

# **WEB 2.0 @ BU – USE OF WIKIS WITHIN THE SCHOOL OF HEALTH & SOCIAL CARE**

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## **Biography**

Andy Pulman is Web Team Leader for the School of Health & Social Care (HSC) at Bournemouth University.

Andy joined HSC in 2002, having come from a commerce background to a post in Higher Education. During this time he has contributed to the fulfilment of a number of HSC learning and teaching plans and projects. He has also managed the development of HSC websites and has helped to produce and support a range of web resources and initiatives. In 2005, he was awarded a BU Learning and Teaching Fellowship, and in 2006 achieved an MA in Interactive Media which has helped to inform his skills and understanding of the development, support and production of interactive materials.

Andy is hoping to embark on a part-time PhD later in 2008. His research interests concern exploring educational solutions around web 2.0, gaming experiences, personal narratives and simulation.

**Abstract:**

The aim of the Web 2.0 @ BU project is to investigate current good practice and to map the use of Web 2.0 technologies within Bournemouth University. This paper aims to communicate the findings from the School of Health & Social Care project team during the academic year 2007/2008 concerning the student use of wikis on the Teamworking and Communication in Health and Social Care Unit.

The purpose of this third year undergraduate unit is to provide students (n=600) with the opportunity to undertake interprofessional project work and, through this develop their skills of working collaboratively in teams and to communicate and function more effectively within their role. This case study looks at how effective optional small student group wikis are as a part of a long, thin unit where students sometimes find that they vary their contribution according to the time that they have.

This paper looks to share knowledge and experience of utilising the concept of Wikis within an interprofessional curriculum unit, enabling teachers and practitioners to be in a stronger position to respond and react to the changing demands of using innovative new learning technologies. It also aims to assess the success of using a third party wiki solution integrated within a VLE environment rather than provided as an open source externally supported solution.

Keywords:

web 2.0, wikis, interprofessional, case study, Teams LX

## Introduction

The aim of the Web 2.0 @ BU project is to investigate good practice and map the use of Web 2.0 technologies within the schools of Bournemouth University. This paper aims to communicate findings from the School of Health & Social Care (HSC) during the academic year 2007/2008 where the Teams LX Wiki tool was utilised on a third year interprofessional unit of education - Teamworking and Communication in Health and Social Care (TWCH). The TWCH case study looks at how effective optional small student group wikis are as a resource used as a part of a long, thin unit where students sometimes find that they vary their contribution according to the time that they have. This paper looks to share knowledge and experience of utilising the concept of Wikis within an interprofessional curriculum unit, enabling teachers and practitioners to be in a stronger position to respond and react to the changing demands of using innovative new learning technologies. It also aims to assess the success of using a third party wiki solution integrated within a VLE environment rather than provided as an open source externally supported solution.

## Background

Arreguin (2004) defines a wiki as a group of web pages which allow users to add but which also permit others, sometimes unrestrictedly, to edit content. Lamb (2004) suggests the wiki term can be applied across a diverse set of systems but with some fundamental principles applying. *Firstly*, wikis encourage communal collaborative working and are designed for quick and easy revision with traditional authoring software, permissions, or passwords not always required. *Secondly*, they are designed around using a simple graphical user interface (GUI) which strips traditional web programming language down to its simplest elements. This means wiki users are only required to learn a few basic format commands (as you might find in word processing software), which significantly streamlines and simplifies tasks. *Thirdly*, page titles are combined into one word allowing for the quick creation and linking of pages within a wiki or to external sources. As linking is easy, a culture of connection amongst different pages is promoted. Finally, *wiki content is always changing and never complete*. A page can have many different contributors, with old-school traditions of authorship and ownership radically altered. Content cloning across wikis is often acceptable, and unlike blogs, which are usually organised chronologically, wikis are organized organically and evolve over time. Entries are often left unpolished, and creators may deliberately leave spaces hoping that someone else comes along and fills in gaps or amends errors at a later date.

Pearce (2006) suggests a variety of ways in which wikis can be used within learning and teaching environments. *Firstly*, when students are asked to create web sites for a group project, they usually have to rely on someone knowing how to create one. The wiki eliminates this obstacle as it provides a ready to use website with a simple interface and navigation structure. As Lamb (2004) notes, the simplicity of wiki syntax coupled with the ease of inserting images or creating links allows students to concentrate on developing site content, instead of learning how to code. *Secondly*, a wiki makes it easy for students to write, revise and submit assignments, since all three activities can take place within a

wiki. A student could be given a wiki page to develop and draft a paper and also track research. This would allow teachers or peers to see the paper evolve and continually offer feedback, rather than only viewing and commenting on the final version. Thirdly, often student groups need to collaborate on documents by email with one member coordinating edits. This can cause problems - when two group members think of the same idea and include it in different ways in their copies or when one member misses a deadline to finish changes. Using a wiki strengthens the group concept by allowing students to build and edit the document collaboratively whilst also allowing for tracking of the project; all members having immediate, equal access to the most recent version. Group members can see what sources others have already checked whilst members with overlapping or similar ideas can see and build on each other's work rather than duplicating it. Fourthly, because of its ease of editing, a wiki can be a useful tool for collecting data from groups of people. For example, students at Brown University (2008) started a Course Advisor Wiki (CAW) as a place for students to collaboratively write reviews of courses. Pearce (2006) notes that CAW gives:

*reviewers flexibility to articulate their impressions, and readers get richer reviews that combine multiple impressions and perspectives.*

Finally, wikis are also able to easily replace conventional presentation software, but with the added benefit of being available to access over the web immediately as a study resource or aide memoire in a format free of proprietary software. Madler (2007) suggests that when you are building a user-generated presentation, a wiki can be an ideal tool for gathering input and collaborating on slide content.

Probably the most problematic area with wikis is the allowance of live manipulation of data by any user, due to lack of regulation. This carries the risk of vandalism, inappropriate language, spam, and incorrect or inappropriate or copyright protected content being published - both time-consuming and personnel-intensive to monitor. Recent high profile examples of Wikipedia vandalism include articles on John Seigenthaler Sr and the Norwegian Prime Minister Jens Stoltenberg (Thompson, 2005) where registered users amended data to include incorrect information. Another problem is with the structure of wiki pages. As a wiki is essentially a database created by a group rather than an individual, structuring the initial content for access can be difficult. Working out the best approach for how groups access and organise information and create links to other material needs to be addressed early and regularly monitored to avoid a chaotic and messy structure. Another shortcoming of a wiki is that it represents the collective perspective of the group that uses it (Educause, 2005) so it is possible for a wiki to have a collaborative bias. Over time, the values, perspectives, and opinions of its users can become embedded within the wiki. This can also result in what is known as an edit war - a continuous editing and re-visioning of content by people following particular agendas on controversial topics like abortion or religion. Education Guardian (2007) notes that many Universities have questioned the reliability of information posted and edited on Wikipedia, with marketing officials monitoring the information on the site because it can affect institutional reputations. Some American colleges have gone further and banned undergraduates from citing the website in research papers (Sutherland 2007). Finally, Duffy and Bruns (2006) note two additional challenges. Firstly, some wikis have no page

locking system which means that if two people edit the page simultaneously, one set of changes will be incorrectly deleted. They also note that asking students to develop new wiki pages can present considerations from an educational perspective that are comparable to teaching students the processes of authorship in any other written task. Therefore wiki entries may be structurally and procedurally different from standard writing tasks and it is important that academics provide sufficient help and instruction to learners as they come to terms with the requirements of the wiki writing genre.

## Theory

Interprofessional education (IPE) in health and social care undergraduate professional education is a key governmental driver (Department of Health, 2001). An IPE curriculum was introduced at HSC from 2005 for a variety of health and social care disciplines including nursing, midwifery, occupational therapy, physiotherapy and social work students (n=600). Challenges of this large scale project included facilitating meaningful interprofessional learning and the logistics of large student numbers which included multi-site teaching. As a part of IPE, there was a demand for a way to allow students and staff to interact and collaborate through learning resources in order to learn interprofessionally. Blended learning was the chosen approach, providing a mix of online and face to face interaction – a method becoming increasingly common as a curriculum strategy (Laurillard, 2002). During the development of the IPE curriculum, a variety of e-learning tools were developed to function alongside or within the university's Virtual Learning Environment (VLE) – Blackboard - which included a virtual Simulated Community (Pulman et al, 2008) and the limited use of Web 2.0 technology. In the healthcare curriculum the use of blended learning is not without difficulty; not all staff or students feel positive towards the use of technology in education (Ward & Moule, 2007) and there are concerns about the skills base of users to facilitate and use this approach and whether they have access to adequate information technology (IT) facilities (Honey, 2004).

Aware of the issues, the curricular team offered a range of staff development activities to prepare staff for blended learning facilitation. Additionally, throughout year one of the IPE programme, all students undertook an information literacy unit which included basic IT skills. These issues were also a big influence on the choice of Teams LX as the wiki software to be used in the trial. There was a feeling that asking staff and students to deal with another system (like Wikispaces) and an additional userid and password in addition to using the VLE would be confusing and time consuming. Teams LX is a wiki designed for integration within a VLE environment which aims to give students and instructors tools for collaboratively creating rich media websites within the course management environment. Users sharing a common online workspace can author content, assemble research, and present their work. Teams LX is advertised as a great way for instructors to create group assignments as users can maintain an up-to-date, online course resource by authoring content, linking to external resources, contributing opinions and analysis, and re-framing existing content. Teams LX provides a course tool to help instructors assess the group project work they have assigned. This tool also allows an instructor to drill down into the individual contributions of each student and to track the evolution of a group's response during a problem-solving process.

Within the UK Higher Education (HE) arena, we are beginning to see literature emerging concerning the use of wikis within the curriculum. Burgess (2007) described wikis in use as a part of the blended learning approach adopted on a Business Management BSc. Meanwhile, Doolan (2007) discussed wiki implementation on an undergraduate computing programme, where learners were required to work on group and individual assessed activities and were provided with group areas within wikis and the university MLE. Doolan (2007, pp. 159-172) concluded that technologies such as wikis:

*Provide new learning opportunities, and they are relatively easy to set up and use. A critical success factor is the learning design much of which is the transfer and adaptation of existing good conventional teaching, learning and assessment practices.*

Research is also being undertaken abroad with Elgort et al (2008) reporting on students' and lecturers' perceptions of using the Teams LX wiki as a platform for conducting assessed group projects in two postgraduate Master's level university courses. However, as Boulos et al (2006) suggest there is still little reliable pedagogic research and evaluation evidence to properly and fully answer the detailed list of wiki issues that posed fundamental questions for HE which Fountain (2005) described. It is hoped that this study will assist in this area.

## **Method**

The TWCH interprofessional unit was identified as a particularly good fit for investigating the effective use of wikis. The purpose of the unit is to provide students with the opportunity to undertake interprofessional project work and, through this develop their skills of working collaboratively in teams and to communicate and function more effectively within their role. The unit is characterised by the undertaking of a group project, with students receiving a degree of traditional face-to-face teaching, some face-to-face tutorial support but a greater degree of on-line learning in order to enable them to meet the learning outcomes and complete the group project. Face-to-face teaching and tutorial support for the unit is offered in an introductory day and recall days which occur during the course of the unit. Notably, TWCH is classified as a long, thin unit and students sometimes find that they need to vary their contribution according to the time that they have available to them at different stages. On-line learning activities within the VLE are designed to be accessed on an individual basis, at a time and place convenient to the student. They may choose to undertake on-line activities as a group, negotiating how and when they undertake them – either asynchronously or synchronously by appointment. Students are advised that they may choose which learning activity to access and work through, based on their individual needs and motivation and those needs of their group. It is also suggested that interaction with the learning materials and engagement in discussion or collaborative activities in particular may be negotiated and scheduled by and amongst students in each group. The first four learning outcomes of TWCH are assessed through a group presentation and defence of the project and its product (worth 70% of unit marks). In groups of 4-6, students are requested to analyse current practices relating to health and social care and identify an area requiring development. The product of each group's project aims to promote the health and social well-being of service users and carers. The group then present the product to an invited audience of practitioners. The remaining learning outcomes are assessed by an analysis

of the processes of communication, leadership, decision-making and project management involved in the group project (worth 30%).

Each group wiki is reviewed alongside the unit assessment as it supports and demonstrates individual contributions to the group project, but is not formally assessed. Each project group is given their own wiki area, which is intended for students to develop as a project group. Students are directed to record the group activities they undertake within the pages they create. As a guide, it is suggested that students create at least one page for each learning activity and supplementary pages for recording their research trail and summary of reading and general discussion. The way that each group designs their space is left up to the students and there are no restrictions on group members being able to access each other's group wikis to encourage an open learning environment. As it is essential within the unit to keep a critically reflective log of the students learning as they engage in the project management process and learning activities, it was also considered that a group wiki would be a good place to store reflections – underpinning discussions on recall days and most notably providing students with a useful reference point for their own essay at the end of the unit.

There are various points during the unit where learning activities incorporating the wiki occur. Initially, each group is required to draw up ground rules. Once these have been decided upon, a member of the group is nominated by peer agreement to capture and transfer them to the group wiki for reference. Later, students are asked to break into project groups and put ideas onto a flip chart. One of the group can volunteer to transfer a copy of the information onto the wiki for reference or so that ideas recorded can be refined as the unit progresses (with the students having a versioned history of how ideas have developed). Another learning activity concerns inviting the students to consider a case study situation and critically reflect on what support and services will be required with thoughts and questions requested to be logged on the wiki. A further activity requires students to directly work together on their wiki using their previously recorded project aim as the focus. The group are asked to clarify what the environment will look like when they have made their changes and describe the outcome of their project. If the students decide to meet face to face then the summary of the discussions and activity are requested to be put on the wiki for later reference. The penultimate activity requests the group make short notes detailing the issues involved in using influence with groups asked to record their thoughts for reference in the wiki. The final activity is designed to introduce students to the principles of project management. Throughout the activity students progress from exploring their project idea (innovation) to exploring how it might be managed to an end point (operationalisation). To undertake this work the project team need to find time to meet up for 3 hours during one term, but in addition, each member must also be prepared to work through the materials in preparation for the discussion. The team discussion can be on-line, face-to-face or through email, but whatever the choice they are required to maintain a log of activity and spend time reflecting on the processes they go through, in arriving at decisions and making progress. The project wiki is suggested as an ideal place to record the log, as it makes the process of collaboratively working substantially easier when it is not possible for the group to meet in person due to placement or locational issues.

## Findings

The evaluation of the use of the wiki on the TWCH unit took place between March and May 2008 with 63 responses received from the total group of 600 students. Data was collected using student survey questionnaires located on the Bristol Online Survey system. The questionnaires included both multiple choice questions and open ended comments.

Firstly, students were asked if they had used a wiki before for viewing material. Only 49.2% had viewed material with the majority (over 90%) citing Wikipedia as the source. Only 6.3% had used a wiki for editing or collaboration with 25% citing Wikipedia as the source. In terms of using other social networking tools, 68.2 % had used or were using Facebook, 47.6% YouTube, 38% iTunes, 19% MySpace, 15.8 % Bebo, only 11.1% kept a personal blog and only 1.5% were utilising Podcasts. Interestingly, 22.2% had used Wikipedia as a reference in an essay but only 54% were aware that anybody could edit any Wikipedia entry if they had an account.

Reflecting on if they felt that using the wiki during TWCH was an interesting way of teaching only 31.7% thought it was whilst only 30.2% thought that the use of the Wiki in terms of the unit as a whole made sense to them (why they were using a wiki instead of something else):

*I feel that the wiki was a good tool, however alongside emails and blackboard it became very confusing which to use. I think that the wiki would have been good by itself and we should not have had the use of blackboard discussion board also.*

*I think that the tool was good, but I feel in some ways it was used as a means to be used. I don't think our group would have had any problems without it as other tools were available. I think we would have used it more if other tools had not been available.*

Positive comments about the use of the wiki on TWCH were limited to 36.5% of respondents. Positive areas were seen as the ability to transcend geographical location:

*It was good to be able to go to our group page and upload and view our work from anywhere - especially as geographically our group were spaced from Yeovil to Bradford on Avon!*

The wiki was a good way of us being able to work together from a distance and access our up to date project work.

Tracking was also seen as a useful feature:

*Useful to see what everyone is contributing and have it all in one place as*



opposed to spread out amongst peoples hard drives.

Collaborative benefits and the opportunity to easily share information were also highlighted:

*I think this is a very good way to share informational evidence around and it is quick and easy to use.*

It was an efficient and effective method of sharing information with other group members.

Negative Comments recorded were higher at 38.1 % of respondents. The awareness of the wiki tool was surprisingly low in some cases given that the wiki was tied into the majority of the group activities required on the unit:

*Needed to be made more aware of it in the first place.*

*Our group didn't actually use the wiki tool! I guess we didn't really know it was there, I remember some vague reference to it at some point, but it didn't sink in!*

Equity of access was raised as an issue:

*Many of us could not easily use the wiki. It seemed to be an advantage to those that could use the tool.*

Those of us with less IT skills missed out on the use of wiki.

Additional IT instruction covering the technology and its use was flagged up:

*Feel that this would have been more useful if there had been a quick teaching session on its use and purpose, as stated, most of my group unfamiliar with the technology and did not know how to access and use effectively.*

*The only guidance received regarding the wiki was through blackboard as far as I am aware, individual tutor did not mention it or explain how it would enhance learning or ways that we could utilise it as a group.*

Time constraints and the traditional problem of motivation within individual groups also posed problems:

*No one showed me how to use it, except a student who said its just a matter of playing around with it till you get the hang of it, and quite frankly, I don't have the time!*

*My group did not feel the need to use this tool as a way of collating info, although felt that this was a lack of confidence in IT skills for most members, therefore, did not use it myself as felt that they would not access it.*

*Unfortunately only two members of my team used it - me and one other. It would only have been useful if all team members entered into using it.*

The optional usage of the Wiki on the unit was also an issue:

*We decided it was easier to communicate using MSN.*

*We tended to use the discussion board only and didn't need anything else. But we should have tried it at some point.*

Privacy concerns were also discussed:

*We felt our section should only have been available to us/tutor to view and not the whole IPE year.*

Other (non-group members) were able to view material posted by other groups and could 'borrow' ideas and material.

No formal IT training was given on the use of the Teams LX wiki, but reference to the help guide was provided within the VLE and mention of the wiki facility was covered in the unit materials with reference made to it on the introductory day. Regarding the capability of the Teams LX software, students were specifically asked whether there were any technical issues that they were aware of when using the wiki that they would like to feedback (concerning how easy it was to use, the clarity of the instructions and the overall look and feel). Navigation was deemed problematic:

*I had a slight difficulty accessing some of the menus.*

*I don't usually struggle with IT, but found it difficult to find the wiki and accessing it was confusing.*

*I found it difficult when I tried to use the wiki to attach to my group only. I*

became worried when I added to another groups information.

The ease of creating and updating pages was also a problem:

*It was complicated to set up initially.*

*I feel as though when many group members started to use the wiki tool it became confusing and muddled as my group were not sure how to edit the layout.*

*It was very slow to edit.*

The Teams LX help guide was deemed unhelpful:

*It was quite easy to use however there could have been further instructions as to how to add links and upload revised files.*

Found instructions difficult to understand particularly as I had not used anything like this before.

I didn't feel that the instructions on how to contribute were clear.

Finally virus software issues and other bugs in the software also caused issues and prevented complete access to all of the functionality:

*When files uploaded via an outside computer university computers will not allow access to view items.*

*Overall look was good during presentation some of the word art did not appear on the screen.*

## **Conclusions**

As a last question, students were asked whether given a choice for a future version of this unit which would they prefer; either a wiki on the unit with no assessment, a wiki used as a part of the final assessment or not at all. In the course of the evaluation it is clear there is a big split between those students who do not enjoy wikis (49.2% would choose a unit with no wiki use) and see their use as a problem:

*I can't use it. I tried to and it irritated me. I do not like it.*

*Found it pointless other than a place to store info.*

and those who see it as something more positive (39.7% would choose the unit with wiki use):

*Something new is always worth a try!*

*A good way of group collaboration and interaction.*

The low numbers looking to see the wiki used as a part of an assessment are particular cause for reflection (only 11.1 % would choose unit with wiki used as part of the final assessment). Comments included:

*This wiki tool would only be used by all if made compulsory!*

*It appeared that our group worked really hard to understand and make use of the tool, which initially was very problematic. However we do not receive any credits or additional marks for our efforts.*

*I think that using the tool would be of benefit in this unit, however, I do not think that it should be a compulsory part of assessment unless some face to face teaching is arranged for those that are unfamiliar with its use.*

There is an increasing tendency to believe that all students approaching HE by 2012 will be fully fledged digital natives expecting effective technological tools and resources to be made available to them for use in their own personal learning environments. However, as is evidenced by our study certain areas of specialism like health and social care bring their own unique problems to the table so in these areas it is suggested that a more cautious use and implementation of Web 2.0 technology like wikis is the most appropriate path to follow at present.

We must also reflect on whether the use of a wiki specially designed to be used behind a locked down VLE offers the same ease of use and functionality as free open source alternatives available. It was disappointing to see the number of comments regarding the functionality and ease of use of Teams LX but perhaps unsurprising considering the unique problems of trying to compress and recreate a social networking phenomenon into the constraints of a corporate VLE system. In their recent study (Elgort et al, 2008) although a majority of students thought the Teams LX wiki was easy to use there were also things students considered problematic such as limited formatting features, the slow speed of the wiki and pages often being locked for a long time after they had been edited. Although the majority of these issues were believed to be limitations associated with the early version of the wiki software our findings seem to suggest that this might not

be the case.

Alongside the issues of more targeted and sustained IT training with more detailed instruction and support and perhaps more targeted use of the wiki within the TWCH unit we feel our future research should look at two other areas. Firstly the dilemma of locking down wiki content for individual groups goes against the ethos of web 2.0 but is an increasingly strong voice if wikis are going to be used as a part of a final assessment:

*All groups could access each other's sites - our group was the first to use the tool and we felt that our work was exposed to everyone to help them set up their own sites rather than them using their own initiative!*

Strategies for dealing with the best approach for future use need to be decided which make the best of both worlds without causing administrative headaches (locking down group wikis for 600 students within specific groups would be a fiddly, time consuming process if performed within the VLE using Teams LX). Secondly, comparing use of the Teams LX Wiki with a different external solution – such as Wikispaces - would allow us to discover whether the findings of the first evaluation are similar in both cases concerning the use and effectiveness of the technology.

Interesting questions and issues continue to float around the most effective pedagogic use of wiki technology within the HE curriculum. It is to be hoped that our future research continues to help inform the learning approach which will offer the best, most rewarding solution for health and social care staff, students and technologists and the wider HE community.

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