve shifting the attitude of students away from a passive approach to learning, encouraging them to discover and actively learn. In addition, we intend to develop the depth of the content and interactions through integration with audio-visual content and other materials, such as case studies. In addition we hope to expand the breadth of the content through integration with other business schools in China and Europe, with a view to sharing business practices and expertise across different cultures.

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