Instruction Section
Association of College and Research Libraries and American Library Association

Research Instruction in a Web 2.0 World

Introduction: Social software and the read/write web have certainly not gone unnoticed by librarians. Libraries and librarians are already using blogs, wikis and other social tools to deliver dynamic information and new services. These technologies allow our users to interact with us and with our information in exciting ways. As social applications become more common, and more accessible, instruction librarians' challenges increase. When users find new ways to interact with information, it affects how we teach our students and patrons to find, manage, evaluate and use information tools and sources. It is tempting to focus on the limitations of information published and organized with social, dynamic tools. To simply dismiss these tools based on those limitations is both impossible and unfair. These tools are too easy to find, too easy to use and frequently too useful to expect our users to turn their backs on them.

Web 2.0 will not change research as we know it, but instruction librarians need to understand how these tools work, and how they are changing the flow of information, in order to help our students and users use them well. How does collaborative knowledge-building mesh with academic processes? How do emerging methods of producing and disseminating information affect how we think about authority, authorship and who owns information? What aspects of information literacy instruction will remain the same? What needs to expand and evolve?

What is Web 2.0?

It works the way the web works

The term "Web 2.0" came into prominence after O'Reilly Media and Media Live International put together the first Web 2.0 Conference in 2004. The new term suggested that the web was experiencing a renaissance after the dot-com collapse just a few years earlier. Since then, "Web 2.0" has been used to describe such a wide variety of technologies, services, business models and applications that it seems more like a buzzword than a useful description. Despite this, there are some important characteristics that these things have in common and it is useful to take a moment to examine these features. The Web 2.0 world is volatile; understanding the common threads can help instruction librarians make sense of it.

Microcontent: Web 2.0 is populated with individual chunks of information, both large and small, that users can link to, pull out, unbundle, and repackage into a variety of creative forms. The content of Web 2.0 is understood not as pages or sites, but posts, photos, videos, tags and podcasts.

Web as Platform: Using lightweight programming languages, Web 2.0 programmers have moved even complicated features of traditional PC applications to the web. Users run applications without downloading programs, and save files directly onto the web.

Radical Openness: The idea of "openness" is central to Web 2.0. Web 2.0 developers are, more than ever, using a mature set of standards which allows them to easily collaborate and share data across products and services. Web 2.0 users can share data and collaborate across the web using a variety of applications.

User Focused: The most visible content in the web 2.0 world is often created by users – from Amazon reviews to blog posts to myspace pages. In addition, the overwhelming majority of Web 2.0 applications are released while still "in beta" so that user feedback can shape, at least in part, how the applications develop.

Flattened Hierarchy: A perhaps unsurprising consequence of user-shaped, radically open, microcontent populated websites is that the information in these sites is not organized hierarchically. This is not to say that it is not organized at all, but that the resulting organization is dynamic and can be difficult to understand with entry points that are hard to identify.

The easiest way to describe what is "new" about these emerging technologies is that they work the way the web itself works. To a large degree what differentiates web 2.0 from web 1.0 is that the technologies and services associated with web 2.0 were "born" on the web – they have no analogue in the "real world". When we initially started using the Web metaphors from the physical world like pages, bookmarks, and file cabinets were important tools that helped us make sense of the new environment. Now that the virtual environment is more familiar, and more of our users have always known it, these metaphors can limit how we work online. The fact that Web 2.0 services do not attempt to replicate or mirror physical world processes allows developers and users alike to take full advantage of the web's potential.

Web 2.0 and the information literate student

So what does it mean if library users become accustomed to research tools that are radically open, based on microcontent, run on the web, shaped by users and strangely organized? How does that affect how they do research, and how we teach them? The ACRL/IS Information Literacy Competency Standards for Higher Education provide a useful framework for examining the issues and questions raised by Web 2.0 for information literacy librarians.

The information literate student determines the nature and extent of the information needed.

Students immersed in the Web 2.0 world may find it quite challenging to determine how much information they need. As they navigate through a richly hyperlinked information

system, where content is often syndicated across multiple information services and is organized non-hierarchically, it can be difficult for a student to get a sense of how much information is available about a given topic and how their topic relates to other topics. A hyperlinked information landscape filled with microcontent can reinforce the idea that "research" is the process of gathering discrete bits of information instead of a recursive learning process.

The information literate student accesses needed information effectively and efficiently.

Web 2.0 presents a variety of challenges for students attempting to access information effectively. Perhaps the most significant issue to consider when examining this standard in light of Web 2.0 is the question of organization. We have long taught students to access information using indexes of one sort or another. With the advent of the web and web search engines, we adapted our instruction to include discussions about how search engines work and how information is organized and retrieved on the web. Web 2.0 has introduced the "folksonomy" as a method of organization. How do we adjust our instruction to respond to loose organizational structures shaped by user-created metadata? How will the advent of "tagging" change how we think about the organization of information on the web? Will our users' experiences organizing their own resources on the web help them understand how established organization systems work?

The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

In an information environment where authorship is collaborative and content can be changed and/or reused, how do we teach our students about authority and evaluation? How do our own ideas concerning authority need to change, or do they? In the last two years, this issue has been raised repeatedly in discussions about the web-based, collaborative encyclopedia Wikipedia. While most recognize that Wikipedia can be a valuable resource, especially when exploring emerging but non-controversial topics, concerns remain that students will be unable to evaluate the authority of articles without identifiable authors and which are published without traditional editorial control. More than ever, issues of evaluation are tied up with the question of context, as described above. To choose appropriate resources in the Web 2.0 world, students must constantly be evaluating the information they find, considering several factors, including their audience's expectations and their own needs. They must also recognize that their need for information will be different at different points in their research process. The variety of information sources available via Web 2.0 makes it challenging to apply a "checklist" approach to evaluation.

The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

In 2005, the Pew Internet and American Life Project published the results of their study, "Teen Content Creators and Consumers". The researchers concluded that 57% of online teens have created content for the Internet. These young content creators are blogging,

posting artwork, remixing songs, and creating websites. One of the most visible effects of Web 2.0 has been an explosion in user-created content on the web. It is easier and easier for our users to publish their ideas in many different spaces, and many different ways.

Our users, especially our younger users, are also using social networking sites like MySpace and FaceBook to share their creations and, in many cases, their private information.

While these sites provide the most dramatic examples of how Web 2.0 affects our users' ability to keep their identities private online, all social and collaborative tools depend on users being willing to share something about themselves from their photos, to their likes and dislikes, to their ideas. Do students evaluate the implications of their information use in these and other situations? How can we promote an awareness of the importance of managing information appropriately?

The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Web 2.0 challenges our ideas about intellectual property as well. When a body of work is developed collaboratively, often anonymously, determining ownership of a work can be difficult if not impossible. Additionally, as technology for sharing and reusing content becomes ubiquitous, the average student will need to have a much more developed understanding of copyright law and policy in order to use and reuse content ethically and legally. In a world based on microcontent, it is very easy for users to lose track of where they found individual pieces of information, and how those pieces of information fit into the larger discourse. This can lead to simple cut-and-paste plagiarism. It can also lead to more complicated situations where the ideas or beliefs of an author are misrepresented because the context has been lost.

As they find and create content on the web, our students must not only be aware of the laws that protect content creators, but also those laws and policies that might restrict their access to information. MySpace and Facebook are subjects of legislation currently before Congress that is intended to protect young users of social networking sites. These lawmakers are concerned that young people will share their private information with online predators. While this legislation targets MySpace its impact may not stop there. As written, it could significantly affect any site that allows users to register and share content, which would have implications on applications from Blogger to YouTube.

Tools that use the web as their platform offer our users tremendous opportunities for collaboration and information-sharing, but they also come with risks. The ability to store files and resources on the web makes those resources available from any computer. Researchers can access their information sources from any computer with a connection to the Internet, and they can direct colleagues to their projects from anywhere. Storing files or resources on the web, however, can mean entrusting hours of work to someone else.

Our students need to be taught to evaluate the stability of the resources they use, and to take steps to protect themselves.

Conclusion

Many of the issues described above are not new to instruction librarians. Students have always struggled to understand context, provide useful and accurate citations for their sources, and keep track of where they've been and what they have found. Web 2.0 information sources can make it easier for students to find information outside of the complex world of scholarship and academic discourse. As students increasingly turn to these ubiquitous, easy, and often quite useful information sources, it is worth considering what special challenges these sources raise for research instruction.

To explore further:

Technology Primer: What you need to know to talk Web 2.0

Overviews: What is Web 2.0?

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Related Readings

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Updated 6/14/2006