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A Study on the Effective Use of Social Software by Further and Higher Education in the UK to Support Student Learning and Engagement (Final Report)

Acronym: SOCIAL-SW

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This report is dedicated to the participants whom we met in September to November 2008 in a number of institutions all over the UK, and who gave their time and attention to us at a very busy time of the academic year. Wherever we went, we always got a very warm welcome. During our visits, we witnessed the enthusiasm, passion and dedication of our colleagues who have launched learner-centred, social software initiatives to enhance student learning and engagement.

When I thanked an educator, associated with one of the initiatives investigated in this study, at the end of a long day of interviews with her and her students, she said: 'my heart is with the learners; if I know that something works for them, I want to share it with others so that other learners can also benefit; that is what we are here for - to help our learners'. This statement embodies the spirit of this study: the willingness of colleagues to share their experiences with the wider community. It is only with their help that we have been able to develop the case studies and this report.

Executive Summary

The term 'social software' covers a range of software tools which allow users to interact and share data with other users, primarily via the web. Blogs, wikis, social networking websites, such as Facebook and Flickr, and social bookmarking sites, such as Delicious, are examples of some of the tools that are being used to share and collaborate in educational, social, and business contexts. The key aspect of a social software tool is that it involves wider participation in the creation of information which is shared.

This study examined the use of social software in the UK further and higher education sectors to collect evidence of the effective use of social software in enhancing student learning and engagement. In this study, data from 26 initiatives, where social software tools have been employed, has been collected, analysed and synthesised. The cases chosen give a spread of tools, subject areas, contexts (part-time, full-time or distance learning), levels of study, and institutions (higher and further education). A case study methodology was followed and both educators and students were interviewed to find out what they had done, how well it had worked, and what they had learned from the experiences.

This study provides insights about the: educational goals of using social software tools; enablers or drivers within the institution, or from external sources which positively influence the adoption of social software; benefits to the students, educators and institutions; challenges that may influence a social software initiative; and issues that need to be considered in a social software initiative.

Our investigations have shown that social software tools support a variety of ways of learning: sharing of resources (eg bookmarks, photographs), collaborative learning, problem-based and inquiry-based learning, reflective learning, and peer-to-peer learning. Students gain transferable skills of team working, online collaboration, negotiation, and communication, individual and group reflection, and managing digital identities. Although these tools enhance a student's sense of community, sharing and collaboration brings in additional responsibility and workload, which some students find inflexible and rather 'forced'. The study found that students have concerns about privacy and the public nature of the tools for their academic activities.

The educator's role is changing from being a provider of information to a facilitator or moderator, which raises training needs, workload issues, and adjusting to a 'new' way of teaching. Institutions face the dilemma of adopting and recommending tools in the public domain over which they have no control. On the other hand, the institution's VLE may not provide tools with as rich a functionality as is available in the tools which are in the public domain.

The analysis in this report is presented as answers to questions which educators and policy makers may have about social software initiatives. It is hoped that the lessons and the recommendations, as captured in this report and the case studies will influence the learning and teaching strategies in higher and further education – specifically institutions which are considering the use of social software. The results highlight the different pedagogical roles of social software: communication, nurturing creativity and innovation, and collaborative learning.

1 Introduction

This is the final report for a JISC-funded study into the appropriate and effective use of social software in further and higher education. The study was carried out in a six-month period from August 2008 to January 2009. The report is intended to be read by both policy makers and teaching staff in further and higher education who are considering the use of social software as an aid to teaching or as a means of encouraging, motivating or helping to retain students. The primary function of the study was to collect information about the way social software was actually being used in the sector and to record the experiences of the staff (mainly educators) and students to find out what benefits had been found, what, if any, problems and issues had been encountered (and how these had been resolved).

Social software is a class of networked tools that support and encourage individuals to learn together while retaining individual control over their time, space, presence, activity, identity and relationship (Anderson, 2005). Social software enables communication between groups where the members are made aware of what other groups are doing, and where each member of the group benefits. Further, social software allows gathering and sharing resources to inform others and receive feedback.

In this study, we investigated 26 initiatives from higher and further education institutions in the UK where social software tools have been employed. The 26 case studies which were developed from these can be found in a separate document accompanying this report, and this document is available at <http://tinyurl.com/5a8zu3>

1.1 Guide for readers of this report

Terminology

We have interchangeably used the word 'project' and 'study' for the investigations which have led to this report and the associated case studies. The term 'social software initiative' in this report implies a project or a learning activity or a situation where a social software tool is employed. When we use the term 'tool', we actually mean a 'social software tool'.

We have used the term 'educator' to imply any colleague who has adopted social software tool(s) in an educational context and led the initiative. This educator could be a tutor, a lecturer, or a module leader, or a learning and teaching manager in different contexts. The educator could also be a part of a team and the team may have together developed and launched the initiative. This 'team' has been referred to as the 'course team' in this report. The term 'student' implies the learner in the social software initiative.

Brief overviews/explanations of various social software tools are included in Appendix 2 (Glossary). The Glossary also has web links to the various types of social software.

Selective reading of the report: some suggestions and scenarios

We have suggested some possible scenarios that might help you to selectively read the report and the appendices:

- If you would like to know about the study and what it set out to achieve and what it has achieved, then we suggest that you read Sections 2, 3 and then the conclusions in Section 7
- If you would like to know about the background research in social software and social networking, then we suggest that you have a look at Appendix 1 (Background Reading), Appendix 2 (Glossary) and Appendix 3 (Literature Review)
- If you would like to know about the case study methodology then you might like to read Section 4, and refer to Appendix 4 where we have included the materials that were used by the consultants undertaking the information collection relating to the various case studies
- If you are interested in looking at the case studies, you will find these consolidated in a document at <http://tinyurl.com/5a8zu3>
- If you are interested in looking at the key contributions of our study, they are outlined in Section 7
- If you would like to know about the implications of the study for the educational community, the study's limitations, ideas for further work, then you might like to look at Section 8
- If you are interested in incorporating social software in education, we have listed some generic recommendations in Section 9 which might be helpful

2 Background to the study

There are many schools of thought on learning, including behaviourism, cognitive psychology and constructivism. No single theory is used exclusively for the design of networked learning environments; instead, course designers tend to include principles from several perspectives (Anderson and Elloumi, 2004). With progress in experiential research new learning theories to support the development of online education are evolving. Over the last two decades, social theories of learning have assumed prominence in the debate among researchers (eg Lave and Wenger, 1991). Although the views of various social theorists differ (Nicol et al, 2003), there is a general consensus that interaction, dialogue, and collaboration are essential for productive learning.

Technology can provide a medium for conversing and collaborating within the learning environment (Jonassen et al. 1999; McConnell, 2006). The growing interest in social dimensions of learning has led to institutions adopting virtual learning environments (VLEs), which incorporate collaboration and communication tools such as wikis, blogs, forums and chat. More recently, publically available web-based social networking tools such as Facebook, GoogleDocs, Delicious, and Flickr have been adopted in learning and teaching (eg Dron, 2007).

To integrate the social dimension into the pedagogy of online learning environments, Felix (2005) has proposed the synthesis of the cognitive constructivist and social constructivist approaches. In the cognitive constructivist approach, the focus is on cognition that occurs in the mind of the individual, with the learner making intellectual sense of the materials on their own. The social constructivist approach emphasises the socially and culturally situated context of cognition, in which knowledge is constructed through shared endeavours. The interactions in the online environment, for example through collaborations or discussions using forums, or in wikis, or on blogs, enable knowledge to be constructed individually but mediated socially. The experiences of social interaction can be facilitated through interactive activities such as small-group discussions, simulation games, project-based work, and collaborative problem-solving activities (Beetham and Sharpe, 2007) and also interacting with social software tools which enable collaboration, community building and knowledge construction (Nonaka and Takeuchi, 1995).

The term 'social software' covers a range of software tools which allow users to interact and share data with other users, primarily via the web. Social networking websites such as MySpace, Facebook, Flickr, and YouTube are examples of some of the tools that are being used to share and collaborate in educational, social, and business contexts. The key aspect of a social software tool is that it involves wider participation in the creation of information which is shared (Franklin and van Harmelen, 2007; Leslie and Landon, 2008). Educational institutions are increasingly making use of:

- Tools that facilitate collaborative authoring, such as blogs and wikis
- Websites that enable sharing of bookmarks, photographs, and videos, such as Delicious, Flickr and YouTube
- Social networking platforms such as Elgg and Ning

- 3-D virtual worlds, such as Second Life that facilitate synchronous group discussions and meetings

These, and other social software tools, are of increasing interest in education, but need to be well grounded within the pedagogical activities of courses. The published research so far has tended to focus on the use of forums, blogs and wikis, rather than extending to encompass other social software. Furthermore, there are few guidelines for good pedagogical practice or assessments of the effectiveness of the different social software tools. Thus, it appeared that studies were needed which determined:

- How activities can be designed to include social software tools
- The benefits and problems associated with their use
- The role of these tools in enhancing the learning and teaching experience

Therefore, our project set out to: identify situations (as case studies) where social software tools had been employed in further and higher education; collect information about the experiences of the staff and students involved; and analyse that information to discover the benefits, problems and issues (and their resolutions) associated with the use of social software.

Associated sections and appendices to this section

A list of resources for background reading is in Appendix 1 of the report; A Glossary is in Appendix 2; A Literature Review on Web 2.0 and Social Software is presented in Appendix 3.

3 Aims and key deliverables of the study

The goal of this project was to produce a report with 8 to 12 case studies, which have used social software to support and engage learners, or have embedded social software within the pedagogy of a course or a programme. The study involved identifying suitable case studies in the UK higher and further education (HE and FE) sectors and collecting evidence of the effective use of social software in supporting and enhancing student learning and engagement in the educational process. It also endeavoured to identify any problems or disadvantages of using such software that had been encountered.

The specific aims of the project were to capture the following:

- benefits that the learners and educators perceive with the pedagogical usage of these tools
- the design of activities and the challenges involved in using the tool(s), relating these to their context (including the expected learning outcomes of the course and/or programme)
- learning experiences of the educators: what worked and what did not work so well; whether or not the social software tool or the associated pedagogical activity is transferable to another context
- obstacles faced by students and educators, whether they are technological, usability-related, skills or training issues, or social issues
- accessibility issues regarding support to users with special needs, and how they are being (or have been) addressed

3.1 Key deliverables and outcomes of the study

The key deliverables of this project are this report and a document consolidating the case studies.

- The report has analysed the findings from the case studies, and drawn conclusions for future practice. We hope that the lessons, as captured in the report, will provide useful information which will inform the learning and teaching strategies adopted in higher and further education – specifically, assisting the institutions and educators who are considering the use of social software, or more generally, people or organisations undertaking technology-enabled learning and teaching initiatives
- The study endeavours to provide insights about: influencing factors, the role of context, obstacles and advantages regarding the introduction and use of social software in learning and teaching. These insights will, we hope, be useful not only for educational institutions but also for all enterprises planning to use social software and other e-learning initiatives in their training and staff development

- We hope that the case study methodology that we adopted and our experiences of using it will be useful for educators, researchers and practitioners who are also considering using the case study method in their work
- We hope that the ethical procedures, material such as consent forms, project summary sheet, data protection and security mechanisms that we utilised on our project can be adapted and used by other research teams, especially where the teams are involved in similar projects which involve travelling to different locations for data collection

Associated sections and appendices to this section

The methodology is in Section 4 of the report. The list of case studies is in Section 5. The analyses from the case study investigations are in Section 6. The key contributions of our study, an exploration of the implications and our recommendations are in Sections 7, 8 and 9, respectively. The case studies are consolidated in a document is available at <http://tinyurl.com/5a8zu3>

4 Methodology and Implementation

We followed a case study methodology for data collection in this project. This involved an in-depth investigation of a number of 'cases', or examples, where social software tool(s) have been adopted to support learners in an educational institution in the UK. Data collection in each case study was undertaken by carrying out visits to the participating institution and conducting interviews and/or focus groups with staff colleagues and students. The interviews were guided by two interview templates, which we developed for students and educators respectively, and were audio-recorded. The analysed data for each study has been presented for each of the case studies in a common template (structure) that we developed.

In Appendix 4.1, we have provided an overview of the case study research methodology. The research materials that we developed as a part of our methodology (eg consent form, interview templates and other supporting documentation) are included in Appendices 4.2–4.9. We anticipate that case study methodology described in this section is easily transferable to other case study-based projects.

4.1 Case study research design

The 'timeline' for our approach up to the start of the actual information collection exercise is explained in this subsection. In the final three subsections, we discuss the process of developing case studies from the elicited data, and how the data was analysed and synthesised to draw out some lessons.

The timeline of our approach was as follows.

1. The criteria for selecting suitable case studies were developed on basis of the ITT issued by JISC (see http://www.jisc.ac.uk/fundingopportunities/funding_calls/2008/05/socialsoftware.aspx), the study plan submitted by us to JISC, and the JISC programme manager's feedback. The criteria were as follows:
 - The social software used, or equivalent software tools, should be available in the public domain
 - The usage of social software should be situated in the pedagogy of the course or a programme; or the social software should be used to support and engage learners and to enhance their online participation
 - Within the activity or activities where a social software tool is employed, if other e-learning tools are also employed, the social software should be the primary tool
 - Studies selected should demonstrate evidence of effective practice (or evidence to the contrary). In order to fulfil this criterion we chose studies that had been running for some time (more than one semester), and that included a reasonable number of students/modules
 - Case studies should be drawn from a variety of disciplines; our case studies cover diverse disciplines: for example, hair salon management, dentistry, computing, education, photography, and physiotherapy

- The portfolio of case studies should encompass a broad range of tools and skills: for example, group reflection (eg blogs); collaborative authoring (eg wikis), collaborative digital photography (eg Flickr); social bookmarking (eg Delicious); collaborative 3-D modelling (eg Second Life)
- The portfolio of case studies should include a lifelong learning element. At least one case study should look at the more mature student and/or work-based learning. We do have case studies which meet these criteria
- At least one of the case studies should be from further education
- The relationship between the use of publicly available social software tools and Virtual Learning Environments or Personal Learning Environments within institutions should be considered
- The results should be transferable to a range of contexts

These criteria were converted into a list of aspects that we would consider at various stages for selecting the case studies (see Appendix 4.2 of this report).

2. An email invitation requesting colleagues and institutions to contribute their case studies was prepared for distribution via several mailing lists. Some of the criteria were incorporated in this email (see Appendix 4.3).
3. These invitations were sent to various mailing lists (some of which were suggested by staff from JISC who also posted the invitation on our behalf). Personal invitations were also sent to colleagues from other institutions. The list of mailing lists is in Appendix 4.4.
4. In parallel with sending out invitations we investigated the ethical guidelines, data protection issues and copyright issues with the Human Participants and Materials Ethics Committee (HPMEC) and the Legal and Commercial Team of the OU. These units gave us guidance about data protection and data security aspects, which we considered and acted upon. We developed a consent letter for participation on the project and a project summary sheet (describing the project and how the data would be collected and stored), which were reviewed and approved by HPMEC.
5. We received interest from several institutions in response to our email invitations.
6. We prepared an 'Initial information request form' (see Appendix 4.5) and sent it to all the colleagues who had expressed an interest in participation. This form elicited some primary information relating to their initiative: details of the primary contact person and contact details; other staff involved; duration of the initiative; number of students; subject; level of study; course or programme, tool(s) involved. They were also asked if any resources (eg websites, papers) related to initiative were available for us to have a look at.
7. On receiving a response to the initial information request forms, we performed an iterative short-listing of the cases that we were going to investigate by applying our criteria.
8. We developed an investigator's pack, which had all the guidance regarding data collection and consolidation; the interview and reporting templates; and guidance for data security and ethical procedures.

9. Before sending the pack to the investigators, we carried out a pilot study using an example from the OU to try out the interview templates and to determine the approximate time that it might take for a consultant to conduct a set of interviews in a typical case. We included a sample report for this pilot case study in the pack, along with its associated audio recording (a sample of five to six minutes) to give the investigators a feel of how interviews might be conducted with the participants and to demonstrate how the interviews should be written up.
10. One of the core project team members sent emails to the primary contact persons of the participating institutions (case study contributors) to introduce the (allocated) investigator, and, thereafter, it was the responsibility of the investigator to arrange visits with the institution.
11. Before visiting the institutions involved, the investigators were asked to read any background information, which had been provided for the initiatives that they were investigating (in some case studies there were papers and other internal reports). We wanted the interviewers to be as familiar as possible with each case to make the interviews as effective as possible.

4.2 Gathering the case studies

A team of seven consultants (investigators) were going to carry out investigations over two months. In order to enhance the reliability of our research design, it was important that all investigators followed the same set of procedures and rules. Further, we did not have an opportunity to bring the investigators to one central location for training (they were spread all over the UK). We wanted to make the instructions as detailed as possible so that they could train themselves for case study investigations by going through the materials that we sent to them. Therefore, we developed an investigator's pack, which contained the instructions for carrying out the investigations, interview templates plus expected data protection, and ethical, procedures. The various constituents of the pack are listed in Appendix 4.6.

During the collation of case studies we came across some small-scale initiatives that were being led by individual educators, eg the use of Twitter at Portsmouth University, and the use of Facebook at Royal Holloway that were considered to be of benefit to the study, but which were not suitable for a full scale case study approach. For these mini case studies, we designed a telephone interview template for conducting interviews and this was sent to the investigators (See Appendix 4.7).

4.3 Development of the case studies after the investigations

After the investigators had completed a draft reports for each of the case studies using the reporting templates, they sent a copy to the respective participating institution (primary contact person) for feedback, comments and any further advice.

In the meantime, the core team developed 'presentation templates' (Appendices 4.8 and 4.9) for presentations of the main and mini case studies, respectively. These were developed by looking at samples of case studies on JISC's website and

the guidance that we had received from our JISC programme manager. The investigators then produced each of the case studies in its final presentation format (this was also checked by the main contact at the institution).

The case studies are consolidated in a document (see <http://tinyurl.com/5a8zu3>).

4.4 Data analysis and synthesis

To start the process, an independent inductive analysis of the data (that is, case studies in their reporting formats) was undertaken by the study team members to identify the themes, sub-themes, and any causal or interrelationships between the themes. The inductive analysis involved each of the team members independently reading the different sociological accounts of the allocated case studies in detail to gain an understanding of the positive accounts of the social software initiatives and the obstacles that had been described in the data.

After this independent data analysis, a one-day workshop was organised and attended by the study team members. This focused on looking across the cases to find recurring themes in the cases that had been analysed. This activity produced a long list of the themes and sub-themes, which seemed to have an impact on the social software initiatives. Following a review of the themes the team came to the conclusion that there are four types of factors that influence a social software initiative:

- social (eg issues related to collaboration and group working)
- educational (factors that have a bearing on learning and teaching)
- organisational (the way in which the institutions involved deal with the introduction and use of the social software tools)
- technological (factors related to access, implementation and maintenance of the tools and services)

During data synthesis, the study team found that these four factors related to several aspects of a social software initiative: educational goals of using social software, enablers and barriers that positively impact on the adoption of social software, and benefits of using social software. A set of questions was derived (listed in Section 6) to address these aspects of goals, benefits, enablers, challenges and issues, and the findings are presented as answers to these questions. The findings utilise the four types of factors (themes) of the data analysis.

The list of case studies investigated in this study is in Section 5. The findings are presented in Section 6, and the lessons learned from the study are discussed in Sections 7, 8 and 9 (Conclusions, Implications and Recommendations) of this report.

Associated sections and appendices to this section

Appendix 4 has all the research materials that we have referred to in this section.

The data analysis is presented in Section 6. The conclusions of the study are outlined in Section 7.

5 Outputs: Case Studies

In this section we provide a brief description of the 26 cases studies or initiatives we have investigated in this project (see Tables 5.1 and 5.2). Most of the case studies use a number of communication and collaboration tools, but generally, the initiative is centred on one or two primary social software tools.

Twenty of the 26 initiatives are 'main' case studies (Table 5.1). These are initiatives that have been running for some time (more than one semester), generally involved more than one social software tool, include a reasonable number of students and where there is empirical evidence, through formal evaluations via surveys, or questionnaires with educators and students, or reflective journals, to demonstrate the value, or otherwise of using social software tools. The six mini case studies (Table 5.2) are initiatives which relate to one specific tool (eg Facebook, Twitter, GoogleEarth, Delicious, discussions forums, Skype), and capture the views of the educator who led the initiative,

The tools referred to in these initiatives are defined in Appendix 2. The case studies are consolidated in a document (available at <http://tinyurl.com/5a8zu3>).

Table 5.1 Institution, tools employed, titles and short descriptions of the main case studies

No.	Institution	Case study title and social software tools: primary tool(s) followed by the secondary tool(s)	Summary of the case study	Code
1.	Anglia Ruskin University	<i>Computer Gaming and Video Capture in Second Life</i> 3-D MUVE (Second Life), Blog (WordPress, Blogger), and University's VLE (Moodle)	Students are required to create an animated film inside the Second Life virtual world to learn about filming and post-production. Students reflect in their blogs.	[ARU]
2.	Birmingham City University	<i>Using Wikis to Support Small Group work</i> Wiki (PBwiki) and the University's VLE (Moodle)	Wikis are being used to support group activities during seminars. Students in small groups discuss and record their thoughts and ideas in the wiki and also link related resources from the web.	[BCU1]
3.	Birmingham City University	<i>Facebook as a Pre-induction Support Tool</i> Social networking (Facebook)	A group on the social networking site, Facebook, was set up for pre-induction of the students on the first year of the BA English Programme.	[BCU2]
4.	Brighton University	<i>Community@Brighton: Social Networking at University of Brighton</i> Social networking (Elgg) integrated with the university's VLE (Blackboard)	This initiative established a user driven, online community at the university. It is used for induction, social and educational purposes. It complements the University's VLE.	[BU]
5.	Coleg Llandrillo Cymru	<i>Using Web 2.0 in Further Education Library Services</i> Blog (WordPress), social bookmarking (Delicious) and wiki (PBwiki)	A library blog has improved upon the library newsletter. Course and subject related bookmarks are provided using Delicious website. The 'How to' guides are written in a wiki (PBwiki).	[CL]
6.	London South Bank University	<i>Photo Publishing with Lulu</i> Photo publishing website with blogs and forums (lulu.com),	Print on demand (POD) technology was adopted via Lulu.com for students on the digital photography degree. Students	[LSBU]

		social networking (Facebook), blog (WordPress, used in 2006 only)	developed their own personal learning environments for social networking, blogging and cataloguing via one portal.	
7.	Lancaster University	<i>Social Networking through Ning on a Distance-learning Programme</i> Social networking (Ning)	A social network has been used to provide an online community area in which the students on a part-time structured doctoral programme can interact.	[LU]
8.	Northumberland College	<i>Using a Wiki for Developing a Portfolio and for Communication</i> Wiki (PBwiki) and the university's VLE (Blackboard)	Students develop an e-portfolio in a wiki on a work-based learning course (hair salon services)	[NC]
9.	Nottingham Trent University	<i>A Blogging Support System for Trainee Teachers</i> Blogging (Livejournal)	Blogging was initially introduced to enable trainee teachers to support one another. It has subsequently been used to encourage socialisation before the course starts and to support the development of reflective reporting.	[NTU]
10.	Open University	<i>OpenStudio: An Online Community for Digital Photography Students</i> Photo-sharing site (OpenStudio, similar to Flickr)	Students share photographs with fellow students and educators on a digital photography course and comment on fellow students' photographs.	[OU1]
11.	Open University	<i>Collaborative Learning in a Wiki on a Software Engineering course</i> Wiki (Moodle's wiki)	Students conduct collaborative authoring activities in a wiki on a post-graduate software engineering distance-learning course.	[OU2]
12.	Open University	<i>Using Wikis and Video Conferencing on Team Engineering course</i> Wiki (Moodle's wiki) and video-conferencing tool (Flashmeeting)	Students work in groups and use wikis and video conferencing to support their project work on a distance-learning engineering course.	[OU3]
13.	Sheffield University	<i>Blogs and Social Bookmarking for Exploration of Historical Courses</i> Social bookmarking (Delicious), blog (WordPress)	The tutor plans a face-to-face tutorial after assessing the bookmarks and questions posted by students during their research on the social bookmarking site and blogs, respectively.	[SU]
14.	Stockport College	<i>Photo-sharing on Flickr</i> Photo-sharing site (Flickr)	Students share their photographs in a Flickr group on the City and Guilds Photography course.	[SC]
15.	University of Bradford	<i>Develop Me! Social Networking at University of Bradford</i> Social networking site (Ning)	An online space has been set up where staff, students and potential students interact to support students' transition into university.	[UB]
16.	University of Hertfordshire	<i>Using podcasting to Develop Oral Skills for Physiotherapy Practice</i> Podcasts and wiki (as a part of StudyNet, MLE)	Students create a description of a particular pathology of the lumbar spine using a wiki. They then record a podcast, role playing the presentation of the condition to a patient.	[UH]
17.	University of Leeds	<i>Blogs, Wikis and Social Bookmarking to Support Web-based Research</i> Social bookmarking (Bibsonomy), blog (Elgg), wiki (LeedsWiki based on MediaWiki)	Students use blogs for self-reflection and for set tasks; they develop and present a project using wikis; and use social bookmarking to store and share web-based resources.	[UL]
18.	University of Manchester	<i>Social Networking and Community-building in Dentistry Courses</i> Blog (Edublogs), social networking (Facebook), podcasts	Blogs, social networking and podcasts are used to supplement traditional communication methods, such as the university VLE, website and email.	[UM]

19.	University of Salford	<i>Digital Identity, Communication and Collaboration through Web 2.0</i> Blog (Wordpress, Edublogs, Blogger), wiki (Wikispaces, Wetpaint, PBWiki), social bookmarking (Delicious), photo-sharing (Flickr), video-sharing (YouTube)	Students use a number of social software tools and the objective is to examine how these tools impact on professionals in the broadcast industries.	[US]
20.	University of Westminster	<i>Social Networking: Connecting Students and Staff</i> Social networking (Elgg)	A social networking site was set up for staff and students to investigate role of an in-house social networking site in community building and for informal learning.	[UW]

Table 5.2 Institution, tools employed, titles and short descriptions of the mini-case studies

No	Institution	Case study title and social software tools: primary tool(s) followed by the secondary tool(s)	Summary of the case study	Code
21.	Nottingham University	<i>Google Earth: Practical Exercises in Geographic Information Science</i> GoogleEarth	Students undertake a practical lab exercise using Google Earth. The aim of the exercise is to encourage students to think about the implications of the source and quality of the underlying data (some of the data is user-generated and some has no known source).	[NU]
22.	Open University	<i>Using Social Bookmarking: Tools for Finding Things Again</i> Social bookmarking (Delicious, Furl and Simpy)	Students are exposed to a variety of social bookmarking and tagging tools on a course about finding and organising information.	[OU4]
23.	Open University	<i>Student Engagement: Discussion Forums and Web Conferencing</i> Discussion forums (FirstClass conferencing) and web conferencing (Elluminate)	Forums and web-conferencing provide a means for students and staff to interact remotely in a distance-learning environment.	[OU5]
24.	Open University	<i>Supporting a Group of Distance-learning Students on Skypecast</i> Voice over Internet Protocol (Skype) and Skypecast	The 'virtual class' enables students to see the results and problems of specific network configurations in a distance-learning course.	[OU6]
25.	Portsmouth University	<i>Using Twitter to Support Students and their Projects</i> Micro-blogging (Twitter)	Students have used Twitter to help them work more closely with their supervisor and with each other while undertaking project work.	[PU]
26.	Royal Holloway, University of London	<i>Using Facebook to Obtain Student Feedback</i> Social networkine (Facebook)	Facebook was used to gather student opinion on a library refurbishment project.	[RH]

Associated sections and appendices to this section

The tools are defined in Appendix 2. The case studies are consolidated in a document at <http://tinyurl.com/5a8zu3>.

The findings from the analysis of the case studies are presented in Section 6.

6 Findings: Analysis and Synthesis of the Data

In the case studies, we have identified themes related to the benefits and challenges of using social software, and enablers (or drivers) and barriers that influence social software initiatives in education. The analysis is presented as answers to questions which educators and policy makers may have about social software initiatives:

Educational goals of using social software

- What are the educational goals of using social software?

Enablers to social software initiatives

- Which enablers or drivers within the institution or from external sources, that positively influence the adoption of social software?

Benefits of using social software

- What are the educational benefits of using social software?
- What are the social and other non-educational benefits of using social software?
- What are the positive implications of employing social software tools, which extend beyond the initiative?

Challenges (including obstacles and barriers) within the institution, or, from external sources that they may influence a social software initiative

- How does the social software fit within the learning and teaching context?
- What are the concerns of students regarding the use of social software tools?
- What are the training needs for students and educators?
- What are the technological obstacles or specific technological requirements?
- What are the concerns of institutions, educators and students of using tools in the public domain?

Issues that need to be considered in a social software initiative

- What are the workload issues for educators?
- What are the workload issues for students?
- How does an educator's role change when social software is used?
- Are there any accessibility issues with these tools?
- Are there issues of assessment in courses which use social software?

While answering each of the questions listed here, examples, snippets or vignettes from the case studies or references to the case studies are included.

In Tables 5.1 and 5.2 in Section 5, we have listed the institutions and the tools employed in their initiatives identified by the study. In addition, each institution is identified by a code – for example, [LU] is for Lancaster University. These codes are used in this and later sections of the report to indicate which case study contains the evidence that substantiates the point that is being made.

The various tools and services referred to in the findings are defined in the Glossary (Appendix 2). If you would like to know more about any of the case studies, please refer to this document at <http://tinyurl.com/5a8zu3>.

6.1 Educational goals of social software

The background reading in Appendix 2 and the literature review in Appendix 3 outline various ways in which social software tools can be integrated in learning and teaching. The case studies discussed here have involved a variety of asynchronous and synchronous collaboration and communication social software tools (see Tables 5.1 and 5.2). We discuss the educational goals of using social software by giving examples from the case studies.

What are the intended educational goals of using social software?

Initiating new ways of learning: These include new ways of conducting group work [BCU1], creating a shared area for collecting resources [OU3], [CL], or for sharing work, such as photographs [SC]; collaboratively developing a new resource [OU2], [UH]; or developing a digital presence or identity [US]. These new approaches to learning are in contrast to more traditional or didactic methods, such as lecturing, where each student works individually, and is often unaware of other students' approaches to study and activities.

Recording group discussions: In [BCU1], the educator found that small-group activities were significant for students' collaborative learning but the knowledge generated in the group activities needs to be better captured and recorded for its effective use during and after the group activities. She adopted a wiki on the course as a tool for collaborative authoring and recording of the discussions during group activities in seminars.

Giving control to students: The provision of a space where control was given to students appeared to be a common aim of several projects [US], [OU3]. In [NTU], the move away from an educator led environment was a conscious one, and while educators did observe the blogs, it was primarily to offer support. In [BCU1], the students were given the option to decide whether or not they wanted to make the wikis public. In [UH], students peer-assessed and self-assessed their podcasts.

Simulating work environments and providing transferable skills to the students: In [OU2], the course team of the software engineering course adopted the wiki because in software engineering practice, wikis are being employed for collaborative working across globally distributed environments. In [NTU], the blogs were included to facilitate reflective learning and for recording and receiving feedback on students' teaching experiences. Reflection has been perceived as a necessary skill at postgraduate level and also as a preparation towards being a reflective practitioner in the teaching profession.

In [US], the aim was to make students aware of the implications of social software in the broadcasting industry and to understand issues of digital copyrights and licensing. In [UH], the physiotherapy students were asked to role play a scenario in a podcast, which involved explaining pathology to a patient, so as to foster communication skills for the workplace. In [LSBU], the motivation was to give the students the experience of producing a professional publication via the online

medium (from concept to publication). In [NU], the educator's motivation was to make students think about the source and quality (eg accuracy) of the data, some of which is user-generated, when they perform the Google Earth activity, and reflect on whether they are making appropriate use of the data.

Peer-to-peer learning: Initiatives using social software tend to focus on peer learning rather than learning solely from the educator [ARU], [BCU1], [UH]. For example, in [OU1], students learn primarily through critiquing each other's photographs without direct intervention from a tutor; in [SC], the students learn from the external community too, when they share their pictures on Flickr. The process of interaction with fellow students was addressed in an interesting way in [OU1]: students were moved to a different group each week, and could then choose whom to stay in touch with, but also keep meeting new people.

Critiquing each other's work: In [OU1], peer feedback was a vital part of their course. Their social software tool (OpenStudio) was designed to facilitate dialogue between students. Students were prompted to write a comment 'in return' if someone commented on their photos [OU1]. In [OU2] reciprocal commenting was encouraged for contributions to a wiki.

Reflective learning: One strategy was to ask students to keep a blog for self-reflection [NTU], [UL] and to make it shareable with their educators and/or other students. Students were encouraged to support reflective learning by commenting on the blogs, and engaging in discussion [UM], [LU]. Collecting resources prior to a tutorial and posting questions on a blog facilitated reflective learning [SU]. Self- and peer-assessment of podcasts by students encouraged self-reflection [UH].

Problem- and inquiry-based learning: In [SU], the aim was to give students skills in inquiry (enquiry) based learning by asking them to collect course-related web resources and post questions on the group blog ahead of the tutorials. Learning how to learn was another intended skill at [ARU], and it was expected that students would benefit by developing problem-based learning skills.

Collation of resources: The tools can be used by individual students or by groups of students and staff to build up a collection of resources. For example, a social bookmarking service can be used to collect useful web resources, either individually or on a shared basis [OU4], [SU], [CL].

Skills Development: One of the aims of the educators who are using social software is to improve students' academic skills, particularly their literacy skills, and to help them to become more independent learners. In [UL], the educators anticipated that the students would find it easier to write their dissertation, having experienced the tools and approaches of social software. The students in this initiative also commented that writing in the wiki had helped them to learn about structuring their materials. In [US], the aim was to introduce various social software tools to help students develop skills to manage their own digital (or online) identity, and these core skills were expected to be transferable to other disciplines and courses.

Team working and online collaboration skills: In [UH], [OU3] (wiki) and in [US] (blogs, wikis, podcasts), the course team believed that developing team-working skills and becoming familiar with online collaboration and communication tools, would be useful for real-life practice.

Organising a virtual class: Web conferencing tools, such as Skype, Elluminate or Flashmeeting, or virtual worlds, such as Second Life, can help in organising virtual classes and group activities with students in different locations and time zones, or for students who are unable to travel for tutorials owing to various constraints. Sessions in some of these conferencing tools can be recorded and made available to the students after the session for viewing and reflection. For examples, see [ARU], [OU5], [OU6].

Immediate (instantaneous) support from the educator and fellow students: Twitter has been used in [PU] for creating an informal space for students to communicate with one another and with the educator through short informal messages.

Creating a digital identity: In [US], the motivation of the educator was to introduce the students to social software tools; to get them to explore the role that these tools can play in generating a digital identity; and to apprise the students about the implications of the digital identity on employment opportunities.

Improving the effectiveness of face-to-face tutorials and seminars: In [SU], the tutor encouraged the students to conduct pre-tutorial activities in the group blog and on the social bookmarking site (Delicious). The students' contributions and questions helped the tutor to plan the tutorials effectively and appropriately. In [BCU1], the group work in the seminars was recorded for review, reflection, and further development by the students.

Fostering community building and participation of students in university-wide initiatives: In [BCU2], a Facebook group was set as a pre-induction support tool to encourage social cohesion between the new students and to prepare them for their entry into the institution. A similar initiative for induction is Develop Me! in [UB]. In [RH], a Facebook group was set up to receive inputs and feedback from the students on the proposals for a new learning space in the library.

Social engagement: In many initiatives which we investigated, the motivation of the educators was to set up a platform for social engagement: social networking [UM]; a supportive virtual community and to reduce the feeling of isolation [NTU]; informal interactions alongside the institution's VLE [BU]; and to reduce the barriers between educators and students [UW], [BU].

6.2 Enablers to social software initiatives

Enablers are those educational, social, technological, and organisational factors or situations that positively influence and facilitate the adoption, launch and implementation of the social software initiatives.

Which enablers or drivers within the institution or from external sources can positively influence the adoption of social software?

We discuss the enablers by giving examples from the case studies.

Decision making by individual educators or a small team of educators: Personal experiences and interests of the individual educators influenced their decisions about both adopting the tool(s) and the choices of tool(s) [BCU1], [LSBU], [SU]. In [ARU], it was the personal enthusiasm of the educators for Second Life that drove the initiative.

Fitting the initiative with the technology-enabled learning or strategy at the institution: In [ARU], the institution mandates blogging. At the OU, the usage of VLE and social software tools is a part of the institution's learning and teaching strategy, so the various projects (eg [OU1], [OU2] and [OU3]) fitted in with the university's agenda.

University's VLE and availability of suitable tools: In [UH], the Managed Learning Environment (MLE), StudyNet, was being successfully used by students and educators, which encouraged the usage of wikis and podcasts in their social software initiative. In [OU2], when the initiative was first launched in 2006, the OU was running a £5 million programme for adapting Moodle's VLE as part of its educational infrastructure strategy. The wiki tool was the most enhanced tool among the various VLE tools available at that time. The availability of the wiki, and the assurance that the VLE programme will provide technical support to the course team are some of the factors that influenced the course team to adopt the VLE's wiki.

Existing usage of tools within the institution: In [NC], a wiki was already being used for the university's newsletter, which raised awareness of the potential of the wiki for the educator who eventually adopted a wiki on her course. In [BCU2], another department in the university had used Facebook, which inspired the educator to use it on her course.

Internal champion or mentor: In [BCU1], the educator who first launched the wiki initiative ran workshops for her colleagues and developed training materials for them, and shared good practice and experiences with them, which greatly influenced her colleagues to adopt the wiki on their courses. In [SU], the educator mentioned to us that having somebody in the institution, who is more technologically aware, to discuss ideas could help to shape the initiative.

An internal successful initiative, which is also well documented or communicated: Influenced by the success of the wikis and blogs in the university's VLE, [UW] planned the social networking initiative (Connect) on Elgg. The experiences in [OU2] were shared with colleagues across the university. This influenced other courses to adopt wikis ([OU3] and a course in the Business School of the OU) and these courses adapted the training materials and other resources, which were being used in [OU2] – thereby, reducing the initial efforts of other courses.

Word-of-mouth and personal recommendation for choosing the tool: A colleague of the tutor of the photography course talked about Flickr [SC]. In [SU], a colleague in computing services suggested Delicious in a discussion with the tutor on the course.

Constraints of the in-house tools and storage space: At [NTU], the VLE had a blog, but access was restricted to current students only. This was not appropriate for students who were on teaching practice, so an external tool was used. At [UW], the university's VLE, Blackboard, was only available on a module basis, and there was a need for a tool to be available throughout a student's study at the university. Many VLEs have been set to limit the amount of storage that is available to each student (eg 20 MB in [SC]). Using a free, external service can overcome the time constraints of having to arrange for these limitations to be increased (for eg Flickr in [SC]).

Ease of integration with the institution's VLE or existing systems: Facebook is linked to the Blackboard (VLE) in the university [LSBU]. Elgg is integrated with the authentication system (and security systems) of the university [UW]. The Community@Brighton [BU] project is integrated with Blackboard, the VLE and the student portal, the student records system, and the staff intranet. This ease of integration has enabled the institutions to set up closed, secure (and private) communities for the students. In contrast, the course team was unable to arrange for integration of Flickr with the university's authentication system, which led to the development of an in-house tool, OpenStudio [OU1].

Usability and specific function of the tool(s): Once colleagues had identified the tool (say, a wiki), the next decision-making step was to identify the wiki service that would be used. Usability and simplicity of the tool(s) have been key criteria during decision making (eg adoption of PBwiki at [NC] and in [BCU1]; choosing LiveJournal, a blog), to enable students to add multimedia resources in NTU).

Students' familiarity with the tools: In [BCU2] and [UM], the educator chose Facebook as she was aware from her own and her colleagues' experiences that Facebook is a popular venue for networking among school students.

Giving control to the students: In [LU] and in some other social networking initiatives, which we investigated, the institution was not prescriptive on how the social community spaces should or should not be used, and instead allowed the space to develop and evolve on the basis of the students' needs.

Open source solutions and access to the developer community: Being open source was one reason why several institutions chose the software they did (eg [UW]). In the Community@Brighton project [BU], educators described ease of customisation and access to the developer community of Elgg as key benefits. Similarly, in [OU4], the educator was assured that there was a large development community for Delicious and that Delicious and its use would be well supported through new applications.

Promotion of the initiative: In [RH], the Facebook group was promoted in various ways across the campus and there was a link from the library site. This helped the group membership to grow, bringing in useful feedback from the student body on the proposals for new learning spaces in the library.

Facility of technology-rich physical learning spaces and availability of equipment: In [SU], the educator mentioned that availability of technology-rich learning spaces helped to set up and run the initiative. In [BCU1], the availability of wireless laptops during the seminars contributed towards the smooth running of the group activities in the wiki, and also enabled the initiative to be extended to other modules.

6.3 Benefits of using social software

What are the educational benefits of using social software?

Increase in retention of the students: In [NC] as well as [NTU], educators discussed scenarios where in a collaborative working environment, they or fellow-students were able to pick up early signs of a student 'giving up' the course, or a student being unhappy with some situation, or if someone were behind in their studies. Early and timely interventions helped to decrease the drop-out.

In [SU], they found that knowing more about the student's requirements through the blogs saved time and was beneficial, as they were able to better plan the face-to-face tutorials to directly address students' needs. In [PU], the educator mentioned that use of Twitter can enable better understanding of the students' needs, and other interactions (face-to-face or in email) could be accordingly adjusted.

Better understanding of students' needs: In [UL], the educator remarked that he had a better understanding of the students by reviewing their contributions in the social software environments. The students' contributions also helped identify the aspects of the subject area that make them enthusiastic. The educators in [NTU] and [BCU1] expressed similar sentiments.

Socialisation: In [NTU], [NC] and [OU1], sharing of photographs and personal profiles, helped in socialisation (an antecedent for collaborative learning).

Collaborative learning: Students highlighted collaborative working as a valuable and enjoyable process, giving benefits they would not normally gain when working individually ([BCU1], [UL], [UH], [OU2]). Receiving positive comments on the photographs and reference to some aspect of photography (such as angle or depth) made it very enjoyable for the students [OU1]. Some other benefits included sharing ideas and approaches on a common learning space (eg a group blog in [SU]) which 'helped clarify a student's understanding of course concepts'; sharing resources ([OU4], [SU]); working together on a project [OU3]; and helping each other ([OU1], [OU2], [NC], [ARU]).

Team working or working in groups: In [UH], [OU2] and [OU3], wikis enable team working, a place where each of the students could see what others were doing, and a cooperative space that is not tied to a particular computer or geographical location.

Engaging students: Both students and staff said that the use of social software increased enjoyment. It was seen as more engaging for students, and a more interesting way for them to study their subject [NU], and led to better understanding of the course concepts [SU]. In [UH], the physiotherapy students worked in groups to create podcasts related to the (potentially dull) subject of pathology. The students described this as 'fun' and said that it 'did not feel that much like work'. In the same vein, a dentistry student in [UM] said, about the department's blog: "It keeps it sort of real; it's such a stressful course, when he makes it so light-hearted it makes you feel involved." In [LSBU], the use of Facebook (which the students were already using for personal and social tasks, and visited regularly) for course-related information resulted in students submitting their course work on time. In [CL], the library blog was set up to encourage student participation.

Development of a community: Almost every case study stated that the building of a community was a key aim and a key perceived benefit of their projects ([LU], [US], [UL], [UW], [CL]). In [SU], the students suggested that seeing the posts on the blog and Delicious helped to give them a sense of community with other students in the group. In [NTU], students felt reduction in the feelings of isolation and in the concerns about not doing things 'right'.

Becoming aware of different approaches to learning: In [NTU], looking at each other's blogs helped the students to identify different approaches to their teaching. Students expressed similar sentiments in [OU1], [OU2], [NC] and [SC]. In [OU1] and

[SC], the students were exposed to a range of photographic styles by looking at each other's work.

In [SU] and [NC], the students were able to plan their own contributions better after looking at the resources that other students or groups had collated in the shared space.

Problem solving: In many cases that we investigated (eg [NC], [OU1], [BU]), students have found the collaborative spaces of social software tools very useful for problem solving and receiving support (eg by posting queries on their blogs in [BU], or by twittering [PU], or by posting messages in the Facebook group [BCU2]). By sharing their experiences, the students felt that they were not the only ones struggling (eg [BCU2], [NTU]), and in [NTU], students also mentioned that sharing problems helped them in their self-reflection.

Inspirational learning: At several institutions ([SC], [LSBU], [OU1]), students found that looking at other students' work inspired them and 'you can judge yourself... how well you are learning'.

Reflective learning: Looking at other students' work assists with reflection ([OU1], [OU2], [OU3], [NC], [BCU1]) and helps to identify the areas for improvement and to provide better understanding of course concepts [OU2].

Sense of achievement: Social software also provided a sense of achievement for students. They could upload their work online, where other students could see it, and comment on it ([OU1]). Moreover, in an open environment, members of the public all over the world would also be able to see the work (eg [SC]). This was highly motivating for students.

Sense of control and ownership: In [US] and in [NC], the creation of resources in students' personal spaces on blogs and wikis gave students a sense of ownership and control towards their learning and future career prospects.

Early feedback or interventions before formal assignments and quick turn-around time for feedback: In [NC], [SC], [BCU1], [NTU], [UM] and in several other case studies, educators mentioned that they were able to give early feedback to the students based on their online contributions prior to the students' submission of formal assignments. In general, the feedback and response by the educators has been more prompt for online activities, especially if there was only one place to go to (eg one wiki in [NC], or one group in Flickr in [SC]). In [PU], Twitter allowed the educator as well as fellow students to offer almost instantaneous support without the need for formal meetings.

Peer-to-peer support and feedback: In [NC], the collaborative workspace in the wiki facilitated the discussion of each other's work by the students. The peer feedback enables students to clarify their understanding and to reflect on their individual contributions and learning [OU3], [UL].

Being conscious that the educator and fellow students can see their online work: When students' work is visible to each other, and particularly when it is visible to the world via the web, motivation can be increased leading to better quality of work [SC]. When students know that other students, and potentially any member of the

public, will see their work, they can be motivated to produce work of a high quality ([UL], [OU1]). Where students' work was potentially available for any member of the public to buy, one student commented that this was important to them, even if no purchases were made [LSBU]. There is also the possibility of interacting with members of the public and possibly gaining feedback and advice from them [SC]. Working with visible artefacts such as photos, also creates a focus for the interactions, which help learning and community building [OU1].

Visibility of artefacts being created: When carrying out collaborative work, having contributions visible to the group or cohort of students, and to the educator makes it easier to judge individuals' contributions ([SC], [OU1], [OU2]). This can aid assessment, and also enable support and encouragement to be provided on an individual basis ([NC], [BCU1]). It was perceived to be useful for students to see how other students approach learning tasks ([OU2], [NC]).

Integration of multimedia assets: Being able to integrate video clips, photos, hyperlinks, music clips within wiki pages was perceived as being useful and providing a rich learning experience by students [BCU1]. The students in [BCU1] felt that being able to structure the content with multimedia assets 'mirrors the process of learning'. In [BU], the ability to share media and receive feedback in a social networking site has been considered very useful by colleagues who were otherwise sceptical about technology-enabled learning initiatives. In [UL], a wiki was chosen for the final project dissertation because of the ability to link multimedia resources.

What are the social and other non-educational benefits of using social software?

Student engagement in university initiatives: In [RH], a Facebook group was set up to receive inputs and feedback from the students on the proposals for a new learning space in the library. This open-ended way of collecting user requirements yields richer data than structured questionnaires, and permits more people to contribute than focus groups. However, collecting user input via social networking sites such as Facebook might exclude users who are not active Facebook users.

Adding novelty and excitement to the learning and teaching environment: It was generally felt the usage of social software tools was novel and engaging for both students and educators (eg [LSBU], [SU], [UH], [UM], [ARU], [CL]). In the Community@Brighton project [BU], it was felt that students embrace the social networking site more than Blackboard (VLE), which they may perceive as 'stale, dry academic'.

Overcoming communication difficulties in face-to-face environments: In [UM] and also in [ARU], it was mentioned that students who were hesitant to ask questions or express themselves in face-to-face environments were more comfortable in asking questions in social software environments.

Overcoming isolation and geographical distances: In distance education or where students are collaborating at a distance or in part-time courses, social software tools can help overcome isolation ([LU], [OU5], [OU6]), enhance social cohesion through a pre-induction support group [eg [BCU2], and enable collaborative work even when the students are at different locations ([OU1], [OU2], [OU3]).

Interacting across multiple physical locations: At [[UW], the aim of the social network was to address the problem of building a community across multiple locations. At [NTU], there was a need to support students in schools in a variety of locations and, again, a virtual space helped to provide a bridge for the students in various locations.

Experience with social software tools helps to foster cross-institutional collaborations: At [NC], having had positive experiences with the wiki as a repository of information, the educator has set up a wiki for various local and national initiatives and is playing a leading role. The colleagues at [ARU] also mentioned their own experiences with social software tools has enhanced the potential for cross-institutional collaborative projects using social software tools.

Being 'green': At [LSBU], one additional benefit with their choice of software was that it has a print on demand facility so there was no wastage and it is more ecologically friendly. In [UB], the university's carbon footprint was perceived to be reduced as information was available online and paper copies were not distributed.

Non-educational benefits or effect on employability: In [ARU], a potential financial benefit for students was to create objects in Second Life and sell them. At [LSBU], students' use of social software tools gave them the opportunity to sell some of their work to the external community as part of their course. Students in [OU4] started using social bookmarking tools for their activities at home, at work, and with friends.

In [US], some students received offers of work as a result of their blogs and showcase sites.

Support and community building outside the course environment: In [UW], the educators were hopeful that discussions around courses, subjects, interests or hobbies in the social networking site would help build the community organically. In [BCU2], educators set up a group on Facebook with the aim of enhancing social cohesion at the pre-induction stage, which they felt would eventually help to develop a community. In [NTU], the educators thought a blog would help to generate a community, as students had felt isolated and unsupported (and this has proved very effective in practice). Also in [NTU], choosing a tool in the public domain enabled the students to start blogging before they joined the university and allowed them to continue to contribute after having completed their course. This would not have been possible if a tool within the university's VLE had been chosen, and therefore, the advantages of pre-course inductions and post-course mentoring would have been lost.

In [UB], it was felt that online networks could help to alleviate any anxiety and isolation that students might feel, particularly when they were new to the university. In [BU], the initiative has helped students communicate their concerns and queries and receive support from the community.

Students' positive perceptions of the institution and the educators involved in the initiative: For example, there was enthusiasm among the students in [UM], [ARU], that the institution, the course and the educators were breaking new ground by embracing technology.

Wider impact of the initiative: At [BU], the social networking site was used for discussions around smoking policy and carbon footprint; this was the first time that the staff and students developed a combined online voice which influenced the university's policy.

What are the positive implications of employing social software tools, which extend beyond the initiative?

Developing skills for independent learning: Learning via social software is inherently collaborative. It means that students learn informally and develop without constant guidance from their teachers ([OU2], [UH]). Students learn to find, organise and use resources ([OU4], [NC]); to work with their peers and to learn from them; and to assess their own progress [NC].

Communication and collaboration skills for online environments: In [US], [OU2], [NC] and in some other case studies, educators reported that the usage of social software tools contributes towards the development of students' communication and collaboration skills for working in online environments.

Improvement in departmental rankings: The Dentistry at Manchester [UM] blog is an example of community building which led to a considerable increase in student satisfaction – moving the department from the bottom of the dentistry ratings to the top. The Library 2.0 initiative in [CL] has helped the raise the profile of the library services within and outside the college.

Informal relationships between educators and students: In [ARU], the students felt that the representation as avatars in Second Life resulted in them being able to be more sociable with their tutors. Also, in [ARU], students shared their Facebook profiles with the tutor who mentioned that this increased the level of friendship with his students. In [LSBU], the educators also mentioned that the relationships became more informal. There were similar sentiments expressed in [UM] and [PU].

Development of transferable skills for studies and workplace: In [SU], [NTU], [NC], [UL] and in [US], the initiatives were intended to enable students to gain experience of social software tool(s) and explore the potential of the tools with the expectation that they may be able to use this experience in their studies and in their workplaces in future. In software engineering practice, wikis are increasingly being used for collaborative working and this was one motivation for introducing wikis in [OU2].

Development of communities of practice: A community of practice is a group of people who converse about some shared task in order to get better at it (Wenger, 1998). Social software tools provide a platform for development of communities of practice (Shirky, 2008). For example, the comments section on Flickr allows people to converse about photographs. The basic question, 'How did you do that?' seems like a simple request for information, but it is also a spur to a community of practice, where people can start sharing their experiences of photography ([SC], [OU1]).

Development of alumni communities: Social networking sites were, in many institutions, seen as a way of giving students control of their own community. In [OU1], an educator said: 'Think about using this kind of a tool as a way of sparking some enthusiasm and helping your students to develop their own communities.' In [OU1], the community lasted beyond the duration of the course and students have set up their own groups on Flickr (outside the course tool – OpenStudio):

'It has been a course which has engendered a sense of community which has lasted outside the course, which is unusual in the OU.'

The use of public social software tools also provide a means of building and maintaining a community of alumni, who can continue to be involved with the university and their department [UM].

Portability of resources: Students on short courses, or those who move to other educational institutions can have access to the resources even if they leave the institution; for example, bookmarks stored on a social bookmarking site [OU4], portfolio on the wiki [NC]. In [US], students plan to continue to develop their sites (wikis and blogs) after the module ends to enhance their future career prospects. In [SU], the educator felt that the resources collected by the students on the social bookmarking site (Delicious) could be used by students in the future on other projects/courses.

6.4 Challenges in a social software initiative

In this subsection, we discuss, through examples, some of the educational, social, technological and organisational challenges, which we came across in the case studies.

How does the social software fit within the learning and teaching context?

Integrating the activities involving tool(s) with the learning outcomes of the course: We found that educators had aligned the usage of the tool(s) to the learning outcomes of a course or programme, or for supporting community building and engagement of students and educators.

The choice of a tool or combination of tools can, however, be challenging: for example, should wikis be used, or would blogs be more suitable; whether and how should synchronous tool(s) be combined with asynchronous tools. In some of the case studies, synchronous tools such as instant messaging or web conferencing are used for group discussion in a team project, while (asynchronous) collaborative authoring is carried out in the wiki ([US], [OU2], [OU3]).

Situating the tool(s) within the context of the course: When the tool(s) have been included in a course, the educators allocated some time at the start of the course/module to explain the rationale of the tool(s), and how the tool(s) are intended to support learning ([BCU1], [NC]), or students are given examples, web links and papers to emphasise the role of tools on the course [OU2].

What are the concerns of students regarding the use of social software tools?

Concerns about unequal participation in group activities: As it is common in group-activities, students are often concerned that group members are not contributing equally to the work ([BCU1], [UH]). They may also be unhappy with the groups to which they are allocated [UH].

Negative comments or non-constructive feedback by fellow students: In [OU1], some students found it difficult to provide constructive feedback and there have been occasional arguments (flames) in the forums (also, see [OU5]). To counter this small problem more guidance about positive commenting has been added to the course material in [OU1] and moderators have been advised on how to help students to be constructive.

Selective commenting: In [LSBU], students mentioned about giving comments to fellow students whom 'they liked'. In [OU2] and in [LSBU], students felt that they had to be guarded and polite. As a result, some students felt that they were not receiving useful critical comments.

Lack of socialisation: In [OU2] and also in [LSBU], students were not sure how critical they could be in their comments to fellow students' contributions, so they were either very polite or did not comment at all. In [OU2], which is a distance-learning course, the students mentioned about 'not knowing one another well enough' to be able to critically comment. In [OU1], while earlier versions of OpenStudio did not permit personal profiles, this feature was later introduced after feedback from students to aid socialisation.

In [LSBU], it was felt that in a blended learning environment with some face-to-face element, online socialisation might not be necessary as an antecedent for effective collaboration.

Having an online presence with a photo seemed important to students [UB]. In [NTU], students posted their photographs. As a result, students felt that they made friends with one another as they had seen the photographs and 'started to get an idea what people were like from the posts in the blog'. In [BCU2], the Facebook group served to prepare students to meet each other at induction.

Lack of trust of peer feedback: In [OU1], some of the students stated that they expected feedback from the tutor ('an expert input') and that they did not trust their fellow students to review the photographs. Similar concerns were expressed in [UH] where students were asked to peer-assess each other's podcasts.

Ownership issues about contributions in a shared space in a group-activity: The use of wikis highlighted students' concerns about shared production and editing each others' work [UH]. In the wiki, the 'ownership' of contributions can be unclear, and perceptions of ownership can vary among group members.

Being forced to comment: In some of the case studies, students felt that giving comments to others was rather being forced on them, and they were at times struggling to write about the contributions of others in the tools [LSBU].

Lack of student engagement: In [OU1], the students felt that if they left a comment on a photograph and left a question about how the photo effect was achieved, the answers were not coming through all the time which some of the students found frustrating or demoralising. Students felt nervous in case they said something incorrect online or looked foolish in some way [UM]. A community needs a critical mass of members for it to work. In [UW], few students used the social networking site, and therefore, a student community did not evolve.

Resistance to sharing artefacts in the public or collaborative space: In [SC], students were uncomfortable about uploading on Flickr the photographs they were taking on the course as they felt that they had no control about who was looking at the photographs and using them. The concern about sharing resources was raised particularly where students were asked to share reflections with a group of people who were potentially going to comment on what had been written; commenting on others' reflections was also considered uncomfortable by the students [UL]. Students were initially hesitant to share their bookmarks [OU4] as they were concerned about

'giving away' what they had searched. Some of the students added resources in the social bookmarking site as anonymous users though several of them then identified their contributions in the tutorials [SU].

Student enthusiasm or non-interest: In [ARU], it was felt that some students were too enthusiastic about using Second Life and spent too much time there, but nothing adverse was noted because of this. In [NTU], students were initially rather resistant to using the blog but quickly found it was useful and supportive and became regular readers/contributors. It is sometimes the interest that educators show and the support they provide that can encourage students to use the tool (eg use of the course wiki in [NC]). This situation can have a disadvantage too – that if an educator moves to another role and is no longer associated with the course, the students may not be as motivated as before (concerns in [NC]).

Collaboration perceived as onerous in flexible part-time distance education: Students find that collaborative activities are not in line with the philosophy of flexible learning, and learning in one's own time in part-time distance education [OU2].

Privacy vs. community building: If the Twitter accounts or blogs are kept private or open to only a few selected users, then there could be a negative impact on group dynamics (concerns in [PU]) as there will be limited communication.

Personal (social) and academic boundaries: There was some concern in several institutions among students and educators that the use of social software blurred boundaries between personal and academic life. For example, in [BCU2], the students admitted that the Facebook group set up for pre-induction was useful but they did not want university interactions in Facebook to continue once they had joined the university. In contrast, in [ARU] and in [LSBU], the educators were allowed access to their students' profiles on Facebook but in [UM], some students were hesitant about interacting with their educators on Facebook as they perceived Facebook as a social space rather than an academic space.

What are the training needs for students and educators?

Assumptions about students' skills with tools and impact on development of training materials: Educators often thought that students would already know how to use the tools, particularly social networking websites. This perception had implications for training, as module teams tended to assume that a comprehensive training programme in the new technologies was not necessary. In [UB], educators mentioned that students were not given any training, because the tool was similar to sites such as Facebook. However, there were students who had no experience of social networking tools and were not confident about interacting with the social networking site.

In some of the case studies, educators prepared training materials or gave guidance [NC] or described scenarios of using the technology in face-to-face sessions [PU]. In [BCU1], the educator developed materials for using PBwiki for students but also for fellow colleagues so that her colleagues could also explore the technology before they launched their own wiki initiatives. In [OU2], the course team prepared a user manual for wiki, which was also adopted by other course teams. In [OU4], the students would have benefited with some guidance on how to specify tags to bookmarks. In [OU6], the educator suggested that it was a good idea to 'make no assumptions... and provide step by step guide to the students'. In [US], the students were apprised of the copyright and licensing issues of integrating multimedia

resources in social software tools. The students were also informed about the issues of privacy and ethics involved in online behaviour and content generation.

Face-to-face training in the form of a workshop was conducted at [NTU] when the new tool was introduced, but it was decided it was not needed, and a sheet of instructions was used in later years, and deemed sufficient. This approach was also taken at [LSBU] and also at [SC] and in [OU2], where documentation was produced and circulated. Training in some other institutions was provided in the form of an online tutorial, for example [ARU] provided an online tutorial in Second Life building skills. In [SU], face-to-face training on Delicious was provided, and they have now decided to introduce face-to-face training for the blogs as well in the future indicating this was necessary because several students had been unsure how to use the blog and had not, initially, done so.

From the students, we received mixed responses: in [ARU], the students found that using the tool was a matter of common sense, but in [BU], the tool was not considered obvious to use. In [NC], students had difficulty uploading resources on the wiki. In [UL], students found it difficult to write in the wiki by using the markup formatting.

Training the educators: In [UB], training was provided in face-to-face informal sessions as well as in formal workshops to course teams to show them how the technology could support development of courses. In [OU2], a user manual on the wiki was also given to the tutors when the wiki was first introduced on the course. In [CL], wikis have been set up to train educators about social software technologies and their role in library services, and in learning and teaching.

With the educator's role becoming more facilitative and in order to help educators become effective moderators, training is required to impart moderation skills for online initiatives.

Health and safety guidance: [ARU] have considered providing guidance to students on how long to spend using the tools, and felt that the implications of long periods using a monitor could be incorporated into health and safety advice.

Administering users who register for themselves: In [SC], the students were advised to use their surnames as a part of their user ids on Flickr so that the tutor could recognise them. In [NTU] students register on the LiveJournal website and then email their LiveJournal username to the educator so that they can be allowed to access the shared blog.

Code of practice and group working norms: In [NC], the educator encouraged her students to develop a code of practice for wiki usage after giving them a brief introduction about how the course wiki should not be used for exchanging personal contact details or information related to their social lives. This code of practice was developed within the wiki itself. In [OU2], the course team had prepared a brief document on the etiquette of working in a group and this was given as a handout on the course's VLE site. Whenever some conflicts arose, students were pointed to this document for the norms of group working.

Copyright and intellectual property issues: In [UL], students found it challenging to understand the issues of copyright and intellectual property regarding integrating resources within their work to be published in the public domain.

What are the technological obstacles or specific technological requirements?

Poor usability: The students did not find the interface of Lulu.com [LSBU] usable: 'The interface was very unfriendly when compared to other social networking sites.' Similarly, students encountered a number of usability problems with the wiki when the initiative was first launched [OU2]. In [NC], students found it hard to upload files on to the wiki and frequently had to contact their tutor for help. In [SU], the staff identified a problem with the Delicious interface, particularly with the commenting facility where lengthy comments were truncated without warning, and, as a result, students lost long parts of their comments, which was discouraging for them.

There is often a tendency to compare the usability of the tool with similar familiar ones. For example, in one of the case studies, students compared Elgg unfavourably with Facebook.

Changes in the software in the public domain: Some case studies actually experienced changes in the software they were using over the duration of their projects ([BCU1] and [NC] had to adapt to a new version of PBwiki). In [LSBU], they found that the Lulu interface improved over the course of the module, while [ARU] experienced a number of technical problems resulting from upgrades to Second Life, which meant that Second Life could no longer be used on all the university computers.

Lack of control of tools in the public domain: In [LSBU], one student's account on Facebook was terminated, resulting in the loss of her academic work on Facebook. Project teams found that they could not control the registration of users. As a result, educators may not be able to provide support to students who have lost their password or forgotten their user id. For example, in [SC] some Flickr user ids were abandoned because of this. The separate identity management within Ning makes institutional adoption problematic [LU]. In future, projects may be able to look to initiatives such as OpenID () to provide some level of commonality for account management.

Lack of technical support for tools in the public domain: In one of the case studies, the educators and students learned from experience that external companies did not have high standards of service when problems occurred. There was a lack of communication and support. Frustrations at the poor customer service were reflected in one student's blog. In [BU] and in [UW], however, the educators reported positive experiences with Elgg developers and the open source community.

Lack of technical support towards the initiative inside the institution: In [UW], the initiative was not considered a high-priority activity. Therefore, there was lack of technical support in terms of taking regular backups, or making improvements to the system in response to user feedback. Consequently, the users felt that their suggestions were not being taken up, which may have affected their usage of the system.

Firewalls: Institutional firewalls and other access control mechanisms can sometimes prevent access to social software tools ([NC], [CL]). International students had difficulty in accessing the social networking site in [LU] as internet service providers in other countries were preventing access. If students are part-time students and access the tools from their workplaces, their organisation's firewall may prevent access to certain tools [OU6].

Technology mismatches: In [US], since the students were given the option to choose their own software for wikis and blogs, there were some technical issues associated with certain internet browsers and operating systems.

Feature-rich tools in the public domain: Sometimes feature-rich tools can be difficult to use as the students may require only a limited set of functions [SU].

What are the concerns of institutions, educators and students of using tools in the public domain?

Students want to remain anonymous in the public domain: In [SU], the students were asked to annotate their entries onto a social bookmarking website with their names. Some of the students were not willing to do this, which meant that some entries were anonymous. This had implications for checking a student's involvement and progress with the course.

Data protection and privacy concerns: In [NTU], one issue was compliance with the data protection act. Students were working in schools, and were told not to use of the names of the schools, pupils or teachers in their blog entries. However some students did not follow this guidance. The blog was private, however if it had been open to the public domain this could have had serious implications for the university. In [UW], one student raised a personal issue related to health online. Staff felt that it was a private issue and was not appropriate for discussion in a public place and removed the post.

In [UM] students were advised about online privacy and safety guidelines. The initiative was branded as a university network (even when it was hosted on Ning, an external social networking framework) to emphasise that users will be bound by university regulations.

Concerns about the public nature of the social networking group: In [BCU2], where the target users had not yet started their studies at the university, staff expressed concern that an open Facebook group may potentially allow other universities access to their students, and that this may impact on recruitment.

A different kind of concern was raised in [SC], where the educator was concerned about how misbehaviour of even one student in the group (which is on Flickr) could potentially jeopardise the reputation of the college, but he also noted that a 'lot of trust' and support from the college has helped to ease such concerns.

Lack of control over social software tools in the public domain: In [OU1], the Open Studio tool allows students to upload and share photographs with their fellow students using a standard web browser. The tool is only available to students registered on the course and to authorised staff members. OpenStudio was developed by the OU after the course team's original plans of integrating the university's authentication system with Flickr had to be shelved. The main concerns were that the university could not control the public facility or integrate it sufficiently into the assessment system (eg 'They couldn't enforce cut-off dates – a student would have been free to change their submitted photos after the ECA [End of Course Assessment] submission date'). The educators felt that it would be risky to expose students to people outside the group. In [SC], the educator identified a similar concern that the deadlines cannot be specified within Flickr. In [US], concerns were expressed about the use of systems in the public domain as such systems cannot be administered and controlled centrally.

Reliability of the service: We did not uncover any situations where there were serious problems because of a lack of availability of public software at crucial times though there were some minor problems ([BCU1], [NC], [OU6]). However, in most case studies, there were concerns about the reliability of the service.

Concerns about support from external companies: In [OU1], concern over technical reliance on an external company for hosting and support, led to the development of their own software solution (OpenStudio). In some of the case studies, educators expressed concern about the lack of support or response to complaints. On the other hand, in [UW] and in [UB], they have received support from the open source Elgg developers' community.

Concerns about resources and tools in the public domain: In [OU4], the educator did express concerns about the resources (bookmarks) and how she would lose them if Delicious ceased to exist. In [NC], regular backups of students' work were taken on the college's server. It was made clear to the students in [BU] that servers on which the initiative was hosted (Ning) did not belong to the university.

Public vs. private spaces within the tools: At [ARU] there was a concern about the open environment in Second Life where it is easy for avatars (other than the core team on the course) to wander in and disrupt the class. In [LSBU], there is a mix of open and closed spaces. A space where academic work was available was open to the general public in order to give the students' work greater exposure, as were students' blogs. On the social network however, a closed group was used in order to ensure the privacy of students' profiles and postings from educators.

Checking the legitimacy of usage and resource implications for an institution: When students are expected to use in-house services for university work, validation of 'appropriate use' is relatively easy. However, when publicly available social networking sites can also be used, staff cannot ask a user to leave a computer in the computing lab just because they are using Facebook or Flickr since this may now be a legitimate activity.

In [SC], the educator was concerned about the availability of computers if more and more courses adopted digital technologies.

Delays in decision making at organisational level: Institutional processes can sometimes slow down decision making. At [UW], plans for adoption of social software had to be reviewed by several committees which took five months.

Appropriateness of the content that is posted in the public domain or in the collaborative space of the initiative: When students produce content, which is displayed in a public or educational space, there is the possibility that the content (eg image, text, film) may be inappropriate.

In [SC], the educator expressed concerns about how any inappropriate content or photographs by students on Flickr could potentially damage the reputation of the college and, since the college did not have any policies, the system was working on the basis of trust on students. In [OU2], the students were reminded that the university's computing code of conduct should be followed for interacting in the forums and in the wiki. In [ARU], they ensured that students signed a user agreement acknowledging they were still bound by the JANET regulations for educational Internet use. In [UW], the educators worked with their university web manager to create an acceptable use policy.

Building the definition of what is or is not acceptable into the activity itself is one approach taken to address this issue. At [ARU], students producing films in Second Life were advised that their films must adhere to the Parental Guidance film classification. Another approach is to discuss the issue of what may or may not be appropriate, and leave it to students to exercise appropriate judgment ([NC], [OU1]). In [OU1], students were advised that they needed to be careful when publishing photos of children.

'Policing' the content: Several institutions used software that had a facility for the community itself to 'police' the content, and to report inappropriate usage. At [UW], the ability for the Elgg based social network to be monitored by the users was perceived as a benefit. In [OU1], the course team took the decision to build a 'report abuse' button, which users could use to identify inappropriate images or comments in OpenStudio. This was used occasionally, but 'in the cases where it was used the images were found not be inappropriate in the context of the course. Actively moderating images with a course of this scale would have been too difficult.'

Keeping the social networking 'private': At [UW], the course team modified the installation of the social networking site to ensure that access was denied for search engines. One reason for choosing a closed area was that the course team was inexperienced with social networking, and it was felt to be more appropriate to allow access only to a private audience.

Adapting publically available tools: In [UB], they had to pay to turn off the advertisements in Ning, and in [ARU], they had to buy virtual real estate in Second Life. However, [ARU] noted that the ability to build one own's content in Second Life is advantageous as this helped them to control the space: 'In other environments, you have to use what's there.' Students expressed positive feelings about spaces or tools where they had some independence to adapt and control ([LSBU], [ARU]). In [UW], Elgg was chosen, as there is a feature of branding the software.

Controlling spam: The Community@Brighton project [BU] had to make some modifications to their open system, which allowed anyone to add comments, as they found the site was being used to post spam. 'With a potentially public-facing system such as Community we did anticipate some issues of inappropriate use but there have been fewer than expected.'

Moderation of discussions: Educators and organisations face the dilemmas about whether, and to what extent communications in social networking sites should be moderated (eg [RH]), and what, if any, interventions should be undertaken. Institutions face the dilemma of policing the content versus leaving the discussions to take their own course (and thus to encourage participation, especially when the social software initiative has been set up to collect requirements and opinions [RH].

Position of the institution regarding endorsement of the tools in the public domain: In some of the case studies, educators expressed concerns that using software available in the public domain may imply that the institution is endorsing them. Should an institution be promoting tools that they cannot support? (See, for example, [CL].)

6.5 Issues that need to be considered for a social software initiative

What are the workload issues for educators?

Workload issues: Several case studies noted that the time taken to run a module using social software was not significantly greater than a standard module ([ARU], [LSBU]). In [OU2] preparation of wiki activities and the supporting training documents for students and tutors was very time intensive when the initiative was first launched, although the materials were reused in later presentations of the course and were used for other courses (similar experiences were reported in [UH]). Where the tools were not used as part of a module but as a more general social networking initiative, there appeared to be a consensus that the benefits outweighed the time put in ([BCU2], [BU], [NTU], [UL]). A typical comment was: 'Some staff might find this time consuming, but the benefits outweigh the effort involved.'

Usage of synchronous tools (eg audio and video conferencing) may require the educator to carry out a 'dry run' to ensure that the technology will work for the students ([OU5], [OU6]). In [US], the educator felt that, since the materials are developed in online platforms such as blogs and wikis, they need constantly monitoring and it can be very time consuming (eg to regularly track 30 blogs). In [NU], the educator felt that his previous expertise, specialist skills in the discipline, and background had helped him to design the initiative in three or four days but it would take much longer for others. In [UM], the two members of staff spent about three to five hours per week on maintaining social networking initiatives.

In [CL], funding was obtained for their project from CyMAL (Museums Archives and Libraries Wales) to cover some staff time. This allowed the project to progress at a much faster pace. However, the library staff still felt that keeping a library blog 'alive' with regular 'useful' and relevant posts is a time-intensive activity.

In [OU6], running a Skypecast session for his distance-learning students placed extra burden on the educator but, overall, the educator saved time, because he did not have to support students by having individual phone conversations with them. In [SC], the workload was rather reduced: if the photographs were received via CD or as attachments to email, the tutor had to store and print them for evaluating them but now he visits the Flickr site to review the photographs.

What are the workload issues for students?

Workload issues: Students reported lack of time or being under pressure from other responsibilities as reasons for being unable to contribute effectively [UB]. Since many students are active on Facebook, changing to another social networking site within the university was not considered useful [UW]. In [OU2] the students were concerned about the conflict between the flexible learning which they had expected on a part-time, distance-education course and the collaborative activities involving the wiki which had to be synchronised amongst the participants. In [NTU], students are encouraged to read the blog regularly and make posts. This does take time, but the course team reported that time spent in using the tools is more than offset by the benefits. In [LSBU], the course team mentioned that too many online activities could be a burden for both students and educators. Students face the dilemma of balancing the time between Facebook and university's social networking site [BU]. In [UL], educators planned the activities to avoid any increase in student workload.

How does an educator's role change when social software is used?

Changing role of the educator: Using social software is associated with a change in the educator's role. There is a move towards being a facilitator for learning, rather than a provider of information (eg [UH]). For example, instead of giving lectures, a teacher might help students by suggesting a direction [PU], or by helping them to find and use suitable learning resources on the web, and then engage students in a focused discussion arising from their study of the materials ([UH], [SC], [UM], [SU]). One educator said: 'So rather than looking over old notes about something and thinking about things to ask them, it was about looking at what they were coming up with, and reflecting on it, and then deciding what the class was going to be about. It was varied in that sense. You couldn't really predict what was going to happen from one week to the next sometimes. It did change the way I worked.'

Moderation of the discussions: In [BCU2], the tutor took the role of moderator who monitored content on the Facebook group and responded to specific student queries. The tutor also invited student mentors to join the social network.

A senior moderator role has also been introduced in [OU1]. The senior moderator takes an overview of forum activity (where the student-discussions happen) and liaises with the course team to try to work out a strategy to encourage constructive posts from users. This role did not exist initially and the course team struggled to keep the forums positive: 'You only need one person to start moaning about something and it leaves a sour taste.' In [OU2], a moderator kept the discussions about the wiki (when wiki was first introduced) in control so that technology did not start overshadowing the pedagogy and also informed the course team immediately if the students raised any concern about the tool (wiki) or the activities in the forum.

Monitoring the usage of the tools: In [OU2] and [NC], the history function in the wiki was used to monitor individual students' contributions on the wiki. Some of the institutions are monitoring the usage of the tools and services to fine tune them. For example, one of the blogging projects [CL] used the search terms entered by users to understand what their audience was likely to be looking for. Then the content was adjusted to make it more likely to be found.

Are there any accessibility issues with these tools?

Accessibility of the tools: Accessibility is a broad topic with two main parts – providing access regardless of a person's physical or mental abilities, and providing access regardless of social or economic factors.

Several of the case studies did not address or thoroughly consider accessibility issues. They stressed that they had not experienced any problems using the software. One of the educators whom we interviewed mentioned that she was partially blind but had a tool (screen reader) to 'see' the screen, but none of the students had raised any concerns in the initiatives that we investigated. In [OU2], the course team were confident that their tool (OpenStudio) was accessible, primarily because it had been created internally. In another case, the educators had investigated with the provider (external organisation) whether the social networking site was reasonable accessible at the time of making the choice of appropriate tools.

There were, however, some social or economic problems reported or discussed (eg [UB]). These were mainly about supporting students outside the institution which may mean that some students do not have access to technology at home ([SC], [CL]). In most cases the problem was that students either do not have their own equipment or they have equipment with a lower specification. For example, Second Life can only run on a computer, which is connected to broadband, and has a graphics card of a very high specification.

Are there issues of assessment in courses, which use social software?

Assessment of the activities: There is some reluctance to have formal assessment of the students' activities in social software tools – especially when the initiative is first launched ([BCU1], [ARU]) especially if the tool(s) are not within the institution's VLE or control, or are in the public domain. Further, if the activity is performed in a common learning space by the students, there is a fear that they might delete one another's work, or attribute others' work as their own [SU].

At [UW], educators and students was advised not to use Elgg for assessment because it was still at the pilot stage and the system was not backed up daily unlike the university's VLE. In [SC], the use of Flickr was not assessed for the course in the initiative. At [ARU], a relationship between performance on the course and use of the tool was noted but not directly assessed: 'Those students who explored Second Life more than others ... tended to get better results.'

In [OU2], the assessment was linked to the wiki activities, as the wiki being used was a VLE tool. Also, the course team felt that the distance-learning students on the course would not use the tool and carry out activities if the usage of the tool was not linked to assessment. A significant advantage of the wiki is that it records every change to the web pages (through the history feature of the wiki), which means that there is evidence of each student's contribution.

In [LSBU], the end products such as the photo-book production, conducting online activities and reflections in the blog are assessed. In [NTU], although students were asked to keep reflective blogs, they were asked to submit a reflective report for assessment, not the blog itself. At [UH], students created podcasts, which were uploaded within the university's MLE. These podcasts were peer-assessed. In [US], the assessment is based on the blogs and wikis students produce. In [UL], the use of social software (wikis, blogs and social bookmarking) was assessed.

Educators' uncertainty about assessing the use of social software is partly because they are unwilling to rely on externally hosted software, in case technical problems arise at a critical point for the assessment. Certain facilities such as the enforcement of assignment deadlines are not available within social software environments in the public domain [OU1]. Educators' uncertainty about directly assessing social software use may perhaps also result from a feeling that individual assessment is not in line with the collaborative ethos of social software [BCU1].

An issue that is related to assessment is group size in collaborative activities.

Group size: In [OU1], the course team decided to have small groups so that each one of the students was able to comment on the photographs of the others in the group. It was surmised that, If it were a large group, only the really good photographs would probably have received the comments. The students also felt that it was 'less daunting' to work in a small group rather than in the entire community (all the students on the course).

In [OU2], also the students were in groups of six to eight students to be manageable for the students (for liaising and negotiating) and for the tutors (for monitoring the activities of individual students) in collaborative-writing tasks.

Associated sections and appendices to this section

The methodology for data collection and analysis is described in Section 4. In Section 5, and in Tables 5.1 and 5.2, the summaries of the case studies are given, and the document is available at <http://tinyurl.com/5a8zu3> which has the case studies in full.

The conclusions from the data are summarised in Section 7; the limitations of our study are discussed in Section 8, and the generic recommendations are given in the Section 9.

7 Conclusions

We have drawn out some key findings from our investigations reported in Section 6. In this section, we discuss these findings, which relate to the benefits and challenges that organisations (policy makers), educators, and students will experience in a social software initiative.

7.1 Benefits to the organisations

Student retention: There are several instances which we came across in our investigations where early signs of a student struggling were picked up in formal and informal contributions on social tools and early interventions meant that students were provided with support and help before it was too late.

Image-building: To be at the forefront of adopting digital technologies in courses and programmes not only attracts students but also is perceived by external bodies as being forward looking.

Alumni community building: In two of the case studies that we investigated we found that students, who had worked collaboratively using social software on courses, went on to form alumni groups at the end of the course to keep the conversation and dialogue flowing.

7.2 Challenges to the organisations

The tension between social software tools in the public domain and the VLE: If the tools used by educators are not within the institution's VLE, then continuity of the service, its reliability and maintenance, and whether it should be employed in assessment are just some of the concerns that policy makers within an organisation have. The lack of control of an external service is of concern, as the service to the students cannot be guaranteed unless formal agreements are set up with external providers.

Policies about the usage of social software tools for both educators and students: We did not come across any formal policies that an organisation had set up about how these tools should be used and what were the expected norms – even when the students' contributions were being made in public groups (for example, on Flickr or on Facebook).

Firewalls and access to tools in the public domain: Access to some social software tools, such as Skype or Second Life, may require altering the firewall mechanisms. The security risks to the institution's network systems are of concern to the organisations.

7.3 Benefits to the educators

Being able to track student's process and intervene early: Educators are now able to keep a track of the group's or an individual student's progress and intervene before the formal assessment.

Being able to review students' contributions: Educators are able to see the questions that students want to find an answer to prior to a tutorial which enables the educator to make a more effective plan for a tutorial.

Being able to teach interactively rather than broadcast: Some courses and activities require students to have a conversation and dialogue, and now there are tools such as a wiki to discuss collaboratively and create resources. Students can create podcasts themselves to learn communication skills and receive feedback from peers and the educator.

7.4 Challenges to the educators

Changing the way they teach: Students who belong to the digital generation expect to talk back, and have a conversation. They want their education to be relevant to the real world; they want it to be interesting, even fun. Therefore, educators face the challenge of continuing to 'broadcast' lectures as well as using 'conversational' social software supported methods to motivate, empower and enthuse the students.

Diverse needs of students: While supporting students who have grown digitally and who prefer a more participatory approach to education, the education system still has to cater for the needs of those students who may not have had the resources (availability of computers, broadband) to be able to grow as 'Net Geners' (from the net generation). Some of these students may still prefer a 'broadcast approach' of teaching and may be unfamiliar with the social networking phenomenon.

Designing and assessing learning activities: Even though the case studies investigated in this study provide several examples of effective use of social software tools for different purposes, there is currently little (formal) guidance for educators to assist them with the design and assessment of learning activities for the social software toolkit. So unless there are personal initiatives (as the majority of our case studies are), educators may find it difficult to determine the role the tools can play and how they can be effectively employed. Further, designing assessment can be extremely challenging; counting the number of comments on a blog post may not be an effective indicator of a student's contribution if the comments are not insightful enough.

Workload issues: Some of the case studies suggested that the planning, launch and maintenance of a social software initiative can be very time consuming. Further, some educators suggested that it was difficult to keep a track of everyone's progress (30 blogs on a course is not unusual) if there is formal assessment along with using social software tools. However, other case studies are exactly the opposite (the initiative did not take much time to organise or has saved time overall and assessment is practical and not unreasonably time consuming. Tools such as RSS feeds can help in tracking the updates but better reporting tools (for example, who has contributed on the wiki, what and when, instead of scanning the history on the wiki) and integration of support for assessment into social software tools would help to reduce the burden on the educator.

Perceived role of the educator: The role of an educator becomes facilitative, (ie more like a mentor) when social software tools are employed. This perception might be in conflict with that of the educator's who may still see his (or her) role as 'delivering' education and instruction.

7.5 Benefits to the students

Collaborative and peer-to-peer learning: Students learn by looking at the contributions of other students in the collaborative working space such as wiki or a

group blog, by seeing the different approaches that others take, and by reflecting on their own contributions. Through conversations and dialogue, they are better able to internalise their learning. Students also tend to comment on other contributions and provide support and critical feedback.

Gaining transferable skills for work environments: Social software tools are increasingly being used in the workplace, for example, wikis as intranets, blogs for marketing, podcasts for customer education, web conferencing for meetings, and social networking groups for campaigns, and for conducting surveys. If students learn to use these tools and are aware of their potential, then they will not only be able to use and adopt new technologies with ease but will also feel confident when taking decisions about which tools should be used for what purpose. In addition, using social software tools assists students develop team-working skills and online collaboration and communication skills, which will help them to fit easily into work settings.

Developing an e-portfolio for future employment: The outputs of their studies, eg essays, poems, records of their skills audits and skill development, are portable if they are in tools such as wikis and blogs, and can be shown to prospective employers.

Collation of resources: Social bookmarking facilities can enable the students to collate their resources over a period of time and across courses and institutions.

7.6 Challenges to the students

Group working in collaborative authoring spaces: When students work in groups and contribute collaboratively in a space such as a wiki or a group blog, there are concerns about everybody not contributing equally and, therefore, there are questions or concerns about the ownership of the resulting product. However, the same problem is reported in all group-working situations whether or not they are technologically mediated. Further, the students may not benefit from the collaborative activity if most students do not contribute. Mechanisms such as the history in a wiki can track individual contributions but it requires monitoring by the educator. A more general solution is to design the assessment in a way that rewards group and individual contributions.

Most organisations require their employees to work in groups and there will always be people who do not make as great a contribution to the group as others, so learning how to recognise and manage this situation is arguably a useful life lesson.

Deriving value from the tools: The value from social software tools comes only if there is participation by the group. If a student does not receive comments from his peers on his blog, or on his photographs on Flickr, then he may not derive the intended value from contributing on these tools.

Learning new tools: Unlike an institutional VLE, as new tools evolve and educators experiment with them, students might be using different tools on different courses, and this would require them to learn to use these tools, taking up time and effort, and perhaps diverting them from the actual learning activities that they are supposed to conduct using these tools. On the other hand, learning the tools helps to equip them with knowledge which can be used later.

Pedagogy vs. technology: If students are not able to understand the role the technology plays in their learning or if there is a steep learning curve for the

technology or the usability of the tool is poor, they will have an unsatisfying experience and may feel that the technology is 'getting in their way'.

Concerns about their materials in the public domain: Some students have concerns about their contributions on these tools being in the public domain (eg a public-facing blog). Some students even have concerns about sharing their reflections and ideas even with peers (eg being worried that somebody else would take their ideas). Even when the ethos of the social software tools is to be collaborative, the individual assessment is still seen as competitive by some students.

Invasion of students' social spaces: Students are not always willing for institutions to enter their social spaces such as Facebook, or being asked to make a tutor their 'friend' on a social networking site. Some students are keen to keep the personal (social) and academic spaces apart. However, most case studies concluded that there were few, if any, problems of this sort.

Preference for individualistic learning rather than collaborative learning: Adult learners or part-time learners who are handling work and studies at the same time generally prefer learning at their own pace and in their own time. They can be resistant to collaborative work as it means that they may have to work at a time that suits others, a commitment which they may find hard to meet.

Associated sections and appendices to this section

The methodology for data collection and analysis is described in Section 4. In Section 5 and in Tables 5.1 and 5.2, summaries of the case studies are given, and the document is available at <http://tinyurl.com/5a8zu3> which has the full case studies.

The implications of our study and its limitations are discussed in Section 8, and the generic recommendations are given in Section 9.

8 Implications

This JISC-funded report and set of case studies (available at <http://tinyurl.com/5a8zu3>) have helped to bring together experiences with social software of several colleagues in the HE and FE institutions in the UK. We are hopeful that their stories, experiences and inputs will guide and inspire colleagues within the educational community who are interested in adopting social software in learning and teaching. Readers of this report can also apply and adapt the case study methodology, discussed in this report, in their research contexts.

A comparison of the literature review and findings of the study is presented in this section. Then, we discuss the limitations of the study and propose solutions for overcoming those limitations to take this work forward. We also propose some ideas for using social software tools for involving the community in sharing experiences and case studies.

8.1 Comparison of the literature review with the findings of this study

The findings of the case studies seem to be largely, although not entirely, in agreement with previous research as discussed in the literature review (Appendix 3); what follows are some observations on the similarities.

Public domain versus Virtual Learning Environments (VLEs)

The literature review discussed the potential conflict between the opportunities provided by exposing learners to public internet content and the comparative safety of the 'walled garden' VLE of the institution. This potential conflict was also borne out in the case studies. For example in [OU1], the team developed and used the OpenStudio tool to upload and share photographs rather than use Flickr so that the site would be available only to students registered on the course and to authorised staff members. The main reasons given for the rejection of Flickr were that the university could not control the use of the public facility and that it could not be integrated sufficiently into the assessment system.

There was more general concern that educational organisations had no control over public sites, eg the software providing the service could change or the site could be become unavailable. This could become a serious issue if assessment were involved. In reality, the popularity of the sites usually meant that they were well maintained and backed up so the probability of loss of service or data was low; none the less, the worry remained. Some students had concerns about their contributions being in the public domain but on the other hand, exposure to a public site allowed learners to showcase a portfolio of their work to potential future employers.

Student retention

The literature review comments on the motivation for distance learners in particular to move from the lonely isolation of self-paced learning into a learning community of inquiry providing mutual support (Anderson, 2005). A number of the case studies provided firm evidence of the positive impact of social tools on student retention, as students who were struggling were picked up in formal and informal contributions on social tools and offered support. Several cases studies identified the development of

communities of learners who, in some instances, stayed in touch after completing the course.

Assessment

The literature reviewed concluded that there could be a problem with assessment in that teachers are expected to mark the work of an individual student but this may prove to be very difficult for collaborative work. The lack of assessment proved to be an issue in a number of the case studies showing that this area is perhaps still somewhat immature in its development.

Policies about the usage of social software tools

Both the literature reviewed and the case studies identify the advantages of 'learner-centredness' and how collaborative and peer-to-peer learning allow learners to internalise their learning. This approach results in the tutor being a facilitator for learning, rather than a provider of information. However as the case studies illustrate, the success of the projects is very much dependent on the enthusiasm and drive of committed tutors, with none of the case studies reporting coherent institutional policies about the usage of social software tools for either educators or students.

Team working and online collaboration skills

In both [OU2] (wiki) and [US] (blogs, wikis, podcasts), the respective course teams postulated that developing team-working skills will help the students practise 'real life' skills and become familiar with the online collaboration and communication tools that are significant for a career in industry. This is wholly in line with the observation in the literature review: 'In addition to higher quality learning outcomes, participants in the process benefit from both peer recognition and peer review, both excellent preparation for more modern collaborative teamwork' (Crook et al, 2008).

8.2 Limitations of our study

The limitations relate to the methodology, the extent of investigations that we carried out, and the data, which we have collected.

Case study methodology

A common concern about case studies is that they provide little basis for scientific generalisation (Yin, 2009). In our study also, we have not been able to enumerate frequencies and draw out statistical generalisations, although we have made an attempt to draw out analytical generalisations in Sections 6 and 7 of this report.

One of the features of case study methodology is that there should be multiple sources of evidence, with data derived by different techniques and related to a variety of stakeholders (Robson, 2002). In this study, the data collection has been primarily through interviews and visits to the participating institutions though we have made every effort to talk to both educators and students. In some of the case studies, we had access to papers presented in conferences or workshops, internal reports, and brief access to students' materials. Therefore, not every case study is based on multiple sources of evidence.

In some of the smaller initiatives, we were only able to meet one or two educators and a group of students. We were not able to speak to the policy makers or stakeholders at decision-making levels, who would otherwise have a strong influence

for the sustainability of smaller initiatives and for adopting them at the institutional level.

Case studies are ‘snapshots’

The investigations have been conducted on the ‘current’ situation and the data that we have elicited is not through longitudinal studies, ie making observations over a long period of time. As a result, even though we have drawn out generalisations, the case studies should be considered ‘snapshots’ which are reporting the situation when the data was collected.

Qualitative data analysis

The data analysis in this study has been qualitative and has been driven by the primary objective of the study: whether and how the social software initiatives enabled student learning and engagement. We have identified the themes and sub-themes in the data related to the factors which have influenced the initiatives. The case studies were quite different from one another in terms of the nature and extent of the initiatives. In addition, since the data collection was over a short period of time, the interview data was not amenable for drawing out quantitative conclusions (for example, statements such as 10 students from the 15 on the module rated their satisfaction as 4 on a Likert scale* from 1 to 5).

Bias of the investigators

In this project, one consultant investigated a case study rather than two or three consultants working together. Although each participating institution validated its case study twice, there is a possibility that an investigator’s biases such as attitude towards social software and personal experiences or background may have influenced data collection.

8.3 Taking the study further

Case study methodology

To address the limitations of the methodology outlined earlier in this section, it would be useful to carry out investigations using multiple techniques for data collection and analysis during the development of a case study. Also, it would be useful to carry out longitudinal studies over a period of time involving two or more consultants with the aim of: avoiding individual consultant’s biases; capturing the changes in experiences and perceptions of the initiative over time; observing how the initiative evolved, and if the initiative was able to sustain itself.

A significant requirement for any future research is the need to obtain quantitative evidence relating to the effectiveness of the use of social software. Such evidence would be of considerable assistance to institutional policy makers and to individual educators considering the introduction of social software.

Creating a community of interest

There are various ways to initiate dialogue and networking:

- A social networking site (for example, based on Ning or Elgg) may provide a platform for an online community to share their experiences, and contribute ‘case studies’

* http://en.wikipedia.org/wiki/Likert_scale

- A wiki may help to consolidate a toolkit of research methods for conducting the evaluation of students' and educators' experiences, student learning and performance
- A group on a social bookmarking site may help to collect and consolidate resources (eg books, reports, web links, podcasts, presentations) on social software
- An annual online conference would help in networking and sharing of experiences

Associated sections and appendices to this section

The methodology for data collection and analysis is described in Section 4. The key contributions of our study and generic recommendations for launching and conducting a social software initiative are given in Sections 7 and 9, respectively.

9 Recommendations

As discussed in Section 6 of the report, there are wide-ranging factors that influence the success of a social software initiative. Therefore, there are no set procedures or guidelines that, if followed, will guarantee the success of a social software initiative. In this section, we outline principles, which we believe will apply to an initiative and will guide you.

9.1 Be learner-centred

The initiative should be learner-centred: meeting learners' requirements and providing them with a positive and empowering experience. The technology should support the learning activities and outcomes of the course or programme.

9.2 Consider the impact on staff

It is important to consider how all staff will be affected by any initiative. For example, a technical support team may have to support another tool; or a helpdesk may receive queries from students and others involved and the associated staff will need the requisite training and resources to support the students. What is important is that policy decisions about the expected involvement of all staff are taken.

9.3 Identify your key stakeholders

The key stakeholders will include students, technical support teams, departmental heads, and colleagues who are involved with the learning and teaching strategy of the organisation. It will be useful to communicate with them regularly as they may not only offer support to the initiative but also give ideas. They will help you to understand the requirements from multiple perspectives.

9.4 Be convinced yourself

In almost all the initiatives that we investigated in this report, the educators were passionate about the tool and were convinced of its significance in learning, teaching, and student engagement. Therefore, only if you are yourself convinced that the initiative is worthwhile, should you proceed with it.

9.5 Be prepared to spend time

The introduction of any initiative requires the allocation of time and resources for: planning for designing, conducting and evaluating the initiative, communicating with a variety of stakeholders, choosing a particular tool; designing the educational activities. It is necessary to ensure that sufficient resources are allocated to an initiative.

9.6 Do not hesitate to learn from others

There may be colleagues within your institution who have already used the same tool or have faced similar challenges. There will almost certainly be colleagues in other institutions who have relevant experience (as can be seen from the case studies). Talking to colleagues who have had similar experiences is helpful as there are several minor details of any initiative, which the reported case studies could not, or did not, capture but which can be elicited in conversations or by sharing concerns.

The case studies accompanying this report are intended to provide useful insights into a variety of initiatives and should be a very useful resource for learning from experiences of others.

9.7 Keep a log of the experiences

Keeping a regular log of the activities and your experiences with the initiative will be useful for self-reflection and for sharing experiences with others during and after the project. This regular log could be maintained in a tool, such as wiki or blog, which could be made accessible to all or to selected group of stakeholders.

9.8 Be willing to disseminate

Do not wait to write a journal paper! It would be good to share your experiences and efforts from early on – whether they are internal seminars, departmental meetings, and lunchtime talks in your institutions. The more you discuss and share your experiences with others, the more support and ideas will flow your way.

9.9 Be prepared to monitor and intervene

Our investigations have shown that constant monitoring of students' experiences and timely interventions play a significant role in the success of the initiative. This, of course, has resource implications and you would have to be prepared to spend time to 'be there'.

9.10 Evaluate the initiative

All the successful case studies indicate that it is important to elicit students' and educator' perceptions and experiences and to evaluate them. The evaluations can help to iteratively improve the initiative in terms of activities, choice of the tool, training and support, and so on. Further, evaluations and iterative improvement of the initiative will enhance its potential for sustainability and transferability. Depending on the context of an individual initiative, a variety of techniques may be applied to collect feedback: reflective journals or diaries, surveys, interviews, questionnaires, and focus groups.

To draw out both analytical and statistical generalisations, collect both qualitative and quantitative evidence, over a period of time. Thorough evaluations will be helpful in convincing the institution. They would also facilitate transferability of the initiative, and will be useful for the community.

9.11 Be prepared to adapt and change

The landscape of social software tools is emerging and changing, and so are students' choices of tools and their expectations of the tools. However, the experiences with a set of tools can be carried over to other initiatives with a different set of 'new' tools, if there has been a thorough process of evaluation and learning from the evaluations (as suggested in strategy 9.10 above).

One educator summed up their experiences as follows: 'I think that you just have to give these things time, use them and try and build up experience and expertise and disseminate this expertise.'

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Study Name/Acronym: SOCIAL-SW

Version: 1.0

Contact: Dr. Shailey Minocha

Date: 30/01/2009 19:14

Yin, R.K. (2009) Case Study Research, Design and Methods (4th edn), Thousand Oaks, CA, Sage Publications.

11 Appendices

Appendix 1

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Appendix 3

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Appendix 4

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Case Study Research Methodology

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Reporting Template for the Case Study

Appendix 4.7

Telephone Interview Template

Appendix 4.8

Case Study Presentation Template (main case study)

Appendix 4.9

Case Study Presentation Template (mini case study)

Appendix 1: Background reading

The Section 10 (References) of the report has a list of resources that have been directly referred to in the report. The literature review in Appendix 3 has another list of reference. In this Appendix, we have listed the key reports, online resources and books which we found useful as background reading for the project.

Key reports and online resources related to this project:

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Appendix 2: Glossary

In this glossary, we use the term '*service*' to refer to a web site or other service, which provides a social software tool (also referred to as '*tool*'). We use the term '*framework*' to refer to a package for creating a service, which can be downloaded and used on a server. Where services or frameworks are publicly available, we have shown the web links from which they can be accessed. All the links were last accessed on 29th December 2008. The phrase 'see...', in an entry points you to an associated term in the glossary.

Our aim in this glossary has to been to provide some key definitions of social software aspects, tools and services. This glossary is not meant to be an exhaustive catalogue of definitions of all the different tools that are covered in the case studies (those tools or services are explained in the respective case studies).

Bibsonomy	A social bookmarking service. http://www.bibsonomy.org/ ; see Social bookmarking.
Blinklist	A social bookmarking service. http://www.blinklist.com/ ; see Social bookmarking.
Blog	Short for 'web log', this tool allows an author to publish their thoughts or diary. Entries can be 'tagged' with appropriate keywords so that related entries or posts can be brought together. In some blog services, the access to entries can be controlled to readers: to certain individuals, or to the public. Other users are typically able to add their own comments to the posts. Blogger, Edublogs, Wordpress are publicly available blogging services.
Blogger	A blogging service. http://www.blogger.com/ ; see Blog
Delicious	A social bookmarking service. http://delicious.com/ ; see Social bookmarking
EduBlogs	A blogging service for teachers and students. http://edublogs.org/ ; see Blog
Elgg	An open source framework for creating social networking sites. http://elgg.org/ , see Social networking
e-portfolio	An e-portfolio is a purposeful collection of online items - ideas, evidence, reflections, feedback etc, which 'presents' a selected audience with evidence of a person's learning and/or ability. The tool often includes some element of blogging, forum, tagging, and social bookmarking. See Print on demand, Media sharing and Photo sharing.
Facebook	A social networking service. http://www.facebook.com/ ; see Social networking

Flickr	A photo sharing service. http://flickr.com ; see Media sharing and Photo sharing
Forum	Also known as newsgroups, these tools allow users to post information and others to respond. Typically a forum is 'threaded', which means that conversations can be structured in a crude tree form.
Furl	A social bookmarking service. http://www.furl.net/ ; see Social bookmarking
Instant messaging	Instant messaging (IM) is a communication service, which allows users to exchange short text strings with one another in real time and over the Internet. The communication is analogous to a telephone conversation but using text-based rather than voice-based communication. Conversations can be one-to-one or in groups known as 'chat rooms'. Typically, the IM system alerts you whenever somebody on your private list is online. You can then initiate a chat session with that particular individual. Well-known examples of instant messaging services are MSN Web Messenger and Yahoo Messenger.
Lulu.com	Lulu.com is a print-on-demand service, which allows users to publish and sell print-on-demand e-books, online music and images, custom calendars and e-books to others. http://www.lulu.com/
Managed Learning Environment	See Virtual Learning Environment
Media Sharing	There are sites that allow people to post and then share photos, videos, podcasts, and slides. For example, Flickr (http://www.flickr.com) can be used for sharing photographs, YouTube (http://www.youtube.com) for videos, iTunes (http://www.apple.com/itunes/) for podcasts, Slideshare (http://www.slideshare.net) for presentations and scribd (http://www.scribd.com) for documents.
MediaWiki	A service for creating a wiki. http://www.mediawiki.org/ ; see wiki
Moodle	Moodle is free open-source framework designed to help educators create a Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). http://moodle.org ; see Virtual Learning Environment.
Multi User Virtual Environment (MUVE)	A service, which allows users to be represented in a virtual space as a 3D character called an 'avatar'. Typically users move their avatars around a 3D environment, which is either realistic or has elements of fantasy in its design. A prominent example of a 3-D MUVE is Second Life; see Virtual

	World and Second Life.
Ning	A social networking framework. http://www.ning.com/ , which allows users to set up their own social network sites; Ning has also been considered as an alternative to an institutional VLE; see Virtual Learning Environment (VLE).
Open Studio	A course-specific photo-sharing site developed at the Open University (in its ethos and functionality, it is very similar to Flickr); see Flickr and Media sharing.
pbWiki	Pbwiki (PeanutButter wiki), a wiki service http://pbwiki.com/ ; see Wiki
Photo sharing	A variation of the e-portfolio, these tools provide a mixture of tagging and a forum (for comments), which facilitates sharing photographs. Flickr is a prominent example of this type of tool.
Podcast	Podcasts are audio recordings, usually in MP3 format, of talks, interviews and lectures, which can be played either on a desktop computer or on a wide range of handheld MP3 devices.
Print on demand	A service, which lets a user assemble some printable content and then print copies of that content when required. Some services also allow user to print content created by other users; see lulu.com.
RSS, Syndication and Aggregation	<p>RSS (Really Simple Syndication) is a family of formats, which allow users to find out about updates to the content of RSS-enabled websites, blogs or podcasts without actually having to go and visit the site. Instead, information from the website (typically, a new story's title and synopsis, along with the originating website's name) is collected within a feed (which uses the RSS format) and 'piped' to the user in a process known as syndication.</p> <p>In order to be able to use a feed a prospective user must install a software tool known as an aggregator or feed reader, onto their computer desktop. Once this has been done, the user must decide which RSS feeds they want to receive and then subscribe to them. The client software will then periodically check for updates to the RSS feed and keep the user informed of any changes.</p>
Second Life	A 3-D Multi User Virtual Environment (MUVE), which allows users to develop their own content within it. http://www.secondlife.com/ ; see Multi User Virtual Environment and Virtual World
Simpy	A social bookmarking service. http://www.simpy.com/ ; see Social bookmarking
Skype and	Skype is a way to make free phone calls to anyone anywhere

Skypecast	in the world, using a microphone and an Internet connection. Skype is a Voice over Internet Protocol (VOIP) service provider that offers free calling between subscribers and low-cost calling to people who don't use the service. In addition to standard telephone calls, Skype enables file transfers, texting video chat and videoconferencing. Skypecast is a service, which allows VOIP calls to have a large number of participants. http://skypecasts.skype.com/ ; see VOIP.
Social bookmarking	A tool, which allows users to gather and share their bookmarks. The entries can typically be tagged so that they can be grouped together in some useful way. Users benefit by knowing which bookmarks others have found useful, as it is possible to see who else has bookmarked the same site, and therefore, may be interested in the same topic. This can help in locating related resources and people interested in that topic. Bibsonomy, Blinklist, Delicious and Simpy are some examples.
Social networking	A service, which allows users to connect with their friends or colleagues through creation of online communities. Most services include a variety of tools such as personal home pages, blogs and discussion groups. Facebook is a prominent example of a social networking service, which has a strong student base. MySpace (media-oriented and popular amongst artists) and Bebo (popular amongst teenagers) are some other examples.
Social software	Social software is software that allows people to interact and collaborate online. It may also aggregate the actions of networked users. An alternative definition in the literature is: networked tools that support and encourage individuals to learn together whilst retaining individual control over their time, space, presence, activity, identity and relationship.
StudyNet.	StudyNet is an example of a Managed Learning Environment and intranet; see Virtual Learning Environment
Tagging	A mechanism for associating keywords (tags) with contents (e.g., a bookmark, picture, video clip) to describe the contents, but not as part of a formal classification system. The idea of tagging has been expanded to include what are called tag clouds: groups of tags (tag sets) from a number of different users of a tagging service, which collates information about the frequency with which particular tags are used. This frequency information is often displayed graphically as a 'cloud' in which tags with higher frequency of use are displayed in larger text.
Twitter	Twitter is a free social networking and micro-blogging service that allows its users to send and read other users' updates (otherwise known as tweets), which are text-based posts of

	up to 140 characters in length. It is a minimalist social networking service where users report their current status and watch the status of others. http://twitter.com/ ; see Social networking and Blog.
Virtual Learning Environment	A service, which helps educators to create effective online learning communities. A typical virtual learning environment (VLE) will have features such as enrolment, blogs, wikis, podcasts, and various discussion tools. Also known as a Managed Learning Environment (MLE) or Course Management System (CMS), or a Learning Management System (LMS).
Virtual world	Also referred to as a Multi-User Virtual Environment (MUVE); see MUVE and Second Life
Voice over Internet Protocol (VOIP)	It is a set of facilities used to manage delivery of voice content to one or more users over the Internet. VoIP offers a substantial cost savings over traditional long distance telephone calls. Skype is a prominent example of this; see Skype
Web 2.0	Web 2.0 is called the 'read/write' Web. Whereas 'Web 1.0' was about making information available, where the owner of a web site publishes information and the user (reader) can view or listen to the content. In Web 2.0, users and readers can also contribute to these web sites. Web 2.0 emphasizes online collaboration and sharing among users, allowing users to build connections between one another.
Wiki	A tool that enables the collaborative creation of web pages. A wiki can record all the changes that have been made to the pages and the contributor (group-member) who has made each change. A Wiki also has a roll-back feature which allows the changes to be reverted so that previous versions can be restored. Wikipedia is a well-known example of the use of a Wiki; see MediaWiki and pbWiki.
WordPress	A blogging service. http://wordpress.com/ ; see Blog

Appendix 3: Literature Review

This appendix reviews recent literature on the subject of employing Web 2.0 methods and tools in education. Necessarily, what has been published is comparatively current, since the term Web 2.0 itself was coined in the title of O'Reilly's Media conference only in 2004. We do not attempt to cover what has already been extremely well documented by, for example, Mason and Rennie (2008). Instead this review analyses the papers that have been published in academic journals and, perhaps inevitably given the subject, the material that has been written and presented in blogs, wikis and online videos on the World Wide Web, the natural place for discussing social software.

This appendix is written from the viewpoint of an educator and aims to answer the following questions:

1. What are the characteristics of Web 2.0 methods and tools that make them 'social'?
2. What are the theoretical underpinnings of using Web 2.0 methods and tools in education? How does the 'social' nature of the tools align with standard learning theories (e.g. constructivism, behaviourism etc.)?
3. What are the benefits to students and educators of using Web 2.0 methods and tools in learning and teaching, respectively?
4. What are the issues/problems/disadvantages of using Web 2.0 methods and tools? For example, are some students hesitant to blog because of fear of loss of privacy or what others might think of them?
5. Which Web 2.0 methods and tools are most appropriate for which kinds of activities?
6. Is there a link between the student skills and Web 2.0 methods and tools? For example, skills of communication, writing, team-working, group-working, collaboration, and so on.

In an attempt to address these questions in a systematic manner, the Appendix itself is structured into the 5 subsections listed below.

- A. an assessment of the use of Web 2.0 methods and tools in education against an analytical framework of Kipling's six "serving men".
- B. an assessment of the reported experience of uses of educational social software in higher education
- C. a consideration of the risks and opportunities presented by adopting Web 2.0 into educational practice, and
- D. an examination of quality issues from three perspectives 'achieving quality', 'controlling quality' and 'preserving quality'.
- E. answers to the original 6 questions (above) based on the information obtained from the preceding five sub-sections.

Analytical Framework

According to Kipling:

*I keep six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.*

These 6 questions can be used to analyse the arguments, both for and against, relating to the adoption of Web 2.0 in education. They have previously been used as one dimension for developing the Enterprise Architecture of Information Systems according to the Zachman framework (Sowa and Zachman, 1992).

1. Why – the motivating factors for using Web 2.0 in education

According to Leslie and Landon (2008) students already use Web 2.0 so if “you can’t beat them, help them” (quoted in Mason and Rennie (2008)). Trinder et al (2008) report on the many ways learners (termed ‘digital natives’) are using technology to meet their needs e.g. using mobile phones to capture photographs for projects and then sharing them with fellow students. Students were found to be using popular communication tools such as Short Messaging Service (SMS), MSN Messenger, Skype and social networking sites such as MySpace, Bebo or Facebook. Meanwhile, many of the teaching staff (termed ‘digital immigrants’) may not be so familiar with the range of technologies available and Trinder et al (2008) emphasize the need for developing the e-skills of teaching staff.

The rationale underpinning social networking is the virtuous circle of

1. generating something of personal use
2. which benefits the larger network as a whole,
3. which in turn creates additional value for the original user.

Leslie and Landon (2008) go on to argue that this approach aligns well with “learner-centricity”. Because people can communicate with other practitioners in the field, they can move beyond the more limited circle of their immediate contacts. Leslie and Landon observe that people desire to form groups in order to support their learning and that social networking helps to create both an environment and an infrastructure for “informal and borderless learning”. They quote Cross’s talk on YouTube (Cross, 2006) that although 80% of learning is informal, 80% of the educational budget is expended on formalized ways of teaching and learning, in order to argue for capitalizing on informal learning as representing a better balance of investment in education.

Anderson (2005) comments on the motivation for distance learners in particular to move from the lonely isolation of self-paced learning into a learning community of inquiry providing mutual support. He describes Educational Social Software (ESS) as a set of networked tools that support and encourage individuals to learn together while retaining individual control over their time, space, presence, activity, identity and relationship. Butterfield (2003) in his personal blog similarly characterizes social software as tools that support communication using the five ‘devices’ of identity, presence, relationships, conversations and groups.

Distance learning is considered by Kamel Boulos and Wheeler (2007) who comment on how students can feel socially isolated if they are geographically distant from teachers or fellow students and/or studying during unsociable hours and that this isolation can pose a significant barrier for some learners. They state that Web 2.0 encourages a more human approach to interactivity on the Web, supports group interaction better and fosters a greater sense of community. Web 2.0 encourages

more active learning and enables feedback from tutors to learners, this tutor-student interaction further increasing student motivation.

Mejias (2006) describes the use of social networks to facilitate *distributed research*, having the advantages of both engaging students in 'learning to learn' and developing the practical research skills needed to make best use of online information networks. He makes the further point that 'the power of many' exposes an individual to far more research, resources and ideas than they could possibly generate on their own.

The underlying pedagogy is considered by Dalsgaard (2006) who argues that social software tools can support a social constructivist approach to e-learning by providing students with personal tools and engaging them in social networks, thus allowing learners to direct their own problem-solving process. Social constructivism emphasizes the importance of the learner being actively involved in the learning process, unlike other educational viewpoints where the responsibility rests with the teacher to deliver knowledge while the learner passively receives it.

Web 2.0 seems to match well with modern thinking about educational practice. In particular, it promises learners of new opportunities to be independent in their study and research. Web 2.0 tools encourage a wider range of expressive capability. They facilitate more collaborative ways of working and they furnish a setting for learner achievements to attract an authentic audience. To encourage these possibilities, Web 2.0 tools have evolved that create distinctive forms of support for learning and for independent research. Developing the skills of problem solving, research and collaborative working equips students well for the world of work.

The motivation for using Web 2.0 tools and technologies is not restricted to higher education. Becta, the UK government's agency promoting the use of ICT (information and communications technology) published a report on the use of Web 2.0 technologies for learning at Key Stages 3 and 4 (for secondary school students aged 11-16) in which "intersubjectivity" was identified as one of the main human drivers for Web 2.0 growth (Becta 2008). Web 2.0 is seen to accord with modern views on the deeply social nature of human mentality, no matter what the age of students. This is evidenced by the 'Flat Classroom Project' (2006) and its sister 'Horizon Project' (2008). The Flat Classroom Project was a collaborative venture between a grade 11 IT class at International School Dhaka in Bangladesh, and a 10th grade Computer Science class at Westwood Schools in Camilla, Georgia, USA, involving the successful use of photo tags, blogs, wikis and podcasting. By structuring the exercise with assessments and tight deadlines, the students were found to be more motivated; consequently learning was increased.

2. What – exactly is Web 2.0?

MacDonald (2007) in his wiki entry at The University of Edinburgh entitled 'The Web 2.0 Advantage' identifies the distinguishing feature of Web 2.0 as being a bidirectional medium where content (text, image, audio or video) is contributed by people who interact with the website as well as people and organizations who manage the site; he terms Web 2.0 the "read/write web" and lists and describes the main tools available, including blogs, wikis, podcasts and social tags.

A blog is commentary or news on a particular subject or from a particular perspective in the role of an online diary. A typical blog combines text, images, and links to other blogs. The origins of blogging might in the Usenet; the term *blog* was coined in 1999

as a contraction of *weblog* a term itself first used in 1997. Franklin and van Harmelen (2007) include the following examples of the educational uses of blogs:

1. A group of bloggers using their individual blogs to build up a body of interrelated knowledge via posts and comments. This might be a group of learners in a class, encouraged and facilitated by a teacher, or a group of relatively dedicated life-long learners.
2. Teachers using a blog for course announcements, news and feedback to students.

Certain Web 2.0 tools allow more collaborative work than others. Dalsgaard (2006) considers that a blog primarily supports individual work on the web but when it is related to other blogs it becomes social; thus networked communities are formed. In his assessment, wikis are more collaborative and so are regarded as true social networking tools; the most famous being www.wikipedia.org. He argues that learners should be provided with a toolbox, allowing them opportunities to organize and participate in various collaborative networks for different contexts. He cautions against interpreting this to mean just letting students loose on the web, instead suggesting that different networks can be organised by an educational institution to facilitate collaboration between learners and tutors associated with the same course. However it is important that each student ultimately takes charge of their own learning as learning can be facilitated but not pre-determined.

3. Who – in education benefits from Web 2.0?

Becta (2008) describes how UK universities have been vigorous in adopting both blogs and wikis e.g. Newport University's 'Mylearning Essentials' (Newport 2008) provides an on-line learning environment for students, offering University news, course materials, e-mail, file storage, library resources, information about the University facilities and services and study skills materials plus facilities to blog, ask questions and share photographs.

Warwick University has been offering blog space since 2004 (Warwick blog 2008), which is available to all students, teachers and staff. These journals are openly readable. John Dale, Warwick's IT Manager, explained in a Guardian article (2006) "the idea behind it was publishing for all with the hope that once students start blogging it could build a community, foster collaboration and perhaps help with the personal development planning that students and tutors have to work on". These opportunities have been taken up by students for social use, with some using it to vent personal feelings, whilst others use it for more academic writing such as book reviews. However many students still choose not to blog and Dale concludes that it is sensible to keep an open mind about blogs. "There are lots of other ways of supporting reflection and personal development, or community and collaboration".

Davis (2007) at the University of Edinburgh considers it "natural that blogs should be attractive for education, not least since learning journals or diaries are considered valuable both for reflection and assessment, particularly as part of coursework and portfolio". However he argues that "it is far more than a tool for regular or irregular writing tasks, and for that reason teachers need to remember that blogging is *sui generis* [unique in its characteristics] – not online diary, nor e-portfolio, nor online newspaper, nor e-exercise book, though it can be used in any of those ways – and assert the manner in which they expect the blog to be used". The Becta report

(2008) substantiates this view claiming that where blogging is linked to assessment it carries an external motivation.

Davis (2007) also argues that “In both real and virtual classrooms, wikis have a number of potentially exciting applications for hypertext/web essays and writing projects, particularly those encouraging collaboration among students”. He acknowledges the old problem of ‘one student doing all the work on a collaborative project’. However as he points out this is a difficulty whatever the medium and at least the wiki gives teachers the ability to watch changes to the wiki (through the wiki history feature) to get a clear understanding of student contributions”

Becta (2008) sees great potential in the use of podcasts in language learning and in successfully stimulating authentic experiences with foreign culture and dialogue.

However, since there is no clear published evidence yet, it is difficult to gauge how widely online forums, wikis, blogs, podcasts, and so on, are being used in virtual learning environments (VLEs). There is also ongoing debate as to whether initiatives using web 2.0 should be concealed behind the structures of an institutional VLE, or whether they should be openly published on the internet for the benefit of students everywhere. The latter exposes students to greater opportunities for research and collaboration but it leads Becta (2008) to comment ‘the Web 2.0 tension to be managed is one between welcoming the diversity of Web 2.0 publication, while recognising the need to help students navigate it with confidence and a critical attitude’.

4. Where is Web 2.0 used? Its relevance to distance learning

Anderson (2005) reports on the use of Elgg (Sharma 2008) at Athabasca University, Canada’s Open University. He discusses the problems faced where distance education, allowing continuous enrolment and individual pacing, can be a lonely way to learn. The paper discusses how social network tools such as Elgg (a framework for social networking considered especially useful for education given its many e-learning features) will allow students to work cooperatively in learning communities. The paper also notes that previous models where groups of students, interacted, often asynchronously, through text conferencing with a teacher and other students were often not cost effective.

Anderson defines social presence as ‘the ability of learners to project themselves socially and affectively into a community of inquiry’ and finds that social presence is correlated with student satisfaction and higher scores on learning outcomes. Use of the Internet allows the learner several freedoms; freedom of space and time as with other distance education programmes, freedom to pace one’s learning, choice of learning medium, control over the subject and instructional style plus freedom to engage in a learning relationship with other learners. It is this last freedom which is enhanced by social tools facilitating both co-operative and collaborative learning activities.

5. How is Web 2.0 used in education – methods and tools

Mason and Rennie (2008) present the following table showing the potential use of various media:

Media	Basic	Intermediate	Advanced
Text	One-way	One-way	One-way

	Print Interactive e-mail	webpages Interactive Computer conferencing	blogs Interactive Wikis, blogs
Audio	One-way Audio clips Interactive Telephone support	One-way Podcasts Interactive Telephone conferencing	One-way Ipod downloads Interactive audiograhics
Images	One-way photographs Interactive Image banks, e.g. Creative Commons	One-way CD/DVD Interactive Share and edit e.g. Flickr	One-way animations Interactive Simulations/games
video	One-way Video clips Interactive Webcasts/TV	One-way Animations Interactive Skype	One-way Vods Interactive Videoconferencing

6. When – currency of knowledge

Franklin and van Harmelen (2007) point out that with dynamic content it can become difficult to refer to artefacts as they are subject to change. For example, a presentation on YouTube may be relocated, added to, edited or deleted, but as there is no version control, it is difficult to validate data from such a source. Similarly, whilst there is a general academic convention of adding “retrieved on <date>” to references to material on the web, the material referred to may change or may disappear from the web completely. This has led to the suggestion that it may be necessary to keep a copy of the page at the time it is referenced as proof that the reference is valid.

Walton et al. (2008) discuss the paradox 'how can I inquire about something which I don't know anything about?' Often the initial, tentative exploration about an unfamiliar subject will be deeper and faster when familiar social networks are engaged. The paper goes on to raise the issue that whilst much of the focus in social networks is on dialogue and communication in order to facilitate effective

learning, it is essential that learners have access to good content and are supported in identifying good content and finding consistent and timely ways of accessing it.

Experience of uses of educational social software

This section briefly analyses the experiences of using educational social software that have been reported in the literature. Its purpose is to provide a backdrop for the case study analysis in the main body of the report to enable comparisons to be drawn.

Franklin and van Harmelen (2007) report on the uses of Web 2.0 in higher education examining the practices at five universities implementing Web 2.0: Warwick, Leeds, Brighton and Edinburgh, and the University of Klagenfurt in Austria. They consider ways in which Web 2.0 impacts institutional policy and strategy, and analyse issues related to Web 2.0 in learning, teaching and assessment.

The report could be used to help formulate policy and guidelines for Web 2.0 use in universities; as it identifies some of the risks associated with Web 2.0 implementation, including IPR (Intellectual Property Rights) and security issues. They conclude by recommending that institutions impose only minimal and necessary regulations in order to avoid unduly constraining experimentation with Web 2.0 technologies and related teaching methods. The University of Edinburgh (2007) has in fact published: 'Guidelines for Using External Web 2.0 Services'

Alexander (2006) considers the role that social bookmarking can play a role in higher education. He quotes examples of collaborative research and notes the Penntags project at the University of Pennsylvania (2008) and Harvard's H2O (Berkman Center for Internet & Society at Harvard Law School, 2008). Alexander (2006) describes the usefulness of social tags as providing a location to store links that might be lost, finding people with related interests, thus learning from others and forming new collaborations. User-created tagging offers new perspectives and this ability to create multi-authored bookmark pages can be useful for team projects.

Alexander (2006) also considers how social writing platforms such as wikis, fit into the world of higher education and sees them as useful tools for a variety of needs, from student group learning to faculty department work to staff collaborations. He envisages writing exercises based on these tools, building on the established body of collaborative composition practice. The social nature of these tools means that collaboration between classes, departments, campuses, or regions is easily supported. He suggests an example in which a political science class could explore different views of a news story through traditional media using Google News, then from the world of blogs via 'Memeorandum' (Memeorandum, 2008).

Kate Mosse (2006) author of the best selling novel 'Labyrinth' used the Internet for a 6-year on-line experiment to see if it were possible to share the process of writing a historical novel and to encourage new directions in on-line visitors' reading and creative writing.

Franklin and van Harmelen (2007) summarize the findings of university involvement with web 2.0 technologies as:

- (a) The University of Warwick found that there have been only a small number of offensive or inappropriate postings to the systems, and most of these are made more positive by the comments left by other users. This has meant that moderating has been less burdensome than expected.

- (b) The University of Leeds found that offering the services via staff encourages take up beyond learning and teaching, to support research and management as well. They also found that providing services via staff means that students see the services as part of their learning and teaching and are therefore less likely to abuse them.
- (c) The University of Brighton found that take up can be slow, but having an institutional system can be extremely helpful in building a community. Integrating the services into the environment raises their visibility and makes them easier to use.
- (d) The University of Edinburgh (2007) learnt that it is less important to choose the best possible system than to implement something that meets most of people's needs most of the time. There is no need to provide a university instant messaging capability as people are already using commercial alternatives such as MSN, Google Talk and Skype.

Risks and opportunities

Swain (2008) discusses the risks and opportunities to education presented by social networking in 'Web 2.0: boon or bane for universities?' For example, she points out that 'copyright and intellectual property issues involved in Web 2.0 remain vague, and it is not yet entirely clear how far students want universities invading their online space'. She reports a survey carried out for JISC in 2007 that showed that 65% of sixth formers hoping to go to university used social networking sites, but most failed to see how they could be used for teaching and resented the idea that academics could interfere in a forum they saw as primarily social. Furthermore, there are issues over who should be responsible if students or lecturers say something online that results in litigation against the university. The article also highlights the need for an institutional approach. Where it is individual academics that are driving innovative use of the technology in learning, this can present problems when those academics move on, or when they want support from their institution's centralized IT systems.

Franklin and van Harmelen (2007) highlight several problems arising from the introduction of Web 2.0 systems into higher education e.g. choice of types of systems for institutional use; external or institutional hosting; integration with institutional systems; accessibility; visibility and privacy; data ownership, IPR and copyright for material created and modified by university members and external contributors; control over content; longevity of data; preservation; information literacy; staff and student training; and appropriate teaching and assessment methods. Their paper raises the questions:

1. Host systems internally, or rely on externally (commercially) hosted systems?
2. What types of tools to implement - wikis, blogs, e-portfolios, social bookmarking etc.?
3. Whether to put the tools within the VLE or make them more generally available?
4. How visible should the tools and their content be to the outside world? More particularly, how to allow/enable people from outside the university to contribute?
5. How to monitor the systems for inappropriate and offensive use, and deal with such use?

6. How to encourage uptake and use?
7. Whether to automatically enrol all members of the University or do it by request?
8. Whether to make activities student or staff led?
9. How the use of Web 2.0 tools will affect learning and teaching?

These questions all have to take into account that the value of Web 2.0 is highly dependent on the size of the network.

There are those who advocate a balanced or blended approach to the development of education as it affects both course design and course delivery (Sharpe et al, 2006). In one way, this is analogous to synthesizing competing approaches to development of software, where Boehm (2006) puts forward the concept of a planning spectrum (Figure 1) that ranges from “hacking” to tightly specified contracts; the respective analogies in the sphere of education might range from uncontrolled searching on the Web for “knowledge” of doubtful provenance to programmed learning.

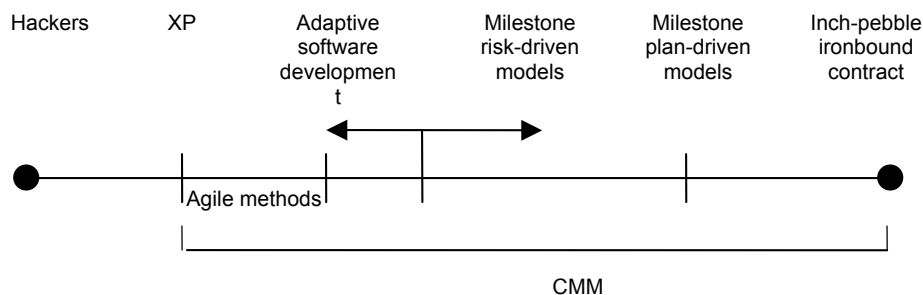


Figure 1 *The planning spectrum as in Boehm (2006)*

On the other side of the risk balance sheet, opportunities for advances in the learning process are to be found. For example, the main benefit of a blog (personal journal) is that it enables the authors to think more critically about what they are doing and gain useful feedback. A balance must be struck between the security/privacy risks and the opportunities to improve the quality of the learning experience gained by wider exposure (Mason and Rennie, 2008) (Anderson, 2007).

Quality

The overriding objective of all forms of product development or service delivery is to provide a quality product or quality service, where quality is taken to be ‘the degree to which a set of inherent characteristics fulfils requirements’ (ISO 9000:2000). This section of the appendix considers how the quality of educational products and services might be improved by engaging the methods and tools of social networking against an analysis model that uses a triad of quality achievement, quality control and quality preservation in the manner of Ould (1999).

1. Quality achievement

Product and service quality can be achieved by design, rarely by accident; in the context of education, this might be viewed as placing significant emphasis and effort on course design (Mason and Rennie, 2008). A quality approach to course delivery

might be to keep open the possibility of the creative use of social software, provided that the course design itself was sufficiently imaginative. One way such a balanced approach might be achieved is with a stable, well-grounded curriculum architecture combined with greater flexibility in the design of individual courses. Indeed, Mason and Rennie (2008) claim that Larry Wall's "onion" (the growth of outer layers of a "living" system) is an appropriate course design method, concluding that the art of course design is to "capture the essence of the informal uses of Web 2.0 tools while introducing structure and direction into students' engagement with them".

However, if the quality of an individual course is to be achieved by design, the next question that emerges is how to achieve quality in the design of courses. Recent research indicates that Learning Design (Mason and Rennie, 2008) is a method which encourages course designers to concentrate on designing activities that facilitate learning as a result of interacting with sources, people and ideas. Mainstream learning theories that underpin the development of educational material include behaviourism, cognitivism and constructivism (Mason and Rennie, 2008). Behaviourism, which regards observable behaviour as more important than any attempt to understand internal activities (the mind is treated as a black box) was challenged in educational psychology theory by cognitivism, which emphasizes the importance to the educator of attempting to understand the mental process of learning, so that the process can be improved. Both these schools of thought consider the learning process to involve a largely passive internalization of knowledge about an objective external reality as a result of experiencing that reality. Constructivism on the other hand emphasizes the active involvement of the student in the search for knowledge; as a consequence of this participation many authors related the use of Web 2.0 methods and tools as being in line with constructivist theory. Other educational theorists, however, comment that Web 1.0 is aligned with constructivism allowing the individual to search actively for information and knowledge. Siemens (2004) puts forward a theory termed connectivism, which addresses a number of issues such as organizational learning and technology support for learning and knowledge.

2. Quality control

A major, recurring, concern expressed by sceptics of educational social software is the inability to trust the quality of voluntary contributions without authentication. Whilst they are undoubtedly subject to a form of peer review, this is of a rather different order to that of submitting a paper to a research journal. Kamel Boulos and Wheeler (2007) in discussing the use of Web 2.0 in health care education caution that a significant proportion of health-related blogs are created by lay users, with the risk of misinformation but balance this concern by conceding that 'collaborative intelligence' helps ensure acceptable quality.

Whilst the potential benefits to the quality of cooperative working are significant, it has been observed from research in domains such as software development (Brooks 1975), and industrial design, that increasing the number of people collaborating can have a detrimental effect on quality. There have been widespread concerns expressed about the quality of Wikipedia entries, even by one of its co-founders (Wales 2006). Wikipedia was intended above all to create and distribute a free encyclopaedia "of the highest possible quality" and to do so, in part, with the concept of featured articles which are selected by the Wikipedia community as "the best articles in Wikipedia," according to criteria such as accuracy, neutrality,

completeness, and style. Wilkinson and Huberman (2007) analysed Wikipedia's quality seeking a correlation between editing and article quality by comparing the numbers of edits and distinct editors on 1211 Wikipedia featured articles to similar counts of all other articles. They found that, there is a strong correlation between the number of edits, the number of distinct editors and article quality i.e. the wider the network of participants, the higher the quality of the Wikipedia entry. This appears to be contrary to the view espoused by some of the most influential members of the Wikipedia community that the best articles in Wikipedia were produced by a few dedicated and exceptional, editors.

3. Quality preservation

Change is inevitable. Having designed quality into the course or the curriculum and having been assured that the quality is there, the challenge then is to keep it there by careful management of change. Many of the potential and actual difficulties and risks of Web 2.0 come down to the management of change, at least from the educator's viewpoint. For example, how might we best realize a return on the investment in previous forms of educational material, much of it still on paper, if at all?

In education, the need for courses to change arises for a number of reasons

1. to correct flaws in the course design or faults in the course content

There does not appear to be a great deal in the literature on the management of errors in educational material – perhaps teachers do not like to admit the possibility they might be wrong? One of the worries raised about deploying social network methods and tools is that learners will not be able to discern errors made by unauthenticated sources; such concerns are reported by many authors including Anderson (2007). On the other hand, it is possible that the network effect observed in other areas (e.g. Raymond, 1999) allows many more eyes to scrutinize material and, with many more and speedier error reports and challenges to clarity of presentation, the quality of that material will be enhanced.

2. to reduce the gap between course content and the external environment

The quality of many courses deteriorates through age as a result of the explosion of new knowledge in the external environment (Siemens, 2004). Furthermore, Mason and Rennie (2008) point out that there will be a need for rapid re-design of courses as the learners' needs become better understood. Theoretically, the more modular the course design, more quickly modifications can be made and the quality of the course recovered.

3. to enhance the quality of the course design or the course content

The quality of a course will be improved as its content and style are kept current. Trinder et al (2008) argue the need to embrace the thinking behind the use of social technologies in formal learning contexts and to devise new assessment practices more appropriate to 'learning as collaboration and participation'. Dubious arguments that a course is "not broken so don't fix it", perhaps because student pass rates are acceptable, are clearly out of tune with the enthusiastic engagement of "digital natives" in the educational process.

4. to reduce the "chaos" introduced by previous changes

If a course has been carefully designed, then accommodating change (to correct errors, to adapt to the changing environment or to enhance quality) may impinge on quality perhaps by introducing further errors or undermining the course design. The problem then is to manage change to optimize benefits and reduce the risk of failure. As was previously observed, Mason and Rennie (2008) argue very strongly on the need for careful course design to achieve the desired quality of the course; the question then arises as to what constitutes a good course design. Whilst they do not address this question directly, it might reasonably be extrapolated from their cogent exposition that the concept of quality in the design of courses can be assessed by an ability to accommodate change in the course whilst preserving the original quality designed into the course.

Conclusions

This review of the existing literature may appear to have posed as many questions as it has answered but we conclude this appendix by revisiting the original questions:

1. What are the characteristics of Web 2.0 methods and tools that make them 'social'?

The essence of web 2.0 is its 'read/write' nature permitting it to be interactive. This is what primarily differentiates it from web 1.0. The interactivity of Web 2.0 provides two-way communication and so lends itself to collaboration, co-operation and the development of a learning community. This is in contrast with the more traditional approach of individuals working in isolation and often in competition with each other.

Anderson (2005) considers that Web 2.0 offers a learner freedom to engage in a learning relationship with other learners and facilitates collaboration between individuals who are separated by location and time. The latter advantage is a tremendous benefit to learners engaged in distance learning programmes.

2. What are the theoretical underpinnings of using Web 2.0 methods and tools in education? How does the 'social' nature of the tools align with standard learning theories (e.g. constructivism, behaviourism etc.)?

Siemens (2004) amongst others characterizes the main traditional learning theories as behaviourism, cognitivism and constructivism, commenting favourably on constructivism as involving the student in active participation in the process of learning. Mason and Rennie (2008) accept his proposition that Web 2.0 methods and tools permit the educational process to transcend constructive theories by moving on from isolated, individual activity to interactivity amongst a community of collaborating learners (i.e. 'collaborative constructivism' or 'connectivism').

3. What are the benefits to students and educators of using Web 2.0 methods and tools in learning and teaching, respectively?

From the teachers' viewpoint, Web 1.0 allowed knowledge to be disseminated electronically and accessed widely; the Open University library is an excellent example of this in practice. However, the interactive nature of Web 2.0 allows students to participate in collaborative work, for example, creating a group report where the quality of the whole may well exceed the sum of its parts. In addition to higher quality learning outcomes, participants in the process benefit from both peer recognition and peer review, both excellent preparation for more modern collaborative teamwork (Crook et al, 2008). Web 2.0 methods and tools actively

engage learners both individually and in groups whilst still providing opportunities for differentiation since the individual contributions may be identified and tracked.

Kamel Boulos and Wheeler (2007), in studying the use of Web 2.0 social software in health and health care education, confirmed that it supported group interaction and fostered a greater sense of community. They also confirmed that Web 2.0 methods and tools encouraged more active learning and the tutor-student interaction further increased student motivation.

4. What are the issues/problems/disadvantages of using Web 2.0 methods and tools? For example, are some students hesitant to blog because of fear of loss of privacy or what others might think of them?

The use of Web 2.0 methods and tools constitutes change and change has to be managed to minimize a fear of the unknown that throws up a combination of resistance and inertia. Such fears include invasion of privacy, exposure to ridicule, cyber-bullying, production of inappropriate material as well as the fear that some learners will be penalized by lack of prerequisite computer skills (Crook et al, 2008).

Armstrong and Franklin (2008) discuss some of the barriers, for example:

1. institutional and network restrictions
2. lack of money to invest in technical infrastructure
3. lack of knowledge of some senior managers
4. inadequate ICT strategy
5. using different social tools can involve endlessly logging on to a multiplicity of accounts and the consequent difficulty of remembering and managing passwords
6. some mature academic staff are resistant to having to learn new web 2.0 tools, and fear losing control to the students.

However Crook et al (2008) point out that even with increased “learner centredness”, there will still be significant demands on teachers to provide structure and facilitate the learning. It could also be argued that Web 2.0 places mature students (or “digital immigrants”) at a disadvantage but a counter argument is that everyone needs to be computer literate and able to work collaboratively in the workplace. Therefore being exposed to the latest technology as a student is excellent preparation for work and provides an opportunity to acquire additional skills.

Institutions that have encouraged the use of Web 2.0 tools appear to have found it to be a positive experience and are continuing to develop their provision. There may be a ‘peak of inflated expectations’ as discussed by Armstrong and Franklin (2008) but hopefully the enthusiasts continue to work towards the ‘plateau of productivity’ while keeping an open mind about the benefits, the barriers and the unexpected rewards.

5. Which Web 2.0 methods and tools are most appropriate for which kinds of activities?

The many forms of Web 2.0 were considered in the section *How is Web 2.0 used in education – methods and tools*. In summary, the 4 main methods and tools are perceived to be:

1. Blogs which support reflective practice, active learning and learning journals;
2. Wikis which support collaborative group work;

3. Podcasts whereby learners can listen and/or catch up on talks or lectures at their own convenience;
4. Social bookmarking which supports collaborative research projects.

Most UK universities have embraced blogs and wikis in particular. For example, Warwick has offered openly readable blog space since 2004, allowing potential students to read the comments of current and past students.

(Note: The case studies accompanying this report (see <http://tinyurl.com/5a8zu3>) show that a variety of social software tools are being employed in FE and HE.)

**6. Is there a link between the student skills and Web 2.0 methods and tools?
For example, skills of communication, writing, team-working, group-working, collaboration, and so on.**

Crook et al (2008) conclude that “there is little doubt that Web 2.0 learning practices encourage a more collaborative approach to study. This may fit with a feeling that the present world of work is more collaborative than solitary.” However there can be a problem of assessment in that teachers are expected to mark the work of an individual learner but it is not clear how this is to be done for collaborative work.

Another tension to be managed is the conflict between the opportunities provided by exposing learners to open Internet content and the comparative safety of the “walled garden” VLE of the institution. Armstrong and Franklin (2008) also acknowledge “a blurring of the boundaries of institutions” as virtual learning environments allow access to those outside the organization; this is aptly illustrated by the Open University’s OpenLearn website.

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Appendix 4 Case Study Research Materials

Appendix 4

Case Study Research Materials

Appendix 4.1	Case Study Research Methodology
Appendix 4.2	Case Study Selection Criteria
Appendix 4.3	Call for Participation email
Appendix 4.4	List of Mailing Lists to which the call was sent
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<i>Appendix 4.6.1</i>	Investigator's instructions
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<i>Appendix 4.6.6</i>	Reporting Template for the Case Study
Appendix 4.7	Telephone Interview Template
Appendix 4.8	Case Study Presentation Template (main case study)
Appendix 4.9	Case Study Presentation Template (mini case study)

Appendix 4.1: Case Study Research Methodology

A case study is an empirical enquiry that investigates a phenomenon within its real-life context using multiple sources of evidence. It is especially useful when the boundaries between the phenomenon and context are not clearly evident (Yin, 2009). A case study methodology helps to answer the 'how' and 'why' questions about a contemporary set of events over which the investigator has little or no control. Applying case study methodology involves development of detailed, intensive knowledge about a single 'case', or of a small number of detailed 'cases' (Robson, 2002).

The important points are that case study enquiry is (Robson, 2002):

- a *strategy*, that is, a stance or approach, rather than a method, such as observations or interview
- concerned with *research*, taken in a broad sense and including, for example, evaluation
- *empirical* in the sense of relying on the collection of evidence about what is going on
- about the *particular*, a study of that specific case (the issue of what kind of generalisation is possible from the case, and how this might be done, will concern us greatly)
- focussed on *phenomenon in context*, typically in situations where the boundary between the phenomenon and its context is not clear; and
- undertaken using *multiple methods* of evidence or data collection.

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Appendix 4.2 Case Study Selection Criteria

Stage 1: Criteria expressed in email invitation

1. Use of social software with students in UK HE or FE
2. The social software used, or equivalent software, is available in the public domain.
3. The initiative has been running for some time (more than one semester) and includes a reasonable number of students.

Stage 2: Criteria for selecting case studies for which interview data will be collected

4. The portfolio of case studies should encompass a variety of discipline areas.
5. The portfolio of case studies should encompass a broad range of social software tools.
6. At least one case study should look at lifelong learning and/or work-based learning.
7. Not more than two case studies should be from the Open University.
8. At least one case study should be from Further Education.
9. Studies should indicate evidence to demonstrate the value, or otherwise, of using the social software.

Stage 3: Criteria for selecting the final case studies to be published

Criteria 4-8 above will be used to ensure a balanced portfolio of case studies. In addition, criterion 9 will be strengthened, in order to choose the case studies, which demonstrate the clearest evidence.

Appendix 4.3 Call for Participation email

Subject: Call for participation: Effective Use of Social Software in Education

Are you using social software / web 2.0 tools with your students? For example, social networking sites, blogs, wikis, Flickr, YouTube, Twitter ... ? If so, we would like to hear from you. We are most interested in initiatives that have been running for some time (for example, more than one semester) and those which include a reasonable number of students.

We are working on a JISC-funded project to create case studies of social software use in UK higher and further education. The aim is to help the educational community explore the potential benefits - and problems - of this new domain.

The case studies and project report will be disseminated via the JISC web site in early 2009. These resources will be of significant interest to the HE and FE community, and should attract a very wide readership.

If you think your practice might make a suitable case study, please email <Name: email address> at the Open University. For further details of the project, see: <http://tinyurl.com/5a8zu3>

Many thanks & with kind regards,

<Names>

The Open University, UK

Appendix 4.4 List of Mailing lists to which the call was sent

The mailing lists included:

- London-Usability (Yahoo forum)
- UK-Usability (Yahoo forum)
- BCS-HCI group (British Computer Society Human-Computer Interaction group)
- IS-WORLD (Information Systems Mailing list)
- JISC Virtual Worlds list
- ALT-MEMBERS list
- ALT-News Digest
- Internal e-learning mailing lists within the OU and a message to all Faculties in the OU
- ILT Champions Mailing List: with the kind help of Sarah Knight (JISC)
- JISC Learning and Teaching Practice Experts Group Mailing List: with the kind help of Sarah Knight
- Heads of eLearning Forum Mailing List: with the kind help of Sarah Davies (JISC)
- Regional Support Centres of JISC: with the kind help of Carys Solman (JISC).
- To all the Centres for Excellence in Teaching and Learning (CETLs) and Higher Education Academy Subject Centres with the kind help of Diane Ford (OU).

Appendix 4.5 Initial Information Request Form

Please complete the questionnaire and return it to <name> and <email address>.

Name of the course or initiative	
Contact name, telephone and e-mail	
Names of other staff who are involved in this initiative	
Institution name	
Role of Institution (higher or further education)	
Address of institution relevant to this project	
Social software tools used	
Other tools used with the above	
Curriculum context and learner profile (subject, course level, full or part time, age group)	
Mode of delivery (blended, face-to-face, online, distance-education)	
How long the course/initiative been using the social software	
Approximate number of students involved	
Project related material available in the public domain (publications, web sites)	

Appendix 4.6: Components of the Investigator's Pack

Component	Description	Appendix number
Investigator's instructions	Instructions for planning and preparing for a case study, and carrying out data collection and consolidation including tips for conducting interviews this document also has pointers to all the materials in the pack.	Appendix 4.6.1
Truecrypt instructions and TruCrypt.zip	The instructions were created by our Systems Support Team; http://www.truecrypt.org/ is a software that enables encryption of data on a machine (this was particularly important for us as investigators (consultants) would be travelling to different locations and carrying the data on laptops). The investigators were also provided with an OU internal guide on data security.	—
Iron Key	Each investigator was given a secure USB storage device (http://www.ironkey.com/).	—
Virtual Private Network (VPN) instructions	A secure server-space was set up on one of the servers at the OU, which was only accessible to the project team (core team and the investigators). VPN tokens were provided to the investigators. Investigators were able to remotely access the server-space and securely upload the audio-interviews, and any other materials related to the case study. However, it is worth noting that some of our investigators occasionally found remote access to OU's server-space difficult and slow. Therefore, we obtained space at box.net, http://www.box.net , which provided quick access to a secure area. Information was copied back onto the OU server by one of the core team	—
Consent form	Approved by our HPMEC and initial guidance from the Legal and Commercial team at the OU; consent form for all participants.	Appendix 4.6.2
Project summary sheet	This accompanies the consent form; and a copy is left with the participant for their records.	Appendix 4.6.3
Staff Interview template	(Semi-structured) interview template with instructions and prompts for conducting interviews with the educators of the participating institution.	Appendix 4.6.4
Student Focus group	Focus-group template with instructions and prompts for conducting focus groups with a group of	Appendix 4.6.5

template	students.	
Reporting template	The investigators transcribed the audio recordings. They consolidated their observations and the transcriptions as answers to questions in a reporting template.	Appendix 4.6.6
Sample report and audio clip	A sample of a report of an OU case study (pilot study) was included in the pack along with a sample audio clip of an interview (as a self-training tool).	—

Appendix 4.6.1 Investigator's instructions

Introduction

This document describes the case-study process and the templates used during that process. You, the investigator, will complete this process by arranging one or more interviews with staff and students at the institution. You will then produce a short report about the course or project concerned.

This document provides three checklists:

- Things to do before you interview
- Things to do at the interviews
- Things to do after the interview.

All work on this project must be conducted in compliance with the OU policies. Please read the following OU guidelines:

1) The guidelines about ethical research from <URL on OU's intranet>.

A copy of "Ethical Principles for Research Involving Human Participants" is provided in your pack.

We have followed these principles and the associated procedures in setting up this research.

2) The guidelines about data protection from <URL on OU's intranet> and data storage at <URL on OU's intranet>.

A copy of "Guidance on the Security of Portable Data for Associate Lecturers" is included in your pack.

(You will be provided with a secure flash drive (memory stick) with built-in encryption to store backup data. <http://www.ironkey.com>)

Questions

If you have any questions about these instructions then contact the <name>, <email> and <phone number>

Many thanks & with kind regards,

The study team

Pre-interview Checklist

To Start With:

Before you start work on any of the cases you will need:

1) A laptop computer with the OU VPN (Virtual Private Network) software installed. You will also need to install the OU suggested encryption software - TrueCrypt. (Details of this are available in 'TrueCrypt Instructions.pdf').

2) An Ironkey secure memory stick (this will be sent to you by one of the study team).

3) An audio recording device with sufficient capacity for the interviews and sufficient charge/batteries on each visit.

4) A digital camera, again with sufficient capacity and sufficient charge/batteries.

Work through each of the steps below and ensure that you understand them and that the technical steps, such as VPN access or encryption, are all working. Contact <name> if you have any problems.

As You Start Each Case

To begin each case you will be provided with a document containing contact information and a high-level description of the project. For each study please use the following process to collect the case study:

1) Log on to the OU VPN and access the SOCIAL-SW-CASES¹ folder on the Penelope server. You should find a folder there that has the file is named after the contact and institution (for example, Shailey Minocha.Open University). The contents of the folder give you the background material for the cases we are investigating. Please read this information before you take the next step.

2) Get in touch with the course/project contact person and introduce yourself and your role in our study. Try to arrange to interview more than one person about the course or project. These may include academic staff, technical staff, course managers and students. Try to interview people with a variety of roles. It may not be possible to arrange all the interviews for the same day, particularly if you are interviewing students (see below).

3) Agree a time for interviews about the project. We anticipate that each staff interview will take about 30 – 45 minutes, but this will vary with each interviewee. For the purpose of planning we suggest that you book an hour with each interviewee. Remember to allow time between interviews to prepare.

Normally you should arrange to visit the institution to conduct face-to-face interviews.

However, if this proves impossible to arrange you should consider other techniques such as a telephone interview. Please inform the study team if you are not able to arrange face-to-face interviews.

4) If possible arrange to interview students who have participated in the course. It is suggested that the students are interviewed in a focus group. This means interviewing a group of students together, and encouraging discussion between the students, as they answer the questions.

Check with your contact to see if a student interview requires approval from anyone else at the institution such as an ethics committee. If approval is required then you should ask the contact about obtaining this approval. Contact the study team if you need any help with this.

If such approval might cause undue delay then consider if you should abandon the student interviews, and again, contact the study team.

5) Edit the consent form template to add your own name and contact details in the space provided. Send the consent form to the contact and arrange for it to be completed (printed and signed) by each person who will be interviewed. Please

¹ On a Windows XP or Vista machine the folder can be accessed entering the following address in the 'run' box: \\penelope.open.ac.uk\MCSUsers\MCS-Groups\Computing\SOCIAL_SW_CASES

suggest that they retain a copy for their own records. See 'Annex 1: Suggested Confirmation Email' at the end of this document.

If you cannot obtain completed consent forms then you must not proceed with the interviews.

It is best if you can arrange for the forms to be returned to you before the visit as this might avoid a wasted journey. However, if this is not practical, obtain verbal agreement before you travel and be sure you have collected the forms before you start of each interview.

If you have any problems, contact the project team and discuss the situation.

6) Prepare your materials for interview:

a) Read the information in the contact information and any related material, which is mentioned there.

b) Ensure that you are comfortable with the wording of each interview question and consider paraphrasing where needed to match your own style.

You may wish to edit the template to provide enough space for your own notes during the interview.

c) Print sufficient copies of the interview template to guide each interview. See suggestions for use in 'Conduction the Interviews', below.

d) For members of staff you should use the Staff Interview Template in your pack. However, consider whether each question will be applicable to the staff member's specific role. For example, for technical staff you may wish to concentrate on the Technology section.

e) For interviews with students, use the Students Focus Group Template. The questions here have been written in a style appropriate to group interview.

f) Make sure all your equipment is ready for the visit: laptop, memory stick, audio recorder and camera.

Conducting the Interviews

Conduct the interview(s). The following suggestions may be useful:

1) Remind yourself of the content of the template before you start.

2) Test that the recording equipment is working.

3) Introduce the project at the start of each interview using the text in the script.

4) Ask each question to each interviewee in a similar way for all interviews.

Do not include any prompts at the first stage. While the interviewee is responding look out for them mentioning things that are given in the Guidance for Interviewer column of the template. You may wish to check the items off as they are mentioned. When the interviewee stops speaking, follow up with prompts to ensure that the information noted in the Guidance column has been obtained.

5) Try to ensure that you pay attention to the interviewee during their answers. Interviewees will be more open if they think that you are interested in their answers. Acknowledge answers with a nod of the head or verbal agreement, but take care not to lead the conversation, or add your own personal views or reactions.

You might wish to read the following article:

http://www.userfocus.co.uk/articles/field_interviews.html which has some helpful suggestions.

6) If an interviewer reveals what you feel might be confidential or sensitive information then consider the need to stop the interview, or pause the recording temporarily to (tactfully) point this out. For example, if they provide personal information about a third party. (There is text in the introduction to the interview to warn them against this).

7) It is possible that interviewees will already have given an answer to a question before you ask it.

You may omit the question if you feel this is sufficient. Or you can ask the question, but soften it by preceding it with a phrase such as "I think you have already mentioned this, but..."

8) After the interview, take pictures for use in the final reports. Some suggestions are: the main contact, a user in front of a screen using the software, the main entrance to the buildings, screen shots of the tool (these may be better if you use screen capture rather than a camera).

9) Ask the interviewee if there are any items which you can take such as course brochures and so on. Check with them that they are not breaking any copyright by doing this.

10) Before you leave, transfer the audio recordings from the recorder to an encrypted volume on the laptop. Also place a copy (for backup) on the Ironkey memory stick. You should delete the copies on the recorder so as to comply with the security guidelines. If you take any pictures or are provided with any electronic artefacts they should also be placed in the encrypted folder and memory stick.

Post-interview Checklist

After each interview you should:

1) Log on to the OU VPN and access the SOCIAL-SW-CASES folder on the Penelope server. You should find a folder there that has the file is named after the contact and institution (for example, 'Shailey.Minocha.OU'). Copy all the files you have saved (audio, pictures, artefacts) into the folder as a secure backup. They do not need to be encrypted on this server.

2) Complete an electronic copy of the case-study report template in you pack [The reporting template is essentially a copy of the interview template but formatted without any of the guidance notes.]. Consolidate the information from all the interviews onto a single template.

Where possible transcribe parts of the audio into the appropriate section of the template so that we can use the most interesting parts of this as quotes.

3) Send a copy of the report to the main contact and ask them if they are happy with your report. In order to ensure that details are still fresh in everyone's mind, we suggest you do this within 48 hours of your visit.

4) Once the contact is happy with your report, send the completed report by email to <name> <email>.

Please also place a copy on the OU server in the folder for this case.

5) Take copies of the consent forms for safekeeping. Send all the signed original consent forms and any other physical artefacts by special delivery to

Dr S Minocha, Department of Computing, Open University, Walton Hall, Milton Keynes MK7 6AA, UK.

Annex 1: Suggested Confirmation Email

The following email is suitable to send to the main contact to confirm your visit. Please adapt to your own style but keep in the main points about project summary and consent forms:

Remember to attach the edited version of the consent form and the project summary sheet.

Dear <contact>

Thank you for agreeing to recorded interviews about <project> for our JISC sponsored research.

<Confirm time and place.>

Can you please confirm that you, and the others interviewees are happy to have the interviews audio recorded. I would also like you to confirm that you are prepared to be named as a contact in any case-study report, which JISC may publish based on these interviews.

Attached are two documents, which we would like you to pass to everyone who we might interview. The project summary sheet provides everyone with the background of our research. The consent form must be printed and signed by everyone we interview so that we have the appropriate rights to publish our research. I would be most grateful if you could arrange this. If you prefer, you could hand the forms to me at the start of my visit.

Looking forward to meeting you on <day>.

<your preferred closure>

Annex 2: Glossary of Social Software Tools

JISC have published a guide to social software here:

<http://www.jiscinfonet.ac.uk/infokits/social-software/definition>

You may also find the following useful in understanding social software tools.

Blog: Short for web log, this class allows an author to publish their thoughts or diary. Other users are typically able to add their own comments.

e-portfolio: A tool for arranging collections of documents online. The tool often includes some element of blogging, forum, tagging and social bookmarking.

Forum: Also known as newsgroups, these tools allow users to post information and others to respond. Typically a forum is 'threaded', which means that conversations can be structured in a crude tree form.

Instant messaging: These tools allow users to exchange short text strings with one another. Conversations can be one-to-one or in groups known as 'chatrooms'. Common examples are MSN Messenger and AOL.

MUVE A Multi User Virtual Environment: allows users to be represented in a virtual space as 'avatar'. Typically users move their avatars around a 3D representation, either realistic or fantastic in design. A prominent example of this tool class is Second Life.

Photo sharing: A variation of the e-portfolio, these tools provide a mixture of tagging and a forum, which is tuned to sharing photographs. Flickr is a prominent example of this tool.

Podcast: A tool for sending short audio or video files to users. The content is downloaded to a device – a PC or other mobile player – and can be played at any convenient time. The most prominent example is the Apple I-Pod which gives its name to these tools.

Social bookmarking: A tool, which allows users to share their bookmarks. Users benefit by knowing which bookmarks others have found useful.

Tagging: A mechanism for associating keywords with contents. The tags are analysed and displayed to users as 'tag clouds'. These clouds normally show which tags are more common in a body of material. Users can access lists of the contents associated with the tags.

VOIP: Voice Over IP is a method for delivering speech content to one or more user. This provides a cheap alternative to telephone. Skype is a prominent example of this.

Wiki: A tool for editing shared documents. A group of users are able to edit a document, typically via web-based editors. Wikipedia is a well-known example of the use of a Wiki.

Appendix 4.6.2 Consent Form



Print, Audio and Video Production Permission Form

I, the undersigned, consent to the use of my words, image, image of my work or recordings of my voice being used within a JISC publication or video case study. I understand that this will be used for educational purposes only and that copyright will reside with the Higher Education Funding Council for England (HEFCE) on behalf of JISC.

I acknowledge that the quote, image or recording may also be used in, and distributed by, media pertaining to JISC activities other than a printed publication, such as, but not limited to, CD-ROM or the World Wide Web.

Copyright restrictions placed on JISC publications and case studies prevent content being sold or used by way of trade without the express permission of the copyright holder. Images and recordings may not be edited, amended or re-used without prior permission from JISC. Personal details of those taking part are not made available to third parties.

Please complete and return the form to:

Name

Address

Email:

Participant's details

NAME

ADDRESS

Signature

Date

Appendix 4.6.3 Project Summary sheet

The Effective Use of Social Software in Higher and Further Education



We hope this leaflet will answer the questions you might have about participating in our study.

Who are we?

We are a team of researchers from the Open University, UK.

What do we want to know?

We have been commissioned by JISC (www.jisc.ac.uk) to study the use of public-domain social software in education. We would like to know how you have used social software in an educational setting. The aim is to help the educational community explore the potential benefits – and problems – of this new domain.

We would really value your experience on this and hope you will agree to participate in the study.

What will it involve?

We would like to visit you and interview you, and people involved in a project or course which involved social software. We would like to interview both staff and students.

We will conduct semi-structured interviews with participants. These will last about an hour for staff and 20 minutes for students. This interview will be audio recorded. We may use quotes from the recording as part of the final report. We will also take pictures which we may use in the final report.

You will be provided with this information sheet and asked to sign a consent form. We have received the appropriate ethics permission to conduct the study from the Open University Research Ethics Committee.

What will we do with the information we collect?

We will produce a case study based on the information we collect during the visit. We plan to produce between eight and twelve studies. These will be published by JISC along with a report which summarises the experience of all the institutions we study. We aim to produce results which help other people to learn from your experiences.

We will keep all of the information – recordings, notes and picture – secure and as per the Data Protection Act. Only members of the team will have access to this material. We would request you not to provide us with any information which might force us to inform others and breach confidentiality.

We may use anonymous quotes from the recordings as highlights in the case study or report. We will send you copies of the material so that you know what will be published.

How can you contact us?

If you have any other queries about this study, please email <name> <email address>.

For further details of the project, see the project's workspace: <http://tinyurl.com/5a8zu3>

We look forward to meeting you and hearing your experience. Thank you for taking the time to read this information leaflet.

Appendix 4.6.4 Staff Interview Template

The following template is designed to be used during each interview. Please start the interview with some scene-setting comments, along the following lines:

“Thank you for agreeing to this interview. As I hope you are already aware, we have been commissioned by JISC to study the use of public-domain social software in education. We would like to know how you have used social software in your project. The aim is to help the educational community explore the potential benefits – and problems – of this new domain.

“We will treat what you say with care. We will not reveal the full content of the interview to anyone outside the project team. If we choose to quote you we will not mention your name; however the quote will be identified as coming from this <University/College>.

“We will also handle your information carefully so that it is secure and cannot fall into the wrong hands.

“At any time during this interview you can ask me to stop the interview or take a break if you wish to.

“Do you have any questions before I start?

Questions about the practice

“First I would like to ask you a few questions about what happened on your initiative (or project)”.

Question	Interviewers Notes	Guidance to Interviewer
Can you confirm the name of the project is <name from Part 1>? How do you normally refer to this project?		Now use this project name in the questions below to make the interview sound more personal to the interviewee.
For the recording, can you state your name, and then tell me about your role in <project>?		This is to ensure we have an easy way of identifying the audio recording and understand the relevance of the questions to this person.
How is the <tool class> used in the project?		Use the name of the relevant software tool or tools. At this stage, look for an overview of the activities. Use this question as a warm-up.
What are the learning tasks and activities?		Look for an expansion of the previous question, getting more detail on the activities of all participants. Ensure that you understand the link between the tasks and the tools.
What benefits for the students were you hoping to achieve?		A high-level description - there are more detailed questions on outcomes later.

Question	Interviewers Notes	Guidance to Interviewer
Does the use of the <tool-class> form any part of the course assessment?		Use of the tool may not be directly assessed, but it may still play a role in the assessment.
Why did you choose to use <tool-class> in this project?		Looking to find the educational rationale. What does this tool provide that is new? Is it replacing anything which was there before? Were there any institutional drivers: social networking, sharing, collaborative learning, innovation? Were any of these tools already used by students.

Questions about the technology

"Now I would like to move on to some questions about the technology which you were using."

Question	Interviewers Notes	Guidance to Interviewer
What exactly are the tools you are using in this project?		As precise details as possible. How is the social software used with other tools? What are the other tools that are used? Has the use changed since you started?
Why did you use this particular tools?		Why this tool was selected from the near-equivalent tools which might have been used? For example, why you chose Moveable Type and not Wordpress?
Did you have to take specific measures to adapt the technology for the project?		
Was the tool <i>accessible</i> already?		This means accessibility to students with special needs. These might be to allow for students with visual or other impairments. If not, was it changed?
Were there any specific training needs?		For students, for educators? How was the training provided? [documentation; self-help online tutorials;...]

Question	Interviewers Notes	Guidance to Interviewer
Was the tool be used in an open environment (that is, on the public web) and or was it closed?		Even if the software is available in the public domain, it is quite possible that access would be limited to the course.
Were there any security and privacy issues around the technology?		Did anyone have any privacy/security concerns - before, during or after?
Do the students use any tools alongside the <main tool>?		Have the students connected these tools with their own social network? Did you adopt any of this?
Were there any technical problems?		Technical support; usability problems; access to the appropriate technology (foe example, Mac vs. PC); graphics cards; sounds cards; access to internet; access to broadband; access to computer.

Questions about the outcomes

"This next group of questions are about the outcomes of <project>."

Question	Interviewers Notes	Guidance to Interviewer
What benefits did you anticipate, and were these achieved?		
Is there any specific evidence of impact?		Such as assessments or qualitative feedback? Were there any reflective questions in assignments? Any surveys? Can we have access to this without breaking confidentiality or copyright?
Have you collected any student feedback?		What do learners say about their experiences? How was this feedback collected? Can we have access to this feedback in any way? Do students perceive it as "yet another tool"?
Did you find any unexpected benefits?		

Question	Interviewers Notes	Guidance to Interviewer
Has it affected the time the students need to spend?		Student workload issue. Has it changed patterns of working - duration or timing of work?
How much time was expended in deciding on the tool and designing the activities around it?		How much design time did they need?
Has the project affected the instructor's or the tutor's time that they spend on the activity involving this tool?		Patterns of working – any changes; do they support out-of-office hours?
Were there any specific educational or social problems that you or your students experienced?		

Reflections of the Interviewee

“And finally, a few questions about your own feelings on the project and what has been learned.”

Question	Interviewers Notes	Guidance to Interviewer
Do you feel that the project was a success?		
Where do you see this project going?		Plans/ideas for future use of this (or similar) technology?
Would you do it differently in the future?		If so, how and why?
What did you learn that you would like to share with the educational community?		
Is there anything else about this project that you think we have missed?		
Do you have any other questions before we end?		

“Thank you very much for this interview. After I have completed the interviews today I will be creating a short report of all the interviews. I will send a copy to <primary contact> so that it can be checked before I pass it on. Early next year a case study for selected courses we have investigated, along with an overall report, will be published by JISC. I will also let <primary contact> know when this is available.

We will be sending you a book token as a ‘thank you’ for your help in this project. Again, this will be sent via <primary contact>”

Appendix 4.6.5 Student Focus Group template

We are carrying out some research into what is described as ‘social software’ in education. We would like to know how you have used <tool class> in <name of course>. The aim is to help explore the benefits – and problems – for learning.

“We will treat what you say with care. We will not reveal the full content of the interview to anyone outside the project team. If we quote you we will not mention your name; however the quote will be identified as coming from this <University/College>.

“We will also handle your information carefully so that it is secure and cannot fall into the wrong hands.”

“Does anyone have any questions before I start?”

Question	Interviewers Notes	Guidance to Interviewer
When did you participate in <use course/project name>?		
Did you enjoy using <tool class > in <use course/project name>?		Encourage students to discuss why they enjoyed it or not.
What did you like about using <tool class> ?		Encourage students to discuss what they like and why.
Did you use these tools with any other social networking tools you already liked?		
What did you dislike?		As above for what they disliked
Did you think that using <tool-class> helped your learning in the course?		Encourage to discuss in what ways the tool helped them (if it did). If it didn't, see if they can explain why.

“Thank you very much for this discussion. After I have completed the interviews today I will be creating a short report of all the interviews. I will send a copy to <primary contact> so that it can be checked before we pass it on. Early next year a case study for each of the courses we have investigated, along with an overall report, will be published on the web. I will let <primary contact> know when this is available”

We will be sending you each a book token as a ‘thank you’ for your help in this project. Again, this will be sent via <primary contact>”

Appendix 4.6.6 Reporting Template for the Case Study

Case Study Report

Course/Project/Initiative Summary

Name of the course or project	
Contact name, telephone and email	
Names of other staff who are involved in this project	
Institution name	
Role of Institution (higher or further education)	
Address of institution relevant to this project	
Social software tools used	
Other tools used with the above	
Curriculum context and learner profile (subject, course level, full or part time, age group)	
Mode of delivery (blended, face-to-face, online, distance-education)	
How long the course/project been using the social software	
Approximate number of students involved	
Project related material available in the public domain (publications, web sites)	

Staff Interview Findings

Provide a summary of the answers to each question considering all the interviews you have conducted. Please add any quotations which you think are significant.

Questions about the practice

Question	Consolidated response and quotes
How is the <tool class> used in the project?	
What are the learning tasks and activities?	

Question	Consolidated response and quotes
What benefits for the students were you hoping to achieve?	A high-level description - there are more detailed questions on outcomes later.
Does the use of the <tool-class> form any part of the course assessment?	
Why did you choose to use <tool-class> in this project?	

Questions about the technology

“Now I would like to move on to some questions about the technology which you were using.”

Question	Consolidated response and quotes
What exactly are the tools you are using in this project?	
Why did you use this particular tools?	
Did you have to take specific measures to adapt the technology for the project?	
Was the tool <i>accessible</i> already?	
Were there any specific training needs?	
Was the tool be used in an open environment (that is, on the public web) and or was it closed?	
Were there any security and privacy issues around the technology?	
Do the students use any tools alongside the <main tool>?	
Were there any technical problems?	

Questions about the outcomes

Question	Consolidated response and quotes
What benefits did you anticipate, and were these achieved?	
Is there any specific evidence of impact?	
Have you collected any student feedback?	
Did you find any unexpected benefits?	

Question	Consolidated response and quotes
Has it affected the time the students need to spend?	
How much time was expended in deciding on the tool and designing the activities around it?	
Has the project affected the instructor's or the tutor's time that they spend on the activity involving this tool?	
Were there any specific educational or social problems that you or your students experienced?	

Reflections of the Interviewee

Question	Consolidated response and quotes
Do you feel that the project was a success?	
Where do you see this project going?	
Would you do it differently in the future?	
What did you learn that you would like to share with the educational community?	

Students Focus Group Findings

Provide a summary of the answers to each question along with any quotations which you think are significant.

Question	Consolidated response and quotes
Did you enjoy using <tool class > in <use course/project name>?	
What did you like about using <tool class> ?	
Did you use these tools with any other social networking tools you already liked?	
What did you dislike?	
Did you think that using <tool-class> helped your learning in the course?	

Appendix 4.7 Telephone Interview template

Section 1: Overview

Complete as much of this section before the interview if possible. During the interview complete all sections which have not been pre-filled.

Name of the course or project or initiative	
Contact name, telephone and e-mail	
Names of other staff who are involved in this project	
Institution name	
Role of Institution (higher or further education)	
Address of institution relevant to this project	
Social software tools used	
Other tools used with the above	
Curriculum context and learner profile (subject, course level, full or part time, age group)	
Mode of delivery (blended, face-to-face, online, distance-education)	
How long the course/project been using the social software	
Approximate number of students involved	
Project related material available in the public domain (publications, web sites)	

Section 2: Details

“Thank you for agreeing to this interview. As I hope you are already aware, we have been commissioned by JISC to study the use of public-domain social software in education. We would like to know how you have used social software in your project. The aim is to help the educational community explore the potential benefits – and problems – of this new domain.

“We will treat what you say with care. We will not reveal the full content of the interview to anyone outside the project team. If we choose to quote you we will not mention your name; however the quote will be identified as coming from this <University/College>.

“We will also handle your information carefully so that it is secure and cannot fall into the wrong hands.

“At any time during this interview you can ask me to stop the interview or take a break if you wish to.

“Do you have any questions before I start?

Questions	Guidance to interviewer
Could you give me some details of what you are doing with [the social software tool] in your initiative?	
What were your main aims, from an educational perspective?	[if not already covered]
Which other tools are you using in this initiative?	[to elicit information about the secondary tools]
Why did you choose this tools/ these tools?	[if not already covered] Probe: what were the drivers for this initiative? External or internal?
Does this initiative build on any earlier activities with students?	[if not already covered]
Could you give me more details of the activities or examples of activities in which the tool(s) are employed?	
What are the minimum technology requirements to successfully deliver this initiative? Would there be any constraints to make this initiative widespread within your institution?	
Has the use of the tool(s) evolved in any way?	[to check if some changes have happened and why since the tool(s) were first introduced]
Do you think using the tool(s) was helpful for students?	Probes: Has the initiative helped in students' learning, collaboration or community-building?
Were there any problems for students or for you or for the technical support team?	[to uncover the issues]
What are your own experiences and perceptions?	Probes: Were the tools used as intended? What were the benefits expected? Were the outcomes expected or unexpected? What issues arose relating to the teacher's role and work?
What skills do you think are needed for educators/students to make best use of the social software(s) used in this initiative?	
Do you think this initiative is sustainable? If yes, why? If not, why?	

Reflections of the Interviewee

“And finally, a few questions about your own feelings on the project and what has been learned.”

Question	Guidance to Interviewer
Do you feel that the initiative was a success?	
Where do you see this initiative going?	Plans/ideas for future use of this (or similar) technology?
Would you do it differently in the future?	If so, how and why?
What did you learn that you would like to share with the educational community?	
Is there anything else about this initiative that you think we have missed?	
Do you have any other questions before we end?	

“Thank you very much for this interview. I will be creating a short report of all the interviews. I will send a copy to <you/primary contact> so that it can be checked before I pass it on. Early next year a case study for selected courses we have investigated, along with an overall report, will be published by JISC. I will also let <you/primary contact> know when this is available.”

Appendix 4.8 Case Study Presentation Template (main case study)

The following is the outline of the way in which each case study should be presented. Each case, as a PDF or printed document, would be presented in A4 format over 2-3 pages. If a booklet presentation this would be as a double-page spread; for a loose leaf format, double-sided sheets. The same material should be presented as a single page in any web presentation.

Integrate direct quotations from participants throughout. Quotes, separated out from the text, will draw the reader's attention to the information. The case study should be 1500-2000 words, aiming at 1800 words. Guideline word counts have been given for each section below, but please use your own judgement to adjust these appropriately for each case study.

Fact Box

150 words (will be derived from the course/project summary of the filled elicitation template). This will be formatted as a highlighted box.

Use the name of the initiative as the title of the box

(e.g. 'Develop Me!' or 'Dentistry@Manchester')

Summarise the key attributes of the initiative to allow readers to match the case study with their own context.

Brief description of the initiative (50-60 words).

Social software tools employed (primary and secondary tools); also highlight these in bold within the brief description.

Name and role of institution.

Contact information (if publishable).

Curriculum context and learner profile.

Mode of delivery.

Duration of the initiative (give dates if known).

Approximate number of students involved.

Social Software Tools

250 words.

- Provide a description of the tool(s)s employed in a generic sense and, as far as possible, independent of the case study.
- Say what the tools are and how they work.
- Cover both the generic technologies (e.g. blogging) and the specific tools (e.g. blogger.com)
- Provide a web link for each tool (e.g. if the 'Delicious' social bookmarking tool was used, give a link to the Delicious home page) .
- Mention key features of each tool which may influence its choice and use.

Background and Rationale

200 words.

- This should focus on the preceding context for this initiative and what motivated the use of the social software – why it was done.
- What was the initial educational scenario or purpose?
- What were the educational aims?
- Why was the initiative to use social software undertaken?
- Were there drivers from the institution, from students, from other staff, from external sources?
- What benefits were anticipated from using social software in this context?
- What was the rationale for the use of the chosen social software (e.g. blogging or social networking or wikis etc.)

The Initiative

450 words.

- Provide a description of what happened in the initiative – what was done and how it was done:
- Did the initiative build on any earlier learning context and activities?
- What were the learning tasks and activities? Did students work individually or in groups?
- How were the social software tools selected, and how long did it take to select them?
- Did students choose to use any other software tools?
- How, and to what extent, was the social software used?
- How did the social software fit with other elements of the teaching and learning context?
- What was the role of the software in the course assessment (if appropriate)?
- How did the initiative develop; how did things change during the work?

Benefits

300 words.

This section will give the reader the information to assess the benefits of the initiative. Ensure that there are quotes and/or results related to the benefits – both intended and unexpected. To source material for this section, please refer to the interviews with students (where available) as well as the interviews with staff.

The key questions are:

- Was the project a success?
- What evidence is there for the success?
- What were the key benefits for both students and staff?
- Were there improvements in learning outcomes, or in sense of community?
- Were there time savings for students or staff?

- Did students/staff enjoy the course more?
- How did the actual benefits relate to those anticipated beforehand?
- Is there any feedback that demonstrates the above?

Issues

250 words

This section will cover any issues, concerns or problems which arose. It should also cover other matters which needed to be considered, or which would need to be considered in a future initiative of this kind. To source material for this section, please refer to the interviews with students (where available) as well as the interviews with staff.

- Were there problems for students or for staff?
- Were there issues of workload or time?
- Were there technical problems, or specific technical requirements?
- Were there issues related to training, implementation, support or access to technology?
- What skills were needed by staff or students?
- How was the question of accessibility addressed?
- Were there social issues (e.g. concerning relationships among students or between students and staff)?
- How were issues relating to privacy or security addressed? Were there concerns regarding using systems on the open web?
- Were there institutional issues (e.g. links to university processes and systems, VLEs)
- How could the project have been better?

Key lessons learned and the way forward

200 words

- What key lessons can others learn from this experience? What are the main messages from the initiators? From staff? Students? These could be key benefits, useful approaches, attitudes, things to think about etc.
- Aim to use direct quotes, if possible, which include answers to the following questions (taken in part from the final section of the staff interview template):
- Where do you see the project going? How might it be sustained in the future?
- Would you do anything different in the future?
- What did you learn that you would like to share with the educational community?

Further resources

Provide a short list of publications and web sites related to the initiative and to the tools used. Use tinyURLs if the URLs are long.

Appendix 4.9 Case Study Presentation Template (mini case study)

The following is an outline of how mini case studies will be presented. Each mini case study should be approximately 750 – 1000 words in length. Guideline word-counts for each section are included below. The case study should include direct quotations from participants where possible.

Use the name of the tool/ initiative as the title of the mini case study.

For example: 'Using Twitter to build community' or 'Supporting practice-based learning with Skype'

Fact Box

150 words (will be derived from the course/project summary of the filled elicitation template). This will be formatted as a highlighted box.

Use the name of the initiative as the title of the box

(e.g. 'Develop Me!' or 'Dentistry@Manchester')

Summarise the key attributes of the initiative to allow readers to match the case study with their own context.

Brief description of the initiative (50-60 words).

Social software tools employed (primary and secondary tools); also highlight these in bold within the brief description.

Name and role of institution.

Contact information (if publishable).

Curriculum context and learner profile.

Mode of delivery.

Duration of the initiative (give dates if known).

Approximate number of students involved.

Social software tools

100 words

A description of the primary and any secondary tools: what they are and how they work. This should encompass the generic technologies (e.g micro-blogging) and the specific software tools used (e.g. Twitter). Please provide URLs for the specific tools.

The initiative

350 words

A brief description of how and why the tools were used in the educational context, together with information about the institution and the primary contact person.

Benefits

100 words

A summary of the benefits for students and for staff. Include both anticipated benefits and unexpected ones. Give evidence of benefits, if available.

Issues

100 words

A summary of any disadvantages or problems which arose. Also mention other matters which need to be considered (e.g. technical requirements, privacy issues etc.)

Key Lessons Learned

100 words

A summary of the key points which were learned from the initiative. The key messages that participants would like to convey to others. Use direct quotations in this section where possible.

Further references

3-4 web references about the tools and, if possible about the initiative. Use tinyURLs if the URLs are long.

