



White Paper

Web 2.0: What is it and is it relevant to online adult education?

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Getting to Web 2.0

To understand Web 2.0 let's take a quick recap...

The World Wide Web was released to the public in 1991 and by 1996 the use of the internet had become commonplace. In the mid to late 1990's there was a huge rise in the number of commercial websites—as the number of internet users continued to climb, business investors realised they were potential customers.

The 'dot-com' era had begun [1].

The websites of this era were essentially one-way, read-only sites and are often referred to as Web 1.0 websites. Content was managed by a single person or department, they didn't support mass publishing, and web pages were static.

But by early 2000's websites were changing. Internet users could do more than just read information, they could actively engage with websites and contribute content. Websites became a participatory environment.

The term Web 2.0, made popular by O'Reilly Media, Inc in 2004, was coined to describe the new approach to website building—where websites incorporate interactive and collaborative components.

Defining Web 2.0

There are many definitions of Web 2.0. Tim O'Reilly (founder and CEO of O'Reilly Media, Inc) and one of the key people responsible for this new term entering our vocabulary once attempted to clarify just what he actually meant when he used the term. He and others brainstormed examples of old and new internet approaches to try to get a sense of what Web 2.0 actually was. They came up with some comparisons:

Web 1.0		Web 2.0
Personal websites	➔	Blogging
Domain name speculation	➔	Search engine optimisation
Publishing	➔	Participation
CMS	➔	Wikis
Directories (taxonomy)	➔	Tagging ("folksonomy")

Content management systems vs wikis

To better understand the distinction, we should look at one of the examples above in more depth—

Britannica Online and Wikipedia are both online encyclopaedias. However, Britannica Online (online version of Encyclopaedia Britannica), is compiled with the help of a handful of 'experts'. It is a one-way published website, and may be described as Web 1.0. On the other hand, Wikipedia—the online encyclopaedia that anyone can edit, at any time, and which is a collaborative effort—is reliant on many contributors. It is a two-way participative website and may be described as Web 2.0. [3]

Principles that define Web 2.0

Next O'Reilly established 7 principles which he felt defined Web 2.0 technology.

1. The web as platform
2. Harnessing collective intelligence
3. Data is the next 'Intel inside'
4. End of the software release cycle
5. Lightweight programming models
6. Software above the level of a single device
7. Rich user experiences [2]

1. The web as a platform

Web 2.0 applications treat the web as a platform; one that provides the framework and the tools for users to create new services, without having to build, understand or support the infrastructure behind them.

For example—Second Life allows third parties to quickly assemble their own realistic learning environments without any understanding of the complex programming required to build 3D simulations.

2. Harnessing collective intelligence

Web 2.0 tools allow users to add new content and new sites; new content and sites are hyper linked to other pages and sites, and so a complex web of collective intelligence grows.



www.ebay.com

For example—eBay's product is the collective activity of all its users. Without their input, eBay has very little content. E-bay

enables free-flowing and updateable collaboration between users.

3. Data is the next Intel inside

Database management is a core competency of Web 2.0 companies and ownership of this data is critical. Some companies have invested heavily in data. The race is on to own certain classes of core data.

For example—Amazon has taken bibliography



www.amazon.com

information from the original ISBN registry and extended this and built its own data system so that it is the primary source

for bibliographic data on books, and a reference source for scholars and librarians as well as consumers.

For Example:

NavTeq, a company that provides map and location data for in-car GPS, has imitated Intel's use of the familiar 'Intel Inside' logo on computers so that cars with navigation systems bear the imprint, "NavTeq Onboard." In many cases, where there is significant cost to create the data, there may be an opportunity for an 'Intel Inside' type of play, with a single source for the data.

Caution!

In future, control over data and intellectual property will be an issue as users submit information used by Web 2.0 applications and questions will arise about ownership of that content.

4. End of the software release cycle

Software is no longer delivered in a static and finite form and installed on standalone computers or networks. Software is delivered as a service, over the internet and is therefore easily updated and maintained.



www.google.com

For example—Google must continuously crawl the web and update its indices, filter out link spam

and other attempts to influence its results, and dynamically respond to hundreds of millions of asynchronous user queries—simultaneously matching them with context-appropriate advertisements. [2]

For Example

Flickr.com reports that they have been known to release a new version of their software up to every 30 minutes as they receive consumer feedback and suggestions. [3] This means that ‘beta’ versions of software are published at early stages and remain as Beta for longer periods of time.

“Beta” is a nickname for software which has passed the alpha testing stage of development and has been released to users for software testing before its official release. It is the prototype of the software that is released to the public. [5]

5. Lightweight programming models

Web 2.0 uses loosely coupled systems and low barriers to re-use. Much of the useful software is actually open source. It moves from highly structured formal programming models to more simple and dynamic models, which allows applications to be brought together in ‘mash-ups.’

For example—A new service like housingmaps.com was built simply by snapping together two existing services – a map service and housing service.

6. Software above the level of a single device

iTunes is the best exemplar of this principle. This application seamlessly reaches from the handheld device to a massive web back-end, with the PC acting as a local cache and control station. Another example is Google Docs; a word processing tool that can be accessed via the internet and used with any internet-connected device, including mobile phones.



www.apple.com/itunes/

7. Rich user experiences

A key component to rich user experiences is AJAX, a collection of techniques and technologies that allows the use of extensive graphics rather than just text in web based applications where web content looks and feels very much like a traditional software applications. A good example of the use of AJAX to create a rich and responsive web application is Flickr, which enables sophisticated manipulation of images over the internet.

Summing Up Web 2.0

These days, the term Web 2.0 is widely accepted to describe not a new technology, but rather a new paradigm; one where websites are supported or driven by user generated content, and where data and applications are stored on the web, rather than on a specific computer (this is commonly called cloud computing) [3]. Social network tools are often referred to as subsets of web 2.0 tools.

What Web 2.0 means for online adult education

Consider what we already know about the characteristics and needs of adult learners. Adult learners tend to be self motivated, self directed and appreciate opportunities to interact and learn from the experience of their peers. They value a learning environment that is characterised by mutual trust and respect [6].

In the context of adult learning and Web 2.0 tools, we know that Web 2.0 is all about collaboration, sharing experiences and information, and collective intelligence. Discussions, forums, wikis, resource sharing and social networking tools are all about sharing and collaboration. Incorporating web 2.0 tools in online education just makes sense!

References

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