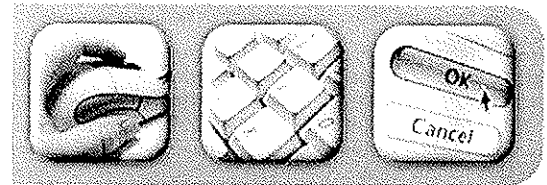
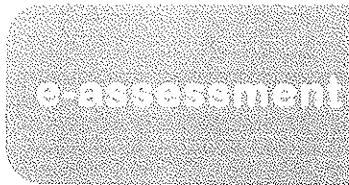


What is Web 2.0?



Web 2.0 is a description of a range of web services that collectively represents the 'second version' of the world wide web. There is no definitive list of such services (not even a definitive list of the types of service that make up Web 2.0), but they all have certain characteristics in common:

- web (rather than PC) based
- user control of data (rather than the data being owned by the hosting service)
- user-friendly and interactive environment
- collaborative/participatory facilities

Web 2.0 is better described by example than definition. Services such as Gmail, Wikipedia and Flickr exhibit clear Web 2.0 characteristics.

The learning potential of these services is well known. This paper explores their assessment potential.

Assessment 2.0

Assessment is about generating evidence of your knowledge or skills. This evidence can be used to aid learning (formative assessment) or used to measure learning (summative assessment). 'Assessment 2.0' is the use of Web 2.0 services to generate this evidence. Table 1 illustrates some of the ways in which Web 2.0 technologies can be used in the assessment process.

For example, an online e-mail service (such as Gmail) can be used for either formative or summative purposes. Apart from the obvious uses as a means of communication between learner and teacher (which is an example of formative assessment) and a means of submitting assessment material (which is a summative application), Web 2.0 e-mail services provide large storage capacities that facilitate their use as personal portfolios (for example, Gmail provides almost 3GB of storage space). Another example of a Web 2.0 service that can be used for assessment purposes is social bookmarking. These services allow you to bookmark websites in a central (online) location where they can be accessed from any web-enabled device or shared with other users; many also store a copy of the bookmarked page (in addition to its URL). Social bookmarking services provide a good way of gathering assessment evidence (which can be used for formative or summative purposes). A learner can use such services to collect web pages that can subsequently be included in their assessments. The ability to subscribe to another user's bookmark list is an excellent way to discover what your fellow learners are bookmarking.

A key aspect of Web 2.0 is describing content through folksonomies and evaluating content via user-rating. A folksonomy is a user-defined taxonomy – a taxonomy where the user defines the categories by making up a series of tags to describe information. User-ratings permit individuals to 'score' a piece of information (which might be a web page or an individual post in a blog). Tags are used for searching and there is normally a mechanism for displaying the most highly rated contributions. These features of Web 2.0 can be used in an assessment context. Tagging can be used to archive and retrieve assessment material (either from your own archive or from a shared archive). User-ratings can be used to identify the most popular sources of information or assessment items.

Web service	Example	Possible uses	Formative	Summative	Self	Peer	Group
Personal portal	Netvibes	Evidence organisation	x	x			
Calendaring	Google calendar	Assessment scheduling		x			x
E-mail	Google mail	Communication with assessor Evidence storage	x	x			
Search engine	Live search	Evidence discovery	x	x			
RSS	Bloglines	Evidence discovery	x	x			
Newsgroups/forums	Google groups	Evidence discovery Peer support Reflection	x	x			x
Social bookmarking	Furl	Evidence collection	x	x			
Blogs	Wordpress	Reflection Log book/diary		x	x	x	x
Online storage	Box.net	Evidence storage	x	x			
Photo storage	Flickr	Evidence storage	x	x			
Wiki	Pbwiki	Collaborative working Group work Projects	x	x		x	x
Instant messaging	Live messenger	Authenticating evidence	x	x		x	x
VOIP (incl. video)	Skype	Authenticating evidence Oral assessment	x	x		x	x
Word processing	Google docs and spreadsheets	Collaborative working Group work Projects		x			x
Spreadsheets	Google docs and	Result calculation and		x			

	spreadsheets	reporting					
		Collaborative working					

Table 1: How Web 2.0 can be used for assessment

Evidence cycle

Collectively, the suite of Web 2.0 services provides a rich environment for finding, capturing, describing, organising and sharing evidence for assessment purposes. Web 2.0 services can be considered under these headings.

Step in evidence cycle	Web service
Evidence creation/discovery	Live search Bloglines Google groups Wikipedia Answers.com Google docs and spreadsheets
Evidence capture	Furl del.icio.us Clipmarks Google mail Flickr
Evidence organisation	Box.net Netvibes Flickr Blogger
Evidence sharing	Furl Clipmarks Box.net

Table 2: Evidence cycle

For example, when undertaking an assessment, a student could use Live Search to search the world wide web for relevant information, subscribe to a number of RSS feeds using Bloglines to monitor appropriate websites, and check Wikipedia for appropriate articles. Relevant web pages could be saved using Furl or parts of web pages could be grabbed using Clipmarks. Google docs and spreadsheets could be used to pull together this information into an initial report, which can be stored online using Box.net. The whole project can be coordinated using a dedicated home page created using Netvibes, which would include RSS feeds, calendars, instant messaging, e-mail and a range of additional 'gadgets' relevant to the assessment task. Throughout this process, students can learn from one another by sharing their discoveries through such services as Furl and Clipmarks, which permit students to subscribe to one another's archives – or rate archived material to identify the most relevant information.

Validity and authentication

Web 2.0 can also be used to aid validity and authentication.

Validity relates to the effectiveness of the assessment to actually measure what it intends to measure. An important aspect of validity is the realism of the activities that learners are asked to do – the more realistic the activity, the more valid the assessment. Web 2.0 can improve realism by permitting learners to use real-life tools to perform real-life activities and create authentic artefacts. Learners will already use a range of Web 2.0 technologies in their everyday lives

(such as Flickr and Gmail) – so the same tools used for assessment purposes will be natural and authentic – and encourage the use of existing artefacts (which may already reside in these archives) for assessment purposes.

Authenticity relates to the ownership of the evidence – whether it is actually produced by the learner, or someone else. The inherent intimacy of Web 2.0 will give the assessor an insight into the mind of the learner that is often not possible in a conventional learning environment. The learner's e-mail messages, forum contributions and blog posts will give a clear indication of the state of the learner's current knowledge and skills – which will alert an assessor if their submitted work suddenly jumps in quality. More formally, technologies such as Skype permit remote oral questioning of learners to verify that the learner actually understands what s/he has submitted – which will give a good indication that they actually produced it.

Web 2.0 versus VLEs

Most of the facilities provided by Web 2.0 are provided in Virtual Learning Environments such as Moodle. There are pros and cons of using one in preference to the other.

Advantages of VLEs over Web 2.0	Advantages of Web 2.0 over VLEs
VLEs provide a consistent user experience VLEs provide the same tools to all learners VLEs are not likely to go bust VLEs provide more control to teachers	Web 2.0 provides a rich range of services that are continually improving Web 2.0 provides choice to learners in the tools that they use Web 2.0 uses the same tools that learners already use Web 2.0 services are individually better than equivalent VLE services Web 2.0 is rapidly evolving

Table 3: Web 2.0 versus VLEs

The main advantage of a VLE is its greatest weakness – the consistency of user experience. Whatever a learner does within a VLE, the look-and-feel will be similar. This consistency is comfortable for learners and (especially) teachers (who only need to learn one system) – but bland for learners since each tool will be inferior to an equivalent Web 2.0 offering. For example, even the most accomplished VLE e-mail system is no match for Gmail.

Web 2.0 will become Web 3.0. The evolution of online services will continue and it is a moot point if VLEs can keep pace with these developments.

Challenges

The biggest advantage of Assessment 2.0 is its familiarity to learners. Assessment 2.0 is Life 1.0 to most young people – it's what most learners use in their everyday lives. It's the education system that's different with our use of proprietary VLEs and commercial assessment systems.

Assessment 2.0 presents challenges to the current system – some challenges are well known (such as the problems of plagiarism) and some not so well known (such as assessing groupwork).

Web 2.0 (and, by implication, Assessment 2.0) is inherently collaborative – but existing assessment systems are inherently individualistic. Previous attempts at assessing an individual's contribution to group work have had mixed success so it remains a challenge for the educational system to come up with a rubric for recognising group work and rewarding individual contributions.

Educationalists are predicting much greater importance of informal learning in the future – and Web 2.0 will be used to capture much of that learning (in the form of MySpace websites, blog postings, photo archives and forum contributions). Assessment must evolve to recognise and appraise these resources.

*Bobby Elliott
Qualifications Manager
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