Introduction to Web 2.0 in the Classroom: What Is It—Why Use It?

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Abstract

Session is an overview and demonstration of several free Web 2.0 tools we have used in the classroom. It is intended for teachers who are somewhat familiar with blogs and wikis, but have not used them in courses. Questions to be addressed include: What is Web 2.0? What online resources may be useful? Can they make learning more meaningful? Do they hold power to improve learning? What resources are needed for faculty at smaller institutions to use these resources? At the end of the presentation, attendees will take away new methods of integrating Web 2.0 technologies into their courses. They will be more familiar with useful, new Web technologies (beyond wikis and blogs), and they will know strategies for creating successful, secure assignments using them. They will understand that obstacles may stand in the way of integrating new technologies into their teaching, and they will know ways to overcome them.

Introduction

Evolving Web applications and utilities appear with amazing speed and in impressive numbers. Some of these have potential to improve instruction in the education segment identified as grades 9-16. Our experiences at the University of Indianapolis with undergraduate teacher education candidates show that students become actively engaged in their own learning when using some of these tools under careful guidance of the instructors. We have also found that with proper planning and presentation, some Web tools help to make the instructor's challenge, how to use evolving technologies and still have time to teach and attend meetings, manageable. At the University of Indianapolis, our instructors have been forced to find free Web resources for our classes, and we have had little to no support from the IT staff. Still, we have been successful. In this paper we attempt to show how we have solved some interesting problems and empowered our students to use free Web 2.0 tools to engage actively with problem-solving activities to enhance their learning.

Project-Based Learning

We have traveled a path of redesigning the initial educational technology course taken by both elementary and secondary education candidates at the University of Indianapolis to make it more engaging, more current, and more constructivist. Our intention has been to use more authentic

assignments and to involve students in these assignments in authentic ways. To that end, we adopted some of the principles of Project-Based Learning (PBL). David Moursund believes that "PBL has a high level of 'authenticity.'" He describes the ways in which it allows students to work in a more adult way to solve problems (Moursund, 2003). Generally project-based lessons begin with a big question that students must answer (in other words a big problem to solve). They are often assigned into groups to solve the problem. They are sometimes assigned roles within the group and group members are often provided with online resources to help to solve the problem. At the end of the project, some final product is produced. It may be a model of a bridge, a PowerPoint presentation, a replica of an article in a newspaper from the Civil War, and the like. (Moursund, 2003). Moursund has a useful website designed to support a workshop, a short course, or self study on Information and Communication Technology (ICT)--Assisted Project-Based Learning. There are enough materials for a two-day workshop or a one-credit course" (Moursund, 2003).

For those who seek ongoing information related to PBL, the Edutopia Website has proved to be of great use and inspiration to us as we design assignments (http://www.edutopia.org). Edutopia is funded by the George Lucas Educational Foundation. In addition to the Website, which contains numerous links to Project-Based Learning articles and videos (several of which we have shown to our classes), they publish a free weekly newsletter with additional resources for teachers at various levels. They also have a free print journal. We strongly recommend that if you are new to the Project-Based Learning model you visit the Web site, investigate what is there, and sign up for their free publications.

What is Web 2.0?

Tim O'Reilly coined the term Web 2.0 in 2004 to describe the changes that were happening on the Web as users were allowed to participate to a greater extent through activities such as social networking, publishing directly to the Web and sharing files of all kinds, including photos, movies, music, and more (http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html). Web-based applications that serve as good examples of Web 2.0 include blogs, wikis, podcasts, MySpace, FaceBook, YouTube, sharing photos through Flikr, and sharing mp3 files of music in various ways. Virtual Reality Web sites such as Second Life (http://www.secondlife.com) are also being used in educational settings by the more adventurous. Google Docs and Spreadsheets (formerly Ajax Writely) are also useful tools in collaborative learning environments.

We are continually impressed with the wonderful work published on the blog of Will Richardson (http://www.weblogg-ed.com/) and printed in his new book: *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms* (Richardson, 2006). We also invite you to visit our workshop blog listing numerous useful resources with working links at: http://uindyworkshop.blogspot.com/. The workshop blog contains definitions of some of the terms used in this article that may not be known to all readers.

Google Docs and Spreadsheets site (http://www.google.com/google-d-s/b1.html) is another free resource that can be used to create on-line collaborative, authoring environments. One interesting feature is the ability to convert a Word document to a Google doc, edit it in a collaborative envi-

ronment, while tracking all changes and contributions made by multiple authors, and later save it as a Word document.

MySpace is another resource powered by Google that connects people. With MySpace you can invite your friends to your *space* and share what is going on in your life. Facebook is yet another resource used by students of all ages to connect with one another. You cannot only find out what's going on with your friends, but you may connect with friends that you only occasionally see, or get in touch with friends you haven't seen since high school.

YouTube (http://www.youtube.com) is an online resource used to stream and share videos. The embed code found next to YouTube videos may easily be copied and pasted as html code into a Blogger post. When the blog is viewed, the YouTube movie's first frame will appear ready to show the entire movie by clicking the play button. YouTube is a source of many very fine, short educational videos.

Flikr is an online resource for storing and sharing photos. In addition, it has utilities to search and sort photos.

Second Life is a 3D virtual reality world, created, owned and inhabited by its residents. As of April 20, 2007 it was inhabited by 5,730,340 people from around the world. A basic membership to Second Life is free. However, currency is exchanged using Linden dollars. Money is exchanged and made in SecondLife. For some, SecondLife is source of income. For a growing group of college educators, it is a space for compelling online, interactive instruction. (To read about an example, go to the Web site of Sarah Robbins, AKA Intellagirl at http://home.intellagirl.com/.)

One key here for us is that many Web 2.0 applications are at not cost. Some require that you create a free account with a login and password to be used each time you enter. Experience has shown that creating a large number of these accounts has not been a problem. We have not been spammed as a result of having these accounts. We get occasional e-mail updates listing new features and urging us to continue using the application. The greatest problem is keeping track of all the login names and passwords we have created. There are online password solutions to this dilemma that are beyond the scope of this paper.

Student agreement

In order to prepare our students for the eventual and likely sharing of student work at conferences and for the possibility that others might participate on their blogs and wikis, we ask them to sign the following agreement (Hall and Weimer, 2006).

I agree to the following terms of use for shared communication resources on the Internet for this class:

1. *I will not post inappropriate material to blogs, wikis, or podcasts shared for this class.*

2. *I will not provide my full name, e-mail address, photo, or personal information about myself to areas shared for this class.*

3. *I will not reply to any inappropriate material that may be posted.*

4. *I will report any inappropriate material posted to Internet resources used by this class to the instructor.*

5. *I understand that inappropriate use of shared Internet resources for this class will result in a lowering of my grade and other possible action.*

Your signature below indicates you agree to abide by these statements.

We also had concerns about copyright considerations in the classroom and attempted to follow the law with our student projects. (For more information on the Copyright law as it applies to classrooms, do a Google search for "TEACH Act.")

What online resources may be useful?

Go2web states it is "the complete Web 2.0 directory" (browse to http://www.go2web20.net/). As of April 17 go2web Listed 1107 Web 2.0 applications.

Use of Blogs, short forWeblogs, appears to be a growing phenomenon. http://www.sifry.com/alerts/archives/000493.html reported that in April 2007 there were "70 million weblogs," "about 120,000 new weblogs each day, or… 1.4 new blogs every second." How can anyone keep up with what's happening out there? We can't! but would like to provide the following suggestions:

The best Web 2.0 applications meet our **"4f" criteria: free, fast, forever, and fantastic**. We have tried a number of these tools and have several we do not hesitate to recommend.

Blogs and wikis have been extremely powerful writing and reflection tools for use with our course. We have used Blogger (https://www2.blogger.com) and pbwiki (http://pbwiki.com/) with success. Blogger has been purchased by Google and now requires users to get a free gmail account. Pbwiki is a powerful, free wiki tool that is easy to use and provides free password protection to users assigned to a site (that is somewhat unique among the free wikis).

What resources can the instructor use to make life in Web 2.0 easier?

One problem that plagues the instructor who visits multiple blog sites is the need to track all of the different blog Web addresses. We use Bloglines (http://www.bloglines.com) to create a list of all our student blogs. One visit to my free Bloglines account shows me in list format those students who have new posts since my last visit. One click on the link takes me directly to their blog. After reading the new post, and possibly replying, I return to the bloglines page and choose whether or not to mark that post as "read." Students may also create Bloglines accounts to check blogs from other students as well.

Instructors join the wiki pages created by students and receive automatic e-mail notification when anyone has changed anything on the wiki page. We can track changes or, in the event of no activity, urge students to participate more actively.

What methods may be used to use Web 2.0 in my course?

In our experience if you put the tools out there for students to use and ask them to create and use a blog or wiki, or such, they will absolutely avoid it like the plague – unless it is a part of the course requirement! If it's not required, it doesn't exist. It seems to be another level of complexity in an already complex course. However, bribery works. We have identified informative Web articles presented in such places as edutopia.org and invited our students to read them in a focused way. The general instructions, sent to students through e-mail, read something like,

"This is an extra credit opportunity: Please point your browser to an interesting article at http://www.somethingorother.com. Read the article then post the following to your blog: first, list three major points made by the author. Second, reflect on the points and write your reaction to them. Finally, evaluate the overall quality of the article. You may earn up to 20 extra credit points based on the quality of your reflection and writing."

Even with the offer of extra credit, not all students choose to do the assignment. To remedy that, we have designed a project-based lesson in the *Technology in Education I* course that requires students to use these tools. Students are placed into groups of four by the instructor. Students must decide which group role they will assume and what to name the group. Their task is to design a project-based lesson for a content area and K-12 developmental level of their choice. Each group has a Leader, a Standards Expert, a Technologist, and a Scriptwriter. The Standards Expert checks to be sure that as many of the National Educational Technology Standards for Students are addressed as possible (http://cnets.iste.org/students/). The Technologist creates a group blog and wiki and ensures that all group members know how to use these tools and participate on them. They also check to be certain the lesson is rich in use of technology. The Scriptwriter assists with other tasks and is responsible for writing a two- to three-minute script describing the lesson. Scripts will become the content of the class podcast. At the conclusion of the assignment, each group presents their lesson to the class, often using a PowerPoint slide show or a WebQuest. Then the instructor assists them in recording a podcast from the scripts they have written. The podcasts are placed on the Web. Podcasts from our classes may be heard by pointing a browser to: http://feeds.feedburner.com/uindyedtech.

So many exciting Web 2.0 tools exist. We advise new users to begin in a small way with one or two assignments. Will Richardson's blog is a wonderful way to begin learning about what works for teachers in the new world of Web 2.0 (http://www.weblogg-ed.com/).

What obstacles are out there?

There is little doubt that the teacher who chooses to incorporate Web 2.0 technology will invest significant time learning effective and efficient ways to integrate these tools into instruction. A fast Internet connection at home is a must. Though cost is not a factor for most of the new services, there is some question of whether the application will exist for another semester or another year. We have noticed that our faculty blogs and wikis are available on the Web while some student-created content has been removed for unknown reasons.

How may obstacles be overcome?

University students understand and use social bookmarking Websites like MySpace and Face-Book. Some of them have blogs, or regularly read someone else's blog. In every class where we've encountered a problem using a blog or wiki site, we have found a student who already had found the answer without assistance from the instructor. Hopefully some technology support will be available from the IT department or an instructional media specialist. As noted in the references below and throughout this article, print and Web support is available. Watch for or suggest high quality, hands-on workshops on Web 2.0 integration at or near your institution, and attend or present!

We were honest with our students when we initially incorporated new technologies in an assignment. We took care to have the students evaluate success or failure and to comment on how the assignment could be improved. Generally student response has been very favorable.

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