



## **Web 2.0 Authoring Tools in Higher Education Learning and Teaching: New Directions for Assessment and Academic Integrity**

**An Australian Learning and Teaching Council Priority Project, 2009-2010**

### **Discussion Paper for National Roundtable**

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## Contents

Project Team:.....	3
Project overview .....	4
Discussion paper summary.....	5
Part 1: Key concepts and issues in the assessment of student web 2.0 authoring.....	6
How does web 2.0 authoring work?.....	6
How does web 2.0 authoring support student learning?.....	6
How do we define good practice in the assessment of student web 2.0 authoring?.....	7
How does assessment of student web 2.0 authoring concern institutions and disciplines?.....	8
References .....	9
Part 2: Australian academics' experiences with assessing student web 2.0 authoring .....	13
About the survey .....	13
About the cases .....	13
Quantitative findings from national survey.....	14
Responses to open-ended survey questions.....	19
Selected case studies.....	21

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## Project overview

This project aims to develop a set of guidelines formalising academic practices, standards and reporting relating to the use of “web 2.0” or “social software” for assessing student learning in higher education. Web 2.0 forms of authoring or content creation include blogging / microblogging, audio/video podcasting, social bookmarking, social networking, virtual worlds and wiki writing. Well-known tools or sites include WordPress, Twitter, Flickr, YouTube, Second Life, Delicious, Facebook, MediaWiki, and so on.

Increasingly web 2.0 forms of authoring or content creation are being used to support students’ learning in higher education. However, very little has been written about appropriate academic practices for assessing student learning that is demonstrated using web 2.0 technologies.

The representation of student learning in these forms in higher education raises both familiar and novel challenges for assessment and academic integrity, which are critical to resolve if university learning and teaching is to keep pace with trends in public and scholarly communication.

Improvements in the assessment of student web 2.0 authoring activities may be needed in teaching, tutoring and marking practices, in order to overcome setting superficial tasks, requiring ephemeral forms of work for educational credit, accepting work that is without academic rigour or claiming exaggerated learning outcomes.

Improvements may also be required to fill gaps in the context: i.e. in the scope of assessment policy and procedures; the emphasis of library and learning skills support; the management of student records; the provision of educational technology services, and so on.

By identifying and addressing such issues in assessment design, conduct, marking, feedback and quality assurance, this project meets a growing need to establish and maintain good practice in the use of web 2.0 forms for academic purposes in institutions and in the disciplines.

For convenience, the **assessment of student web 2.0 authoring activities** is abbreviated throughout this document as **ASW2A**.

The guidelines produced by this project will be based on:

- Documenting Australian teaching academics’ experiences with ASW2A and their issues with assessment standards, practices and reporting
- Conducting a national roundtable comprising selected teaching academics who are experienced in ASW2A along with other academics selected for their expertise in assessment policy and practice, in e-learning and e-assessment, and in student management and support, to make joint recommendations for good practice guidelines.
- Field-testing good practice guidelines in the three lead universities, in approximately 20 varied semester-long subject teaching settings where ASW2A occurs.

These guidelines will be disseminated nationally in the second half of 2010.

## Discussion paper summary

This discussion paper has been prepared for reference by participants in the national roundtable. It has two parts.

The first part is a review of some key concepts and issues in the assessment of student web 2.0 authoring. It summarises basic understandings that the roundtable will need to reflect in its recommendations about ASW2A:

- How does web 2.0 authoring work?
- How does web 2.0 authoring support student learning?
- How do we define good practice in the assessment of student web 2.0 authoring?
- How does assessment of student web 2.0 authoring concern institutions and disciplines?

The second part is a summary of findings about Australian academics' experiences with ASW2A. These findings provide for the first time a snapshot of current practices and perspectives, and a baseline for improvement, to inform the roundtable deliberations about the needs and priorities for assessment standards, practices and reporting. The findings answer questions about:

- What forms of ASW2A are in use and in what fields of study?
- How are assignments designed, completed and marked?
- To what extent are broad aspects of academic policy and procedures addressed?
- What do teaching staff consider the most worthwhile and the most challenging aspects of ASW2A?
- How does ASW2A align with learning objectives?
- What are the particular features of assessment design, conduct, marking, feedback and quality assurance relevant to ASW2A?
- What are teaching staff perspectives on academic integrity and academic policy aspects of ASW2A?

## Part 1: Key concepts and issues in the assessment of student web 2.0 authoring

### How does web 2.0 authoring work?

We turn to Wikipedia (2009, November 10):

The term "Web 2.0" (pronounced "Web two point oh") is commonly associated with web applications which facilitate interactive [information sharing](#), [interoperability](#), [user-centered design](#)<sup>[1]</sup> and [collaboration](#) on the [World Wide Web](#). Examples of Web 2.0 include web-based communities, [hosted services](#), [web applications](#), [social-networking sites](#), [video-sharing sites](#), [wikis](#), [blogs](#), [mashups](#) and [folksonomies](#). A Web 2.0 site allows its users to interact with other users or to change website [content](#), in contrast to non-interactive websites where users are limited to the passive viewing of information that is provided to them.

Educational commentators (such as Alexander, 2006 and Richardson 2006) have observed that web 2.0 authoring is different from and more promising than previous forms of documenting student learning, by virtue of the way that it is co-constructed, interconnected, continuously updated and composed using mixed media. Typically web 2.0 content is open to all participants to create or manipulate – referred to hereafter as authoring – by commenting, editing, mashing, rating and tagging. Communication about content among participants may be facilitated via avatars, fans, friends, locating, profiling and syndication. In web 2.0 authoring forms, the authoring dialogue can range over ideas discursively during a fixed period of time, and also can anticipate that further layers of meaning will be created by future reader / writer contributors to open-ended content ("serial sharing", according to Amitay, Yogev and Yom-Tov 2007).

There is widespread popular, public sector and private sector enthusiasm for web 2.0. "One of the fundamental ideas underlying Web 2.0 [is] that successful network applications are systems for harnessing collective intelligence ... a large group of people can create a collective work whose value far exceeds that provided by any of the individual participants" (O'Reilly and Battelle, 2009, p. 2).

There are also critical perspectives. "Web 2.0 also embodies a set of unintended consequences, including the increased flow of personal information across networks, the diffusion of one's identity across fractured spaces, the emergence of powerful tools for peer surveillance, the exploitation of free labor for commercial gain, and the fear of increased corporatization of online social and collaborative spaces and outputs" (Zimmer, 2008, para. 2). Web 2.0 may exemplify one of the new technologies that Chodorow (2000) predicted at the millennium would erode many of the traditions of academic authorship.

### How does web 2.0 authoring support student learning?

In the world beyond university learning and teaching environments, web 2.0 authoring forms are easy to access and to use, and their use is proliferating. Blogging / microblogging, audio / video podcasting, social bookmarking, social networking, virtual world activities and wiki writing are increasingly being used for social and recreational purposes. Importantly these forms are being taken up also in the civic, business and professional contexts for which universities educate students (e.g. Boulos, Maramba and Wheeler, 2006; Bughin, 2008; Burgess, Foth and Klaebe, 2006). In academic research circles too they are now being adopted as supplements or even alternatives to conventional forms of scholarly publication and communication (e.g. ACLS, 2006).

Staff and students working together, and students working independent of staff, are technically freer than ever before to choose how they use these web authoring forms and features to support learning and teaching, inside and outside of academic policies and protocols. They do not need to rely on the online learning infrastructure provided by their educational institutions to give them access to their choice of popular tools (WordPress, Twitter, Flickr, YouTube, Second Life, Delicious, Facebook, MediaWiki, and so on). As well, there is a growing list of web 2.0 tools aimed at educational users,

both freestanding services such as CiteULike, Edublogs, Serious Games and TeacherTube, and tools that are bundled in newer versions of university learning management systems such as Blackboard and Moodle.

Academics are being encouraged to implement these new forms as student learning activities (e.g. Alexander, 2006; Dalsgaard, 2006; Franklin and van Harmelen, 2007; Richardson, 2006). Pedagogical rationales include to engage and empower students, to increase peer learning and creative expression, to develop literacy and communication skills, and to facilitate lifelong learning (e.g. Barnes and Tynan, 2007; Berlanga et al., 2007; Brown and Adler, 2008; Drexler, Baralt and Dawson, 2008; Godwin, 2007; Lamb and McLaughlin, 2007, pp.6, 10; Renner, 2006).

Before being able to formulate or apply well-reasoned student web 2.0 authoring as part of a coherent pedagogy, educators need to review their conceptions of student “writing” - in the widest sense of students’ representations of their developing knowledge. Insights to inform and extend educators’ thinking about what happens during the process of student writing can be found by turning to philosophical ideas about texts, for example, Kristeva’s (1996) writing on intertextuality and identity formation, which emphasises the interconnectedness of all texts and argues that textual meanings are neither fixed nor stable. From this perspective a student author’s identity is not only dynamic and mercurial, but also on trial (following the connotations of the French expression *le sujet-en-proces*): a subject-in-process awaiting the judgement of others.

The analogy of the ‘subject-in-process (and) on trial’ seems particularly apposite to the student web 2.0 reader / writer-as-emergent-author awaiting assessment as the originator of legitimate academic work. In the case of web 2.0 authoring, it may help to understand student writers as more active “prosumers” of educational content, able to be both producers (writers) and consumers (readers) of digital texts and digital identities (Sener, 2007, p.7). As Thompson (2008) has argued, student web 2.0 authors may be thought of as subjects-in-process-and-on-trial engaged in the construction of representations of knowledge through internal and external dialogue. Even though a text is internally constructed by an individual learner, the conversation about authoring now may occur not merely within the shelter or confines of the university but within a wider prosumer culture.

## How do we define good practice in the assessment of student web 2.0 authoring?

Assessment is said to drive learning, including technology-based learning: “Assessment influences not only what parts of a course get studied, but also how those parts are studied.... Appropriately designed assessment that exploits the potential of ICT can change students’ approaches to learning” (Kirkwood and Price, 2008, p. 5). The implication is that good practice in assessing student web 2.0 authoring could improve student learning and equally that non-purposeful or poorly managed assessment could have a deleterious effect on student learning.

Although the use of student web 2.0 authoring in university education is rising, in many cases it is offered chiefly as a preliminary to core assessable work, for optional enrichment or for low-stakes assessment (i.e. formative and locally marked). According to recent research (Gray et al., under review, 2009) only a small number of staff and students, spread across institutions and disciplines, have reported their experience with web 2.0 authoring for medium- or high-stakes assessment (i.e. where results are externally reviewed, determine student progression and affect the standing of the course). So, for academics wishing to implement or improve ASW2A substantially, there are scarcely any model assignments or examples of good assessment practice to draw on. The few extant examples appear to encourage and assess superficial learning, and to gloss over the assessment opportunities and implications of web 2.0’s distinguishing features.

Student web 2.0 authoring in higher education raises significant challenges for academic integrity and other aspects of educational quality in assessment (Anderson, 2007, pp.54-56; Dron, 2006; Elliott, 2007; Horizon Report, 2008, p.5; Nillson, Ekloff and Ottosson, 2005; Roberts, 2007; Selwyn, 2007, p.7). “It becomes a question of working with a set of circumstances rather than trying to control or alter them” (JISC, 2009, p.30). Most of its advocates offer no guidance on how to conduct assessment that comes to grips with its unique features, its difference from previous forms of student writing and staff marking or its academic administration. Conditions of transparency and accountability are needed to support academic integrity in ASW2A; the heightened speed, ubiquity and multiplicity of student writing in web 2.0 prosumer culture may contribute to this or may lead to its decline. According to Dron (2006, p. 129), “Trust may be broken in several ways, some of which are peculiar to social software.”

Some pointers to good practice can be found in existing general guides to assessment (such as James, McInnis and Devlin, 2002a and REAP, 2007), guides for assessing group learning (such as Isaacs, 2002 and Race, 2001) and the like. However, these may be difficult to apply or may not apply at all to the assessment of student web 2.0 authoring (ASW2A). More recently specialised guides have been developed to support online assessment or e-assessment (e.g. Crisp, 2007; JISC, 2007; Reeves, 2006). These may set out some issues of relevance in ASW2A, and may recognise some of the in-principle challenges, but still lack details or exemplars of how to resolve these in practice. One way to determine and monitor good practice in ASW2A may be to adapt criteria from James, McInnis and Devlin (2002b), adding to them the dimension of what might constitute a good three-way fit among the affordances of the tool, the purpose of the assignment and the approach to marking:

1. There are explicit learning outcomes, clear criteria and, where possible, statements of the various levels of achievement.
2. There is a close match between the assessment tasks – in particular, the knowledge and skills these tasks are capable of determining – and the intended learning outcomes.
3. There is a close match between the assessment tasks – in particular, the knowledge and skills the tasks are capable of determining – and the affordances of the W2A forms and tools as an adjunct to, or replacement for, other means of assessment.
4. The grades awarded (and other information provided to students on their achievement) make a direct link between the intended learning outcomes and students' actual performance on assessment tasks.
5. The grades awarded (and other information provided to students on their achievement) make a direct link between the intended learning outcomes and students' ability to use the W2A form and tool in relevant ways.
6. The assessment tasks are capable of evidencing the higher-order learning outcomes that characterise higher education.
7. The assessment tasks are capable of evidencing the academically appropriate practices (in particular those related to the conventions of acknowledging and attributing sources) that characterise higher education.
8. The management of assessment supports ongoing evaluation, quality assurance and academic critique of learning technologies, learning outcomes and assessment strategies – within and beyond the immediate learning and teaching setting.

## How does assessment of student web 2.0 authoring concern institutions and disciplines?

Assessment is the way that universities demonstrate the worth and value of their graduates, and lay the foundation for the researchers of the future. In general terms, university assessment is expected to attest to higher-order learning, which has been defined as critical thinking, use of language, structuring and argument (Elander, Harrington, Norton, Robinson and Reddy, 2006, p. 72) or compare/contrast, explain causes, analyse, relate, apply, theorise, generalise, hypothesise and reflect (Biggs, 2003, p. 3). In the way that assessment is actually done, there is a great deal of momentum for changes that are responsive to the changing needs of society, that is, the changing external context of the university as a social institution (Gibbs, 2006). At the same time, there is pressure to uphold academic standards, for example by assessing essential learning outcomes rather than processes, based on optimal evidence of student achievement and reflected in grades that can be related to set standards (Sadler, 2009).

At present, assessment activities are a quality improvement priority for Australian universities (AUQA, 2007, p.103; Chalmers, 2007, pp. 89-92). ASW2A poses significant quality challenges – and perhaps particular advantages – across the “assessment cycle” (i.e. designing assessment, preparing students, marking and feeding back, moderating and auditing, as in Bloxham and Boyd, 2007). The challenges include demonstrating that it: relates to specified learning objectives; integrates horizontally and vertically with other elements of assessment; is able to produce evidence of desired learning outcomes; is supported by adequate instructions and marking rubrics; encourages academic honesty; provides sufficiently detailed feedback to students; enables staff peer review and moderation of marking; and can be externally evaluated for curriculum accreditation purposes.

A high priority across the sector must be to ensure that ASW2A preserves academic integrity, while being engaging, effective and efficient for students and staff. Established practices supporting originality and attribution (for example, major citation and referencing styles) – as well as traditional marking and feedback practices for reinforcing these in

student learning – are scarcely applicable to the dynamic authoring features of web 2.0 (Gray et al., 2008). Universities are still struggling to find constructive approaches to Internet plagiarism of an earlier era (e.g. Darbyshire and Burgess, 2006), while web 2.0 innovations rapidly overtake this. Taking the example of social networking, confounding situations for academic administrators include:

- what constitutes acceptable and unacceptable student conduct when students use social networking ‘unofficially’ to support their own and each others’ work on assignments? (e.g. Goodhall, 2008; The Answers, 2008);
- the repercussions for university assessment of students’ competence to practice as professionals, when students use social networking even if outside educational settings, in ways that are socially inappropriate and very public (Ferdig, Dawson, Black, Paradise Black and Thompson, 2008; Gilman, 2009);
- the polarised reactions students may have when educational uses of social networking are formalised and assessed (Ipsos MORI, 2008, p. 16).

At present, official academic policies and procedures do not assist with many aspects of ASW2A standards, practices and reporting, such as the identification, ownership, safety, recording, privacy and preservation of student work. Technical or pedagogical suggestions for improving ASW2A (e.g. Clark et al., 2007; Downes, 2007) tend to be put forward without reference to any educational quality framework. University learning and teaching leadership must deal consistently and insightfully with ASW2A so as to address four major issues of institutional quality – major accreditation frameworks, other external stakeholders’ expectations, endorsement of learning resources and activities, and questions of intellectual property (Collis, 2008, p.100-101).

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## **Part 2: Australian academics' experiences with assessing student web 2.0 authoring**

### **About the survey**

The project team conducted an online survey of Australian academics who assessed student web 2.0 authoring in subjects that they taught. The survey was advertised in national learning and teaching forums and data were collected from August to October 2009. Respondents were asked to answer questions about one assignment they used for their subject. There were 60 respondents, of whom 50 completed all or most questions. Selected findings are described here.

### **About the cases**

The project team conducted follow-up telephone interviews with 22 survey respondents who volunteered to take part in the interviews. The interviews were conducted in September and October 2009. The interviews were semi-structured and focused on details of practice and participants' perspectives on their use of web 2.0 tools in teaching and learning. Most interviews lasted 30-60 minutes. Five cases are described here to provide examples of the different tools and disciplines represented in our findings.

## Quantitative findings from national survey

Note that multiple responses were allowed for questions marked \*.

### \*Role of the respondent

Role	%
Coordinator	72
Lecturer	65
Tutor	33
Marker	50

### Discipline that students are enrolled in

Discipline	%
Agriculture, environmental and related studies	2
Architecture and building	2
Creative arts	5
Education	25
Engineering and related technologies	2
Food, hospitality and personal services	0
Health	10
Humanities	23
Information technology	25
Law	2
Management and commerce	8
Medicine	5
Natural and physical sciences	3
Society and culture	12

### \*Types of web 2.0 activities students do in this assignment

Activities	%
Blogging/microblogging	50
Wiki writing	50
Social networking	27
Audio/video podcasting	25
Virtual world activities	20
Social bookmarking	17

**Is the assignment compulsory to pass the subject? 80% said yes.**

**When are students expected to start the assignment?**

Start time	%
Beginning of study period	55
Middle of study period	35
End of study period	3
No response given	7

**How long are students given to complete the assignment?**

Time given to complete assignment	%
1 day or less	2
1 week or less	2
1 month or less	22
More than 1 month	68
No response given	7

**Estimated time taken to complete assignment?**

Estimated time to complete assignment	%
Less than 1 hour	3
1 – 10 hours	27
11 – 20 hours	33
21 – 30 hours	17
31 – 40 hours	12
More than 40 hours	2
No response given	7

**\*Where do students complete the assignment?**

Where assignment is completed	%
Off campus while undertaking fieldwork or workplace learning	12
On campus in class	27
On campus but out of class	38
Off campus elsewhere than fieldwork or workplace learning	83

**\*Whose IT resources (Internet connection, software, computer, other devices) do students use to complete the assignment?**

Whose resources are used?	%
Students' own resources/equipment	88
University resources/equipment	82
Resources and equipment belonging to a third party (e.g., employer, friend)	33
Not sure	2

**\*What are the intended learning outcomes for this assignment?**

Intended learning outcomes	%
Generic or graduate skills or attributes	53
Specialised knowledge or skills required in a discipline or profession	47
Foundation knowledge or skills preparatory to a discipline or profession	45

**Are students provided with details of assessment criteria prior to undertaking the assignment?**

Yes in 83% of the cases, no in 5% of the cases and 12% gave no response.

**Are students provided with an example of a completed assignment prior to undertaking the assignment?**

Yes in 47% of the cases, no in 45% of the cases and 8% gave no response.

**How much does this assignment contribute towards students' mark for this unit of study?**

% of overall mark	%
1-10%	10
11-20%	17
21-30%	15
31-40%	8
41-50%	15
51-60%	3
61-70%	0
71-80%	5
81-90%	3
91-100%	7
No response	17

A couple of respondents who gave no response to this question explained that their assignment was ungraded.

**\*Who marks the assignment?**

Marker/s	%
Marked by one staff member	63
Marked by more than one staff member	27
Marked by the students	15
Self-marked by the student(s) responsible	12

One respondent commented that their assignment was reviewed by an external lecturer and another that it was marked by Blackboard.

**\*Marking techniques used**

Techniques	%
Comments as well as marks provided	67
Rubric used	53
Marked in stages	35
Equal marks shared by everyone in a student group	23
Verification of identity of students submitting work	22
Plagiarism checking tools used	20
Blind marking	5
Automated analysis or grading of student work	3

**\*Type of feedback given on the assignment**

Feedback	%
Grades in the form of a number or letter	70
Confirmation	68
Explanation	67
Correction	63
Elaboration	40
Diagnosis	37

**The assignment addresses academic policies and procedures**

Policy areas	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Not sure
Students are provided with an extension of the due date for special consideration reasons	3	3	0	30	43	20
Students are provided with timely feedback on marked work for this assignment	3	3	7	25	42	20
Copies of students' marked work are available if there is a need to deal with appeals/complaints	3	2	7	27	42	20
Students are provided with access to IT services or	2	5	10	23	42	18

equipment to complete this assignment						
Guidelines on appropriate conduct & safeguards against inappropriate conduct in use of IT facilities & services are in place	0	2	8	32	42	18
This assignment encourages academic honesty and integrity	2	5	7	33	33	20
Students' moral right and copyright in work they produce are protected	3	2	7	30	32	27
Students whose work shows evidence of cheating or misconduct are formally disciplined	0	2	10	28	32	28
This assignment provides for equitable assessment for students with a disability	2	3	10	37	25	23
Supplementary assessment is possible	10	10	12	22	25	22
Copies of students' marked work are kept on file for an agreed period of time	13	7	7	5	22	30
Students' identity and privacy in online environments are safeguarded	3	10	17	32	18	20
This assignment allows for exemption or credit in recognition of prior learning	38	17	3	3	7	32

## Responses to open-ended survey questions

In this section we provide a list of open-ended questions included in the survey and a brief overview of the main answers that respondents provided, with one or two example quotes for each theme identified.

### If you are one of several markers, what steps are taken to brief other markers, including students who mark each other's work, BEFORE marking?

There were 33 responses to this question. The key themes identified from the responses are illustrated below. Response numbers are given in brackets.

- **Criteria/ criterion referenced /graded marking sheet** (8): "Criteria and marking sheets agreed before term start, adhered to by all involved staff who meet to agree detail."
- **Rubric** (7): "Rubric provided to all prior to commencement of these Units. Discussion with students as they commence marking."
- **Experienced lecturers/tutors do the marking** (4): "Only experienced markers mark these assessments and they liaise before marking to ensure criteria are commonly understood"
- **Meeting** (3): " Meeting held between the tutors and course coordinators to standardise marking"
- **Peer review / panel review** (2): "Students engage in online peer review of their draft write ups on [name of] peer review system"
- **Examples provided** (2): "The lecturer provides their own answers to the questions posed, and discusses them with the markers before they mark the e-journals"
- **Inspection** (1): "Throughout the marking period the markers keep an eye on all the students' blogs and comments made by other staff."

There were also seven respondents who answered "not applicable" or "not sure" to this question.

### What do you think is the most worthwhile aspect of this assignment?

There were 49 responses to this question; twelve respondents did not answer. The themes that emerged from the responses are listed and illustrated below:

- **Collaboration** (15): "Getting students to collaborate in their learning and focus on assisting others"
- **Outcome** (11): "Students get to create a tangible product (vodcast) that demonstrates their understanding of content, but also demonstrates their ability to use the technology about which they are learning"
- **Awareness** (9): "It allows students to engage critically with media practices that they are likely already exposed to. It allows all students to become aware of current debates relating to new technologies that will impact all aspects of work and social life."
- **Technologies** (9): "Thinking, doing, using new technologies"
- **Engagement** (7): "Encourages deep engagement with the topic, involves peer feedback, develops materials for use by all students"
- **Marking** (4): "Allows students to work at their own pace/time, allows marker weekly access to student's work"
- **Quality of learning** (4): "The deeper levels of learning achieved"
- **Reflection** (4): "That the students are allowed to reflect on their understanding of the concepts in a low stakes manner, and that they are provided with the flexibility of completing this assignment in their own time."

### What do you think is the most challenging aspect of this assignment?

There were 47 responses to this question. Fourteen respondents did not answer this question. The themes identified were :

- **Equity/engagement** (9): “Bringing less confident students up to speed on how to use the tools. Making equitable judgements with the grading of this task - students are working to some extent to their level for their (future/current) teaching context.”
- **Technology** (9): “Making the technology a seamlessly integrated experience - so the topics for learning can be foregrounded. Some students struggle with the technology platforms for weeks... but ... they do all get there!”
- **Marking** (8): “Keeping track of changes done by an individual - very hard to find all contributions from one contributor for marking.”
- **Sharing/collaboration** (7): “Encouraging students to participate in collaborative writing; still divide up responsibilities between students, don't edit each other's work, don't use feedback to improve their work”.
- **Critically reviewing** (5): “For some it is the technology, for others this is easy and the critical reviewing is harder”

Ten responses were also categorised as ‘other’. These included, for example, references to subject-specific challenges (e.g., “dealing with clients”) and keeping students on task (e.g., “keeping the focus of students who go outside [subject area]”).

### Do you have any other comments about this assignment or the issues addressed in this survey?

There were 34 responses to this question; 17 respondents did not answer. The main themes identified were:

- **Marking** (10): “How do you mark assignments when students can change/overwrite each other's work! Many students who contributed early, found that their work was completely lost. How do you manage this process of overwriting and still contributing to the same content?” “Marking - it takes twice as long as other more standard methods - but it's worth it!”
- **Technical difficulties** (6): “Being able to guarantee ongoing access to materials hosted on site outside the University is an issue (for purposes of verifying student work at time of submission.) This is a risk and an issue that needs to be addressed.”
- **Considerations for redesigning the assignment** (4): “This is the first time I have used this assignment. I will probably modify it based on my observations of students’ performance and their feedback. I am already thinking about adapting this type of assignment to other of my units.”

There were nine responses that were categorised as ‘other’. These included subject-specific observations (“The nature of this unit is different to other units in that it has no formal curriculum as such”), reflections on students’ reactions to the technologies (“Students enjoy using Web 2.0 technologies”; “The majority of students in this course are not familiar with blogs”) and other observations about the assignment.

## Selected case studies

### Case 1: Podcasting

Technologies used
Audio/video podcasting uploaded to iTunes U; iPod notes
Student profile
Undergraduate sociology subject
Learning objectives
<b>How does the assignment/use of Web 2.0 align with course/subject learning objectives?</b> The podcast series assignment aims to “enhance the learning experience” for students “in a shared group environment”. Each episode in the series relates to the content of the weekly lecture. Assignment 2 involved creating a story with iPod notes which required students to create hypertext links and images and link to video, fitting with the overall learning imperative to impart information about the topic.
<b>How does the assignment contribute to professional/generic skills development?</b> The assignments are used to “demonstrate improved computer literacy in relation to research skills and the design of computer-based resources and work effectively in a collaborative team-based project.”
Assessment Lifecycle
<b>Design (How/why was the assignment designed?)</b> For Podcasts: For students to showcase their work to an audience beyond their class peers and lecturers; to “facilitate the group learning experience as well as ... learning with and through technology” Students were introduced to the different Web 2.0 technologies at the beginning of the subject: “workshops in the Multimedia Centre .. were embedded as part of their [the students] unit”
<b>Conduct (What do students do? What do teaching staff do?)</b> Students created a number of podcasts in groups to produce a series of podcasts about the subject matter. Students had different roles (e.g., script writing; recording or uploading data) for each podcast they were involved with. Students also produced a “learning portfolio” in which they documented their reflections on the process of producing the podcasts
<b>Marking (How is the assignment assessed and marked?)</b> The podcasting assignment constituted 20% of the subject mark. It was marked by other students, one staff member and also reviewed by an external lecturer using a “criteria sheet”. Students received an individual mark and a group mark for a face-to-face presentation of their work. There was also a “reflective evaluation” component worth 25% of the assignment mark.
<b>Reporting (How are results reported to students? To the university?)</b> All assessors used “criteria sheets” to provide feedback to students.
<b>Auditing (Are records/copies of assignment kept in case of auditing/quality assurance?)</b> Yes, kept for one year
Policy Issues Addressed
<b>Protection of students’ moral rights and copyright in work they produce:</b> Students gave their permission for their work to be uploaded to iTunes U
<b>Access to IT services or equipment:</b> Access provided through the Multimedia Centre
<b>Safeguarding of students’ identity and privacy in online environments:</b> Students’ permission was sought to make their work available to the broader public.

Other themes / points / quotes of interest
The most challenging aspect of developing the podcast series assignment for the students was to manipulate an interview script into a podcast format.
Some iPod stories were very linear but many were non-linear whereby students “created a whole web of links rather than sequential linking”.
Suggested changes included clearer statement about outcomes in relation to the development of the interview script to encourage more interactive involvement on the part of the scriptwriters to include genres such as oral histories and storytelling as alternative ways of presenting information.
One drawback to the iPod assignment for the lecturer was that they had to collect up 50 iPods from the students at the end of the project and these were heavy to carry.

## Case 2: Social Networking

Technologies used
Social networking: University student assignments about professional scientists are published to create a career guide for high school students, with a social networking aspect to it. "High school students who visit the website looking for careers in science don't know the names of many disciplines, they certainly don't know the names of any people, and they don't know the institutions they work for. So it's a bit like a dating site. The visitors answer the same questions and the system pulls up the people who match. In addition the system pulls up the other student visitors who have the same profile."
Student profile
First year course in professional skills and insights for undergraduate science, taught face-to-face.
Learning objectives
<b>How does the assignment/use of Web 2.0 align with course/subject learning objectives?</b> The assignment occurs in a tutorial stream where students interview a professional: "the idea is to welcome the students to the community of practice, to the [scientific] community ... the website is a Web 2.0 thing and ... it's enabling things to actually get published."
<b>How does the assignment contribute to professional/generic skills development?</b> The students get to experience what it's like to be in a professional community.
Assessment Lifecycle
<b>Design (How/why was the assignment designed?)</b> "I came up with this idea of the [name of website], I thought I would have some drama, you know, they had to report on the target date, actors, reporters and that sort of thing. I had a whole class just doing [that] and I've run that for seven years now and they produce a website and a CD ROM and I said 'well how can I spin this off for some other classes?' I was given a couple of big classes to teach and I said, okay, I like the interview idea, the students really seem to latch onto that and it's something that my colleagues aren't doing, when they ask students to do interviews they line up the professionals, they don't just send students out to make the appointment."
<b>t (What do students do? What do teaching staff do?)</b> This is "a multifaceted assignment involving an interview, peer review, revision based on the review as well as some social networking through this worldwide ... website and then reflection on how do I, the student, think of the link to professionals, whom do I want to model myself after. Their final essay is a prospective biography where they write about where they see themselves in 15 years and how they would have used what they learnt in class over that 15 years." Before completing the assignment, students do a practice exercise on the website where they write a biography of a classmate. Guidelines are provided on the sorts of questions students should ask and what their write up should include. Students submit their draft interview write-up to an international online peer review system, revise it and publish it on the website. Students get a CD ROM of their work to keep.
<b>Marking (How is the assignment assessed and marked?)</b> In the first stage, the marking process is automated, with the mark reflecting "how well did you do on the practice exercise, the calibration, what mark did your write up get, how effective were you in reviewing other people's write ups, how close was your score to the other reviewers and finally you give your own essay a mark and then it says 'Okay, well how close was the mark you gave yourself to the mark given by other reviewers.'" Then each student has the opportunity to improve their write up based on the feedback and uploads the revised version to the website; a tutor looks at all of these and gives them a few points based on the quality of the abridged version. Students also get a peer review of their final essay and summarise what their friends said as feedback and what they did as a response to improve the essay. A few extra credits are given to some students who say in their own words what they felt their strengths were. Despite the apparently detailed nature of this assessment, the lecturer commented "It's easier than it looks, there's not a lot of marking involved."
Policy Issues addressed
<b>Academic honesty and integrity:</b> Plagiarism was not considered an issue because students are asked to do an individual

interview, which they take ownership of. "We indicate that ... two students are permitted to interview the same person but then they have to do two interviews and they have to swap who takes the lead in each interview.
<b>Timely feedback on marked work:</b> "the students, what they get most fired up about are the people who are bludging on the reviews. They say 'I spent three hours writing reviews and I got one back where I got two lines of comments.'"
<b>Copies of students marked work available to deal with appeals / complaints:</b> "if you just ran it and said 'Live with it' there might be some problems, but the way we're doing it, yes they complained but in part we hear the complaints because we give them a voice."
<b>Protection of students' moral rights and copyright in work they produce:</b> "In terms of student copyright, nobody has mentioned it. Because they haven't tried publishing anything before, or that's my suspicion. This may change in the next few years. Nobody said 'Oh, no, that's my story, I'm going to keep it.'"
<b>Safeguarding of students' identity and privacy in online environments:</b> "I can see who's written what because I can get into the admin side. Some students will put their name on it and others won't, and I ask them to put the class number on the stories. It's more likely the person interviewed would be concerned than the student. The people interviewed are identified, unless they ask not to be... Because [students] are peer reviewing one another, they also have a chance to email back to one of their reviewers and to include their email address in the reviews for what they write because we had complaints in previous years that people were being nasty and not justifying their opinions."
<b>Guidelines on appropriate conduct and safeguards against inappropriate conduct in the use of IT facilities and services:</b> "The students are interviewing a professional ... they need the person's permission to publish their story... The challenge is going to be students remembering to get permission for everybody shown on camera."
<b>Discipline for students whose work shows evidence of cheating or misconduct:</b> "In the years that I've done this I think I got one pair of students where it was pretty obvious one was doing the thinking and so we just got on their case. It wasn't that hard to pick up."
Other themes / points / quotes of interest
<b>Academic standards:</b> "Those are the issues that my colleagues would bring up but I think they're excuses not reasons ... you know 'Show me the evidence of learning, they're going to cheat, they're going to do this, they're going to do that'. It means they're in the anger and denial stage of change."
<b>Other tools:</b> "I decided I'd have a class play with Twitter.... So they've done that and then we had a discussion this week in class. ... Some were saying they had heard of people who had actually used Twitter in an interesting way, reporting on a conference or some other way of networking with people, and what they concluded was 'Well it's a tool. You shouldn't do it just because it's cool, you should do it because you have something to accomplish. There may be a way that you can use it that other people haven't imagined.'"

### Case 3: Various technologies

Technologies used
Various – students explored a number of tools freely available on the internet and chose which ones to use.
Student profile
Education students – pre-service teachers or teachers who are returning to study. Both 4th year and Masters students. The course was mainly administered online. Most students are keen to use new technologies. There were variations in academic standards reflecting the different student levels: “often technically (4th year students) could do better stuff but the thinking behind it wasn’t there and the experience, as experienced master student who taught, could sort of talk a lot about how she integrated it and why.”
Learning objectives
<b>How does the assignment/use of Web 2.0 align with course/subject learning objectives?</b> The assignment fitted into a larger curriculum development project in which “the first part of their assessment was to look at the theories of online learning and learning generally and consider their own context and considerations that they’d have to make when starting to move towards using online technologies in their teaching”
<b>How does the assignment contribute to professional/generic skills development?</b> In this case there is a clear fit with professional skills. The course was about learning technologies. Using tools that are freely available on internet means students can access them in different professional contexts and once course has finished. The assignment also “prepare[s] our graduates for being able to use things, that kids in schools are going to have access to”
Assessment Lifecycle
<b>Design (How/why was the assignment designed?):</b> The assignment was designed to provide students with an opportunity to develop their professional skills. This was also the justification for using freely available web-based tools: “They’re going out into schools that are actually using these things or they’re going to community classes or groups that don’t have money to buy software. You have to use stuff which is readily available. And also it’s good stuff. So why not use it?”. The assignment was designed to be a collaborative assignment, although the collaboration was not structured: “Students would just sort of invite others in and comment on each other’s stuff... the idea was not to be working in isolation. “
<b>Conduct (What do students do? What do teaching staff do?):</b> Students are required to “explore a number of different tools or technologies and to engage with them in a collaborative way with somebody else, either one or two of their classmates or with, if they were an ex school context or some other context they might bring in other people”. The assignment was a focus of online class discussions: “students focus on the assessment endlessly, so there was a lot of time ... talking about it, answering questions, getting them prepared.” There were some issues identified in relation to redesigning the task to be more explicit to students, particularly in terms of collaboration: “we need to pin down the assignment criteria a little bit more tightly to make it clearer what collaboration means and how they might do it.” “We didn’t sort of prescribe how many people they had to [collaborate] with but I think perhaps next time we will.” The lecturer also intends to provide more examples in the future: “I think modelling is so important because if ... the first one they see is not very good, they tend to think that’s the standard to which they’re working.”
<b>Marking (How is the assignment assessed and marked?):</b> The assignment was marked by two teachers: “My colleague and I, we divvied up the assignments and did half each but we then moderated by choosing several of them together and came up with the same thing and talked about it” There were variations in academic standards: “people are producing very different things, so I suppose the criteria needs to capture that some way.” Marking varied according to student level: “[if] they were a 4th year, we didn’t mark them as hard as I suppose we did for the masters people.” The lecturer noted differences between marking this type of assignment and marking an essay: “[Differences in marking different levels is] sort of formally in place with essays, you know, the number of words you write as a masters students is different to a grad dip

but when it comes to creating those sort of items, perhaps a bit less clear.”
Policy Issues addressed
<b>Copies of students’ marked work available to deal with appeals/complaints:</b> The lecturer expressed some concern that students’ online work might be lost: “say somebody contests their mark and they said yeah but I did build a wiki and we go and find it and it’s not there and we don’t have control over that, we don’t have back-ups or anything like that, so somehow we need to get a snapshot of what they do with that stuff. Now whether we take screen grabs or we ask students to submit a document and in fact, with this assignment, there was a Word document that came with it that explained what they did.” “There’s always that issue, with voice threads or wiki spaces, falls off the face of the earth and where did all that work go, what we sort of did to try and prevent (that) ... you say to students, all the bits that you collect in creating this, photos or text or ideas, save them on your own computers. If necessary, in the event that it all goes pear-shaped, you can pull those out and show us those.” These are difficulties associated with using external tools for student work: “I think you sort of have to have some sort of back-up. If it’s high stakes assessment or if there’s a possibility that it may not be available... if our university should be hard line on that, they’d say you’re not allowed to use those for assessments.”
<b>Protection of students’ moral rights and copyright in work they produce:</b> Students want to protect their assessment: “They’re very sort of protective of their assessment and there’s a sort of sense that they’re competing a bit with each other, the 4th year students...”
<b>Access to IT services or equipment:</b> Challenge of IT not working: “getting the technology to work, being able to sign up ... students sort of get turned off as soon as there’s a hurdle.”
<b>Safeguarding of students’ identity and privacy in online environments:</b> Students were told not to worry about public nature of tools: “the other worry was ‘oh, somebody will see this’ and I say look, there’s millions of sites out there, who’s going to look. Really, probably nobody apart from us will look at it.”
Other themes / points / quotes of interest
<b>Building a learning community:</b> “we had lots of warm ups and getting to know people and responding to people and getting people to sort of respond to each other prior to actually meeting face to face .” “They got to sort of share something of their own world by bringing, a lot of them brought in photos or talked about their learning context, which I think as a teacher, it doesn’t always happen.” “[Students said] ‘we’ve worked with these other people in the class but we actually got to know them more in this class than we did in the one where we spent three weekends in a row face to face... It’s interesting that you can create a sense of connection and community without having to actually be in the same [room].”

## Case 4: Wiki writing

Technologies used
Wiki
Student profile
A large class (240 students) in Information Systems. Students included business, commerce, and IT students.
Learning objectives
<b>How does the assignment/use of Web 2.0 align with course/subject learning objectives?</b> The assignment was previously part of the curriculum. Course assignments are reviewed/renewed regularly. The wiki assignment has created a knowledge resource that can be used by other students: “we still have the IS [wiki] that we ran from two courses and other courses as well. That’s a good registry of [professional information]”.
<b>How does the assignment contribute to professional/generic skills development?</b> The assignment involves researching the different professional roles for IS graduates.
Assessment Lifecycle
<b>Design (How/why was the assignment designed?):</b> The tool was chosen to match the assignment: “wiki is better... to collaborate and create a registry.” The tool enabled collaboration, which was built into the design of the assignment: “we can create multiple pages on the same template and everybody can write and edit, which was fundamentally why we used the wiki.” There were assessment design issues because students needed additional instructions relating to the use of Web 2.0: “if you’re running it in a mode like this, you have this other area that you have to sort of cover, and explain to students, the tool related, the behaviour related, the interaction related and how the marking would be done... it’s more than the assignment task set up, there’s the other managerial issues that you can look at.”
<b>Conduct (What do students do? What do teaching staff do?):</b> Students were asked to find a professional role and use a template to upload information about this role onto the wiki. “The students could choose any [profession] they wanted ... and they could collaborate on the same [professions] with any other students ... it was left up to them.”
<b>Marking (How is the assignment assessed and marked?):</b> Various kinds of contribution to the wiki counted for assessment: “The instructions were that the contribution in terms of the assessment could be a new [profession] and it could be anything else, as in edit an existing role or it could be formatting changes, like putting it together or making sense of all the jobs that people were putting up there.” Students submitted a copy of their contributions for marking. This was a workaround to overcome the problem of students deleting other students’ work. The tutors could not use the wiki to look at individual students’ contributions – students had to provide a copy of their contributions. Tutor workload was an issue. The lecturer suggested there should be some changes to the marking process if the assignment were to be offered again, specifically “the process of people learning ... how to do wiki collaboration deserves some assessment, a reward.”
Policy Issues addressed
<b>Academic honesty and integrity:</b> Plagiarism was mentioned as a potential issue, although there had been no evidence of plagiarism in this assignment: “In terms of plagiarism, there can be issues, issues over students copying as I say but we haven’t found any evidence ... plagiarism can be an issue if somebody wants to copy somebody else’s work and use it, it might be hard to track, unless the other students find out.” There were also problems with academic standards, particularly in relation to proper referencing: “referencing is another problem because they are not referencing their work properly, even if they were taught how to do it for [this assignment].”
<b>Protection of students’ moral rights and copyright in work they produce:</b> Students’ work was sometimes deleted by other students: “It worked fine except that some students were deleting other people’s work. And that was a problem. ... They were asked repeatedly not to override each other’s work with other information, to only add to [the wiki], if you could add

<p>value, and so on.” Students had to submit their version of the changes they had made, which was a workaround to deal with other students deleting work. Some students believed other students copied their work: “we didn’t see any copying but the students thought there was copying... there is not evidence but I think they had the fear.”</p>
<p><b>Access to IT services or equipment:</b> The task was hampered by technical difficulties: “A lot of things didn’t work because we didn’t understand how the interaction would unfold, how the tool would behave, a lot of downtime and template restrictions.”</p>
<p><b>Safeguarding of students’ identity and privacy in online environments:</b> Some students felt uncomfortable with the public nature of the wiki. There were difficulties protecting students when using externally hosted tools, particularly in relation to another assignment (blogging) where students made inappropriate comments; the lecturer could not delete the comments immediately and had to “go through IT support, they were in the UK, it took a day. So the comments actually stayed for a day.” Students feared identity/privacy/moral rights would not be protected: “[There was] quite a lot of fear or negative perceptions ... A lot of those were not true but they still had the perception.”</p>
<p><b>Guidelines on appropriate conduct and safeguards against inappropriate conduct in the use of IT facilities and services:</b> The guidelines about the task that were provided were sometimes ignored by students and this led to students deleting other students’ work: “They didn’t understand the task or they didn’t understand that contribution meant not you have to contribute to the whole... I think they never hardly read the handout properly or the instructions.” Identification was used to safeguard students against inappropriate conduct. Any instances of inappropriate conduct (this mainly occurred in the blogging assignment not described here) impacted the whole class: “sometimes there was a bit of attacking, bullying attitude... you had 220 students that are dealing with it, if you had like five students making or using inappropriate language, it impacted the whole class... you just need one or two cases, to diminish if you like the capabilities of the tool or the usefulness of the tool.” Moderation of student contributions is important, but this creates workload issues: “you have to actually keep an eye. When I say keep an eye, it’s every day so workload becomes an issue.”</p>
<p>Other themes / points / quotes of interest</p>
<p><b>Positive outcomes:</b> There were benefits relating to peer learning – particularly because it is online (“I bet students have read more [of other students’ contributions] than they would actually learn if it was in a class, you know a tutorial”) - and creating a useful knowledge resource.</p> <p><b>Challenges:</b> Students needed time/training to learn to use the tool. The usability of the tool was sometimes a problem and collaboration was difficult for some students.</p>

## Case 5: Blogging

Technologies used
Blogging: Wordpress
Student profile
Art course. There were 56 students, made up of second and third-year undergraduates and some graduate diploma and Master's students.
Assessment Lifecycle
<b>Design (How/why was the assignment designed?)</b> The impetus for implementing this assignment was to encourage students to engage with current events, which was linked to the course curriculum: "the nature of the course means we go from a historical perspective to current, but I wanted them to be able to engage with the current from the beginning of the course." The assignment was designed so that students could contribute throughout semester. The lecturer "wanted to make sure that they did something continuously through the semester." Blogs were chosen because it was designed to be a relatively informal assignment: "The types of comments I was hoping were relatively informal, so it really was more like a chat environment essentially."
<b>Conduct (What do students do? What do teaching staff do?)</b> Students selected relevant news items and posted these to the blogs five times: "they had to select current news items that appeared on the web, so it could be under news, it could be anything they came across that related to [the course content]... and they had to post or comment at least five times during the semester." The timing of the assignment did not work as planned: "I didn't put time limits so we did have some people that actually hadn't even logged onto the site until after halfway through the semester so they just did all of their blogs and comments at the end." Students' posts were moderated by the lecturer: "I approved all their comments and things before they were posted, which was also my way of checking..."
<b>Marking (How is the assignment assessed and marked?)</b> The assignment was worth 5% of the total subject mark ("it's an easy five marks in a way for students"), and students were marked on their participation and the content of their posts: "they couldn't just put up a link and that was it. They had to say something 'Oh this was interesting, read the bit about something that's in this article'." Students' contributions were quantified: "I had fairly clear instructions which said you should contribute at least three posts and make comments on at least three posts published by other students. So the people who did that got their 5%. If they only put up three things they only got 3%. So it was very much just a counting thing."
Policy Issues addressed
<b>Safeguarding of students' identity and privacy in online environments:</b> The blogs are not open to the public. The lecturer discussed with students whether they should keep the blogs open after the assignment was completed and "no one actually had strong feelings one way or the other. What they agreed to do was keeping the site open until the end of this academic year but it's still a closed site in the sense that only students of the course can access it but they were happy for that to happen and then I'll just close it."
<b>Guidelines on appropriate conduct and safeguards against inappropriate conduct in the use of IT facilities and services:</b> The lecturer approved students' contributions before they were posted and this moderation provided a safeguard against inappropriate conduct: "there were a couple of minor technical issues where people had logged in using ... essentially inappropriate email addresses, just their personal 'Little miss Tricky' or something email address but that was dealt with very promptly and I actually picked that up before it got posted anyway."
Other themes / points / quotes of interest
The lecturer mentioned numerous learning benefits. For example, the assignment provided an opportunity for students to engage with a broad range of materials and to gain an awareness of the materials available relevant to the subject. The assignment also had the benefit of engaging the learning community as a whole: "I think probably the biggest plus for me was this sense of having an activity that had ownership by the whole group as opposed to the individual tutorial groups or

whatever.”
The challenges included technical challenges and the problem that some students didn’t see the task as relevant.
The assignment was a minor assignment, and the interviewee suggested that policy issues would prevent web 2.0 from becoming a prime means of assessment: “I can’t see this... becoming the prime method of assessment at the moment, just with the way the technologies are working, all those issues of confidentiality, copyright, all of those things, I just think there’s still more we need to work through before I could make it a major component for assessment.”
The interviewee identified issues relating to academic standards and online work: “There seems to be something about online work though that perhaps can take away a bit of the formality which is still required to set aside the academic component which is basically why they’re at this university. There is a balance to be had, absolutely.”