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Web 2.0 in Distance Learning: Resources and Reservations

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Abstract

Education today is undergoing a transformation. That transformation is spurred by the advent of Web 2.0 technologies and mindsets, which encourages group collaboration. The use of social media in distance learning seems to simply be the next step in online education, but research isn't totally in agreement. The purpose of this paper is to look at several different Web 2.0 technologies – social networks like Facebook, social media like blogging and podcasting, and wikis similar to Wikipedia. Each of these technologies has something to offer to the distance learning classroom, but there are potential pitfalls to each. Ultimately, the success or failure of the inclusion of Web 2.0 applications in the classroom must rest where success or failure of instruction usually does – on the shoulders of the teacher.

Introduction

Web 2.0. Social media. New media. Social Networking. These are the buzz words that are being thrown around today, and anyone in education has heard them all and wondered how they can be used to educate students. Of course, the first question to be asked is, “SHOULD these new tools be used in education?” And the answer is not clear at all. For every success story we hear (Huffaker, 2005; Wang, 2008; Moorman, 2009, among others), we hear another news report of a teacher who has lost their job because of Facebook, or more reasons that such tools shouldn’t be used in the classroom (Lipka, 2007; Golub, 2009, among others). At the very least, caution must be exercised.

And then, distance education is thrown into the mix. When students are already using the Internet almost exclusively for their education, can social media really add anything to the experience? The purpose of this paper is to look at the existing research in this area to determine whether social media tools have anything to contribute to the distance learning curriculum, and which tools can be used to the greatest effect.

Web 2.0 is typically used to designate an application that harnesses the idea of “crowdsourcing” – using the combined intelligences of a large group of people to solve a problem (O’Reilly, 2009). It was in using these applications, however, whether a blog or podcast soliciting comments, a Facebook or MySpace page that helps someone stay connected to a group, or one of the many variations on a Wiki that allows a group to collaborate on a project over huge distances, that Web 2.0 changed the status of the Internet from a “collection of static pages of HTML that describe something in the world” to something that “is the world— everything and everyone in the world casts an ‘information shadow,’ an aura of data which,

when captured and processed intelligently, offers extraordinary opportunity and mind-bending implications” (O’Reilly, p. 2). The static Internet of the late 20th and early 21st Centuries has turned into a place of dynamic content and interaction across tremendous distances both in space and in time; the podcast that is produced on May 1 at 1:00 pm and uploaded at 1:30 pm may be consumed at 3 am on May 3, and commented on the afternoon of May 5, for instance. It is this realization of “interconnectedness,” this idea that people can connect and interact with each other over distances, that really defines Web 2.0. In fact, Web 2.0 can then more correctly be said to be an overall philosophy of what the Internet can be, or should be, rather than simply a set of applications that are used (Anderson, Hepworth, Kelly, et. al., 2007).

Social Networking and Education

This dynamic Web gave birth to social networking sites. SixDegrees.com seems to have been the first true ‘social networking’ site, offering users the ability to “(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (Boyd, D. and Ellison, N., 2007, paragraph 4) in 1997. As happens often with pioneering sites, Six Degrees wasn’t able to make a profit and shut down in 2000, but the concept soon gave birth to sites like Friendster (2002), LinkedIn (2003), MySpace (2003), and, ultimately, Facebook (2004) (Boyd, D. and Ellison, N., 2007).

In 2010, Facebook had over 103 million users, and over 1 billion visits per month. Over 10 million of those users are between the ages of 13 and 17 – high school aged students (Corbett, 2010). 73% of all teens online use social networking sites (Lusk, 2010). According to Gibson (2010), 59% of online students surveyed indicate that “they discuss education related topics,

including college or college planning; learning out- side of school; news; careers or jobs; politics, ideas, religion or morals; and school work” (p. 62). Teachers need to be able to harness this discussion, or at least use the discussions taking place on sites like Facebook in the classroom to help students learn; this diversity of learning methods is simply an application some of the ideas put forth in cognitive load theory (Spector, Merrill, van Merriënboer, and Driscoll, 2008). The ultimate goal is to help students transfer information into long-term memory; by putting that information in a place that students access repeatedly throughout the day, it becomes more familiar to them and is more easily placed in long-term memory. We are also tying the new information to something that is familiar to them; by using the web-based application My Fake Wall (<http://myfakewall.com/>), students can create Facebook walls for historical figures or literary figures (one outstanding example is Elizabeth I’s wall at <http://myfakewall.com/w/Elizabeth+I>). Teachers can take classroom instruction and apply it to real-world conversations that are taking place on social networking sites and help students to make the transfer to long-term memory.

There are also many social features in Facebook that teachers can use for educational purposes, especially the ability to create groups. The creation of social groups in distance education is important; it is a simulation of the physical classroom in a way that discussion boards cannot match. The ability to meet somewhere “off campus” like Facebook is a refreshing change of pace for distance learning students, and gives them a place to interact in a more relaxed manner. The creation of a class “group” on Facebook is just one way teachers can facilitate social activity among distance learners; for example, in literature classes Book Clubs can be created (on Facebook as well as on sites like LibraryThing and Goodreads). One thing that social networking sites like Facebook actively encourage is the participation of users in the

experience (Merchant, 2009). In a social networking environment, students cannot simply sit back and passively absorb content; the very nature of the site is to participate. It will be much easier to get students to participate in discussions related to schoolwork and class assignments if those discussions take place in a familiar environment. With so many students already very familiar with the participatory nature of sites like Facebook and MySpace, it's clear that social networking sites have a real advantage in education, especially in distance education situations where students are never connected physically, but can be very connected digitally.

The potential for distraction on Facebook is certainly present, which is a factor that many teachers use in deciding not to use social media in their classrooms. For the distance learner, however, the situation is a bit different; the distraction is present throughout the learning process, since the majority of distance learning takes place via the computer in a lightly-supervised location. Distance learners have to learn to manage the distractions in order to be successful. Successful distance learning instructors are able to help eliminate distractions as well, by creating engaging lessons that integrate the online environments that students are already familiar with.

There are other social networking sites that are of use in education. One in particular that was studied by Hoffman (2009) is Ning (<http://ning.com>). Ning is a popular resource for people interested in building their own communities, usually around a specific interest or topic. The group Hoffman studied was an educational technology class at the University of Hawai'i at Manoa. The class had a very diverse student population, with wide age ranges and levels of experience. Hoffman notes in conclusion that "Ning has been a positive asset in the course, by providing a formal structure for required discussions, for helping students as they work on collaborative projects, and for the informal comments and messages that helped personalize

student interactions” (Hoffman, 2009, page 96). Ning offers a way for educators to establish their own social networking site (at no cost) that offers full customization for both instructor and student, and that facilitates classroom discussion and collaboration as well as informal discussion between students.

Social Media and Education

The dynamic web also made every user a potential content creator, starting with the idea of a blog, or weblog. Whether via blogging, podcasting, or video casting, anyone who wants to create media for public consumption on the Internet can do it and attract an audience. This has also made it a challenge to sift through these resources to determine the value of everyone’s contribution; when everyone is both content creator and editor, everything is published whether it is of value or not. Many teachers have shied away from social media for just this reason; they simply do not trust the content OR the creator, and prefer to limit their students’ exposure to blogs, podcasts, wikis, etc. These teachers prefer to focus on traditional methods of research for their students, and traditional methods of instruction. However, we see a change in the demographics of modern education, especially in higher education. Recent statistics gathered at the University of Houston report that only 10% of the students actually live on-campus; the average driving distance for the remaining 90% is 18 miles each way. The overwhelming majority of students today work either part or full time. Add this to the increasing demand for existing educational resources and it’s clear that there is a need for alternate forms of content delivery, which is what social media can provide (Liu, 2010). The key is to educate students in the correct ways to use social media, and especially to teach them to think critically about the information that is presented to them.

Podcasting can actually be used to give teachers more classroom time. Two Chemistry teachers at Woodland Park High School started recording daily lectures as video podcasts so that students who travelled for sports teams wouldn't miss instructional time. By the 2007-2008 school year, this evolved into class lectures being pre-recorded and uploaded to the school's servers so that all students could view the lecture before class started. Classroom time was then used for more one-on-one instruction and question and answer sessions. For students with no computers or slow Internet access, the lectures were recorded onto DVDs that the students could watch. Both teachers say that students are far more engaged than they were before, and are learning more than they ever have, but the results are difficult to quantify (Schaffhauser, 2009).

Social media can also be used for student work. Blog entries and podcasts especially lend themselves well to inclusion in digital portfolios (Armstrong and Retterer, 2008). By using RSS (Really Simple Syndication) feeds, parents can actually subscribe to their student's work and receive regular updates on what the student has done in class. Blogs and podcasts also represent a real opportunity for collaboration in the classroom, as students not only write their own articles but also comment on articles written by their classmates, offering feedback and starting discussions in the virtual world that are carried over into physical classrooms (Armstrong and Retterer, 2008). The fact that these blogs are available to the general public offers the opportunity for students to have comments from experts in the field being discussed, allowing a wider range of experience to be introduced to the classroom.

Podcasting takes the text blog further, introducing audio (and, at times, video) to the process. Students can create 'newscasts' based around historical events (the Hindenberg crash, for example) or just time periods (the Roaring Twenties). They can also take plays and create radio dramas in the vein of the radio shows of the 30s, 40s, and 50s. The same material is

covered as usual, but the mode of instruction is changed, allowing information to be processed more quickly into long-term memory. As Gray, Thompson, Sheard et. al. point out, using authoring tools for blogging and podcasting also teach students skills that may be important to them after graduation (2010).

The problem with using social media in the classroom is that the results are, as of yet, difficult to quantify. Teachers see students participating more, they see more interaction and more engagement with the subject (Schaffhauser, 2009), but actual results are difficult to show, often because teachers are not doing the integration as part of an organized research project, but simply as an experiment in reaching their students. Benchmarks are not established, control groups are not used, and so any improvement in student performance is missed. This is the focus of Goodfellow's presentation "Rethinking Educational Technologies in the Age of Social Media: from 'tools for interaction' to 'sites of practice'" (2007). Goodfellow points out that interaction in online classes is normally tied to the student's grade, and wonders "[w]hy would we need to say this, if we had an engaging and effective tool for interaction to offer them?" (page 6). This seems less than fair, since most traditional classes grade students on class participation. We would never question a teacher doing this in the classroom, yet we question it for online content.

Another problem in using social media in education is assessment. The level of interactivity that is required in social media work is very difficult to assess using traditional methods. Social media content is, by its very nature, very personal, and many teachers do not want to risk constraining student creativity by forcing them to write to a rubric (Gray et. al., 2010). Copyright is also an issue in using social media; when a student links to another site, or quotes someone extensively, how is that to be graded? Many blog posts are actually link lists,

almost an annotated bibliography of articles and other items that attracted the writer's attention that day; how is a subjective list like this to be assessed?

In English classes, where the use of blogs as journals has become ubiquitous, assessment is not that difficult. Students are graded based on frequency of writing, grammar and spelling, and clarity in writing (Gray et. al., 2010). Other teachers can measure the amount of research done, critical thinking skills, etc. If content is graded, rather than style, assessment becomes easier; teachers must be clear about their expectations, and make sure they stick to their own rubric as well as making sure the students have a copy to refer to. Of course, with audio or video podcasting, production quality can be an important part of the grade, provided the teacher gives the student adequate instruction on using the production software and hardware. With careful planning, explicit learning outcomes, and clear criteria, teachers can give quality assessments for social media content (Gray et. al., 2010).

Wikis and Education

Most educators are familiar with Wikipedia. The open-source encyclopedia is the bane of many academic institutions, and this has clouded educators' perspectives on wikis in general. A wiki is simply an online space that is designed for group collaboration on various topics, with a goal of compiling information into one centralized resource (Simonson, Smaldino, Albright, and Zvacek, 2009). There are several sources online for hosting a wiki – Pbwiki (<http://pbworks.com/>), Wetpaint (<http://www.wetpaint.com/>), and Wikispaces (<http://www.wikispaces.com/>) are three of the most popular among educators (Bohey, 2010). While the open, collaborative nature of these sites make educators fearful of allowing their use in research for classroom assignments, these qualities make them perfect canvases for student

projects. Early research into the use of wikis in the classroom had mixed results, possibly because of early unfamiliarity with the tool (Wang and Beasley, 2008). Students hadn't had much experience with using wiki software, and that had a detrimental impact on their performance in the study. Later studies cited by Wang and Beasley indicated that students had become more familiar with wikis and how they work, so they were more successful (page 80, paragraph 2).

One strength in using a wiki for classroom collaboration is that it is easy for incorrect information to be changed, and all changes can be reverted if it becomes necessary. As Wang and Beasley point out, this creates a "low risk" editing environment" for students (2010, page 80). They differ from blogs in that wikis require a user name and password to edit content or comment on articles, where most blogs do not (though the capability exists if desired). Teachers can set up a class wiki at the beginning of the year and have students update the site daily with class notes, results from experiments, etc. In this way, the teacher has immediate feedback on how well students understand what they were taught that day, and can quickly follow up on any concepts that were unclear to students. This type of instant feedback is valuable to classroom teachers, but can be even more valuable to distance education instructors who have no real in-person contact with their students. Students may not know they've confused things until they start working on the wiki that evening and realize there is a problem; teachers may recognize that most of the students missed a point in the lesson, and can reinforce that point and make changes in the instruction for future classes. Wikis can serve a very valuable role for both students and teachers.

Conclusion

Web 2.0 is indeed a revolution in how the Internet is perceived. There are tools out there for educators to use that, when taken advantage of properly and used carefully, can help distance learning students feel more in community with their classmates. Offir, Lev, and Bezalel found in their 2008 study that student interaction with their instructor as well as each other played a role in how successful they were in the class, and how well they retained the information they were studying (2008). Anything that can be done to increase interaction for these students is going to prove beneficial. Students are already familiar with applications like Facebook, most have some familiarity with wikis and podcasting, and blogging grows more ubiquitous every day. Students know how these resources can be used, they know how to create and distribute content on their own; they really are digital natives. By using Web 2.0 tools in distance education, we are simply offering these students a familiar environment in which to study, and helping them to use skills they already have to increase their understanding of the course material presented to them.

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