Engaging Collaborative Writing through Social Networking

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Becoming multiliterate requires changing attitudes *and* practices in education. Content management through aggregation and understanding of tags and RSS is key to collaboration and management of information resources online. This presentation explains these concepts in terms accessible to educators and then describes how the concepts were applied in a worldwide collaboration project involving bloggers in three separate locations in two countries in South America and one in Balkan Europe, who utilized tagging and social networking tools to enable them to locate each other's blogs and then interact with selected individuals thus identified as being of similar age and interests. Numerous sites are suggested for aggregation and mashup that can be used with students to exploit the concepts associated with the techniques demonstrated here.

1. Shift happens

A recurring meme on YouTube graphically portrays education as undergoing radical changes brought about by new uses of technology. Two of the most viral of these are Michael Wesch's (2007) video entitled "The machine is us/ing us," and Fisch and McLeod's (2008) "Did You Know?" which turns such memorable phrases as "shift happens" and "we are currently preparing students for jobs that don't yet exist." In facing the challenges of restructuring educational environments to accommodate rapid change educators need to restructure the way they view learning and engage learners, and adapt learning environments to take best advantage of learning opportunities made possible by new technologies.

I identify several aspects of paradigm shift that educators must assimilate to even begin to address constructively the changes needed in order for their students to be able to cope with emerging developments in the way people will work and engage one another in the foreseeable future. First there needs to be a fundamental shift in approach to literacy from reliance on the print literacies of the 20th century to the more collaborative, eclectic, and media-rich 21st century multiliteracies (for example, accepting YouTube videos and wikis produced by highly-regarded educators as scholarly references in a proceedings such as this one). This implies a reversal of power in publishing when individuals can collectively determine what is disseminated over networks, so that power relationships between nodes in these networks become co-equal (peer to peer) rather than top down, as in traditionally authoritarian client-server relationships.

As student and teacher nodes in distributed learning networks tend toward peer to peer relationships, distinctions between them blur and teachers become more adept at learning along with their students. The teacher's role shifts from didactic models to more constructivist and connectionist ones where their outstanding contribution is their experience as successful life-long learners who can model the most productive heuristics for inculcating similarly productive behaviors in students.

Transfer is an important aspect of modeling. Transfer here refers to stakeholders in learning adapting what they do outside of the formal learning environment (using Facebook, Twitter, mobile devices etc.) to their teaching situations, rather than clinging to more traditional paradigms when working with students.

Sharing is another concept inherent to new paradigms for education. Creators of educational content often release it to creative commons rather than seeking proprietary copyright licenses, and tend to use open source products more and more, for example going with Moodle rather than a proprietary counterpart, to take better advantage of creativity and feedback within a wider community of altruistic users.

Two final aspects of paradigm shift for educators are retooling their concept of classification systems from taxonomies to folksonomies, and utilizing pull rather than push systems in disseminating and accessing information, thus helping everyone cope with information overload.

This paper discusses how a group of educators directed some of these paradigm shifts toward convergence in a project called Writingmatrix

where students blogged, tagged, and aggregated their way to forging partnerships with others they encountered in the distributed social networks formed through use of Web 2.0 and social media technology tools.

2. Taxonomies vs. folksonomies

One of the most important concepts for understanding how the Writingmatrix project works is the distinction between taxonomies and folksonomies in categorizing and organizing content for retrieval after its creation. The Internet is chaotic to the extent that there is no control over where content is stored, so unlike a library where staff can place books systematically on shelves, Internet content could be anywhere online. David Weinberger (2007) makes the analogy of a taxonomy being like a tree. The user works up the trunk and out the branches to locate the leaves being sought. On the Internet, the leaves are all over the ground, yet the ones we want are still retrievable once they have been labeled, or tagged, with appropriate metadata.

In a taxonomy, labels are applied that determine placement in the stacks, and librarians label each item in the library according to the system. For Internet content, there are no librarian watchdogs but users are able to tag content as they use it and might wish to find it again. However the system is not prescribed. Rather it is evolved by the users of the system on the fly as they tag items when they stumble on them. Over time we find that these user-generated tags display commonality and evolve bottom-up into a system, termed a folksonomy. So when the leaves are on the ground, we can still find the ones we want through their user-assigned tags; whereas a taxonomy is unable to locate randomly filed items.

3. Information management vs. overload

The Internet is a marvelous resource for information, for more information, and for even more information piled like leaves all over the ground. Learning how to manage this information is an important multiliteracies skill for both teachers and students.

3.1 *RSS and aggregation*

One key technology for helping cope with the masses of information on the Internet is RSS (Really Simple Syndication). RSS is code that arranges for content in various formats to be delivered as a 'feed' to a computer or mobile device the moment it is published. This is done through an 'aggregator' such as Bloglines or Google Reader, or via a podcatcher like Juice or iTunes. The user can not only select from a wide range of feeds to follow, but can configure the aggregator to organize the feeds in ways best suited to the user.

This is an example of 'pull' technology as opposed to 'push' where content is pushed to the user unsolicited. Email and its spam and malware attachments characterize the worst of push technology. Pull allows users to set their own filters on Internet content so that only requested material will be aggregated to the receiving tool or device.

A growing number of web sites provide feeds to their content, which is usually accessed through an orange icon somewhere on the website. Usually the user can right click on that icon, copy the link location, and paste that to an aggregator which will then 'listen' on the Internet for latest content from that web site, download it, and display it in such a way that the user can preview all items in one place and decide which to read or listen to or view in entirety. Users can in this way subscribe to content on blogs, podcasts, video sites, Diigo or Delicious, user groups, online journals, and so on. Almost any site which produces a feed or aggregates content from any other source can be subscribed to, and subscription results can be displayed and stored in any number of aggregators, including some which combine feed technologies in with other applications, creating interesting mashups.

3.2 *Mashups*

Mashups are becoming more and more common these days. Typically they are applications that work off data provided by some hook into a database. That hook could be an API or application program interface, or simply an RSS feed.

Pageflakes and Netvibes are good examples of mashups which can be used effectively in classroom settings. Both allow users to create web pages that display content from widgets which can include RSS feeds. For example, a teacher could set up a class web page and display on it postings from each student's blog. The postings would appear in blocks which can be dragged and dropped around the page. Within each block, text or multimedia content is refreshed whenever the students create or embed new material in their blogs or podcasts.

In addition to working off specific feeds it is also possible to search content on a given topic at sites such as Technorati or Flickr and get an RSS feed of the search itself so that when new postings are made or photos uploaded and tagged with the search target, then any new content matching that search will appear in the RSS feed from the content

aggregator. It is furthermore possible to configure a 'newsreader' to follow results of a number of such searches so that the user doesn't have to repeat the searches each time in several aggregators, but can set a complex search up once and after that simply follow its updated results through a single RSS feed.

4. Writingmatrix

These concepts were put into play to engage students in collaborative writing by helping like-minded students locate one another (via tags in web artifacts left scattered on the Internet). The project was conceived as an effort to learn more about these tools and how they worked. With this method, students connect by developing social networks created through use of the tools and techniques already mentioned, not by pre-arrangement between teachers of classes.

The project was conducted by 4 teachers in 3 different countries: Venezuela, Argentina, and Slovenia. Each taught her students how to blog and in particular how to apply the tag 'writingmatrix' to their posts and other artifacts uploaded to the web (e.g. videos and pictures). Writingmatrix was a word we invented which, when first put into Technorati (which searches blogs for posts having the tags targeted), got zero hits. This meant that once our students started using these tags, if Technorati found posts with that tag, then it was likely that they would be posts from our students. It worked, and our searches eventually started turning up student blog posts from all three of the participating countries.

Using Technorati to find students' blogs by searching on the tag 'writingmatrix' avoids any need to be aware of or to make any pre-arrangement with other classes prior to making contact. The students were assigned to write about what interested them (and hence might attract peer readers; otherwise their posts would be repetitive to others and boring). They tagged their posts with any identifiers they thought appropriate, but one tag needed to be 'writingmatrix' in order for the post to appear in Technorati searches and identify that student as being a participant in the project.

I thought students would find posts they liked, tag them and tag their own posts in Delicious, and thus see who else was reading their posts and sharing their interests. In practice connections were made less through use of the tools in this way and more through teacher intervention. But students from different countries did come together, for example in synchronous chat sessions organized for students in all four locations by Nelba Quintana at a distance from her location in Argentina.

There is evidence that the project worked in the way intended. Ronaldo Lima commented on one of my blog posts (Stevens, 2008) that he tried it with his students some time after the seminal project had ended: "I had my students tag their posts 'writingmatrix' and later they were amazed to see some comments from students from totally different countries and backgrounds. So, it surely works!" Saša Sirk said in her online contribution to our presentation that she blogged with two of her groups in a project that ended last October but she still sees her students' blog posts almost a year later, which she considers evidence of authentic life-long learning that resulted from her students' participation in the Writingmatrix project.

5. Practical examples

Participation in the Writingmatrix project is bottom up, driven peer to peer, with no need for teacher intervention except to explain the concepts and prompt learners to follow the steps. Therefore there are likely to be groups of students at any time tagging their web artifacts 'writingmatrix' without alerting others to what they are doing. Accordingly, the team members are thinking of where to go with the project in order for them, their students, and chance participants to continue learning about the relevant tools.

One interesting blogging tool to appear lately is Posterous. Posterous allows users to log onto the system and then send an email, the text of which is posted attractively to a blog, and if an attachment is included (image or document), that is posted too. These postings can be mirrored automatically to Blogger, where they can be tagged 'writingmatrix' along with other identifiers. Posterous is a very convenient way to have students get content quickly online conveniently by posting through email. Not only can this be published in a number of places at once, Posterous can furthermore direct an announcement of the post to Twitter.

Twitter is possibly the most popular of the microblogging tools to appear recently. Twitter has attracted a number of mashups which could be useful in classroom settings. For example, Crowdstatus is a tool which aggregates in one attractive page the most recent tweets (i.e. Twitter postings) of the people in your class or group.

Another useful mashup is Twemes. Twemes allows tweeters to include hash tags in their posts, such as #writingmatrix, and it aggregates all posts tagged that way on pages where they are displayed together. So whereas Crowdstatus aggregates

content for all the people in your group, Twemes allows individuals to 'tag' their tweets in such a way that they can be aggregated to one place together with other tweets bearing the same hash tag.

Friendfeed is another mashup site that pulls posts from many sources into one page where all your Web 2.0 meanderings can be aggregated. For example, I have my Friendfeed set up to aggregate whatever I post to Delicious, Diigo, Flickr, Slideshare, Pownce, Twitter, Stumbleupon, Tumblr, YouTube, and all my blogs, so that my friends who subscribe to my feed can see in this one place what content I am contributing online, and I can see as well what is being produced by others throughout my distributed learning network. This has obvious potential for having students create online portfolios, and if you're following the bouncing ball, you can see how you can get from an email to Posterous, to a blog, then to Pageflakes and/or to a post on Twitter, and on to Friendfeed; or how a class of students or a network tracking the tag 'writingmatrix' could use Delicious to see who was reading their blogs and tagging them in Delicious, and then use Friendfeed to see what else these like-minded e-pals in faraway places were reading and posting online as well. Of course Friendfeed produces an RSS feed so you can let your aggregator alert you when your friends' (or class, or network) feeds have been updated. Friendfeed serves as a handy archive of your own posts as well, in case you want to refer to them later in one convenient web location.

Dippity and Swurl take creation of personal portfolios via aggregation of content a step further. Whereas Friendfeed produces a backwards-chronological list of your most recent postings, Swurl places artifacts of what you produce in calendar squares in such a way that Flickr pictures appear, and media that you flag actually plays. Once set up, your content aggregates in principle forever. Dippity is similar in concept in that it links directly to your web artifacts hosted at certain popular Web 2.0 services, but it organizes what it aggregates on a timeline which can be zoomed in and out. In macro view events appear as bubbles bunched around years and months, but in micro view each bubble is seen to have icons representing underlying content which can be scrolled through a slide viewer. With tools such as these, in addition to Pageflakes and Netvibes, each user's content comes alive and can be displayed in attractive ways as the artifacts are aggregated. What neat tools to place within reach of our students (once teachers have modeled them)!

One other mashup that I touched on in my talk was Webslides, by Diigo. Diigo is a social bookmarking tool similar to Delicious (whose bookmarks can be imported into Diigo) but Diigo has many features of further use to educators, such as its presentation feature, Webslides, that lets users organize their bookmarks into slide shows that can be viewed online. And they are interactive because others in the distributed learning network can highlight text, annotate (with sticky notes), and comment on them in such a way that all visitors to the Webslide show via Diigo will see the annotations..

6. Conclusion

In this paper I have attempted to introduce a new approach to pedagogy based on what I see as ten aspects of paradigm shift. I have introduced tools of content management characterized by RSS, aggregation, and mashup, and shown how the Writingmatrix project utilized these tools to encourage students to keep blogs, tag their posts, and find similarly tagged posts using Technorati, thus fostering collaboration in unique ways falling outside the usual teacher-directed models. I then sketched out how this project or others like it might make use of tools proliferating on the Internet which have profound educational potentials for collaboration among students, making it easy for them to aggregate their own content uploaded to blogs and Web 2.0 sites on the Internet as well as that of their peers, and display and tweak the aggregated results in compelling ways that might encourage further collaboration via social networking between peers, who might discover one another through imaginative use of tagging and aggregation.

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