

Writing in a Multiliterate Flat World, Part I: Multiliterate Approaches to Writing and Collaboration Through Social Networking

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Abstract

Writing courses increasingly incorporate Internet and online learning activities as part of the syllabus and teaching materials. How does this change our teaching practices, and which free and collaborative online tools can be most appropriately applied in online and blended writing courses? This is the first part of a two-part article focused on freely available Web 2.0 tools and how they can promote collaboration in the context of social networking. Part I places writing in the context of new views of literacy due in part to revolutionary changes since the turn of the century in how content finds its way to the Internet. Web 2.0 and cloud computing have made it possible for writers to publish not only prose but a range of other media online without having to pass through traditional gate-keepers, and tools and mechanisms have evolved for networking communities of like-minded writers online. Among the many impacts of this development is the possibility now for student writers to write purposefully for worldwide audiences. Part I examines the production side of this dynamic, while Part II (to appear in the first issue of this journal in 2011) explains how the Internet resolves the marketing side of the role once played by traditional publishing and how writers and audiences can navigate the seemingly chaotic preponderance of content available online to find one another's material and carry on conversations about it, thus providing truly authentic motivation for their writing.

KEYWORDS: COMPUTER-MEDIATED COMMUNICATION, WRITING, COMPUTER-ASSISTED LANGUAGE LEARNING, 21ST CENTURY LEARNING, SOCIAL NETWORKING, COLLABORATION, CONNECTIVISM, BLOGS, BLOGGING, WIKIS

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Introduction: The Read-Write Society in the 21st Century

In his book, *Future Shock*, Alvin Toffler suggested that change was occurring at such an ever-accelerating pace that people in a dizzyingly approaching future would be overwhelmed with information overload (Toffler, 1970). As hard as it was at that time to comprehend, now that we are *in* that distant future, we find that change is happening so fast that even the present is disorienting.

Toffler's book appeared two decades before the Internet came into being. Since its invention, the Web itself has undergone accelerating change. How people nowadays interact and collaborate online has been significantly impacted by developments in connectivity which many have started to take for granted only in this century. Prensky (2001) famously divided the world of computer users into *digital immigrants* and *digital natives*. In Prensky's view, digital natives grew up with computers and technology from birth; they do not know a world that lacks easy access to technology. Digital immigrants were raised in the days of postage stamps on snail mail and long-distance phone calls, do not generally find technology to be second nature, and experience the greatest degree of anomie from accelerating change.

If you are a digital immigrant, then you probably remember striking developments in Internet capability causing shifts in power alignments in society even toward the turn of the century. At that time, Web pages tended to be static, one-way conveyors of information, top-down disseminators of knowledge. Lawrence Lessig suggests that these marked the last gasp of the *read-only century*: "The 20th century was the only read-only century in human history, totalitarian, centralizing, controlling. The 21st is the return to read-write" (Lessig, 2006). Lessig suggests that earlier epochs were characterized by liberalism and renaissance before giving way to 20th century government and media control. Now the "read-write society" is re-emerging, thanks in no small measure to the scale and increasingly conversational nature of interaction possible through the Internet.

Thomas Friedman starts his book, *The World is Flat* (Friedman, 2005), by describing his impressions of playing golf in Bangalore where the skyline is punctuated with buildings bearing logos of Microsoft and Goldman Sachs. His impression: "No, this definitely wasn't Kansas. It didn't even seem like India" (Friedman, 2005: 4). His thesis is that greater connectivity has brought the world from the "round" that Columbus had discovered to something more like "flat," where unity and homogeneity are reducing the importance of where we are on the planet.

Literacy skills in such a world are also changing, causing us to depart from our reliance on print, our prime medium of literacy since Gutenberg, resulting in an upsurge of other modes of communication more attuned to digital environments. This discussion explores some of the ramifications of these developments on the teaching and learning of writing.

Impacts of Web 2.0 on Literacy

Now, in the read-write century power is being returned to “You,” in the sense meant by *Time Magazine’s* recent person of the year award (Grossman, 2006). Now, anyone with basic Internet tools can create a blog or start a wiki and illustrate it with photos posted on *Flickr*. Anyone can create presentations using photos available online with *Creative Commons* attribution, possibly rendered into *PowerPoint* slides (<http://office.microsoft.com/en-us/powerpoint/>), and put them online at *Slideshare.net* (<http://slideshare.net>). Anyone can support their points with charts made in *Gliffy* (<http://www.gliffy.com/>) or free online concept mapping tools, and mash them up with other online applications, such as mapping tools from *Google Earth* (<http://earth.google.com>). If you or your students have something to communicate, you can yourselves publish it online where quite possibly it will be found and responded to by an online audience yet-to-be discovered.

These developments are increasingly being utilized in education, where technologies associated with change are variously called “transformative,” “subversive,” and “disruptive” (e.g. Christensen, Johnson, and Horn, 2008). Borne on a class of Web-based applications collectively known as Web 2.0, these technologies are sometimes written about in traditional print media (Richardson, 2006, for example) but are possibly best articulated on the Web itself in blends of text and multimedia.

In the common understanding, Web 1.0 was “read-only,” in that webmasters disseminated information one-way via static Web pages hosted on protected sites which only webmasters could write on. The “read-write” Web 2.0 is Tim O’Reilly’s popular term for Web-based tools shared for free at sites which allow users to create content by working directly online or by uploading their files to produce Web artifacts, sometimes downloadable but often hosted on the site, seemingly in perpetuity (O’Reilly, 2005) – or for as long as we can peer into the foreseeable future. (Many are surprised when what they place online is not hosted there for free, forever; witness the recent demise of *Geocities* and *Bubbleshare*.)

Downplaying the need to distinguish Web 2.0 as if it were an improved Internet version of Web 1.0, Tim Berners-Lee has said that his invention was intended to be used interactively all along. When asked by Scott Laningham for his take on Web 2.0, he replied: “Web 1.0 was all about connecting people. It was an interactive space, and I think Web 2.0 is, of course, a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along” (Laningham, 2006).

Most Internet users would concur that only in this century has there been wide enough access to tools for them to implement Berners-Lee's vision of the Web as a space for two-way interaction. There are now thousands of dynamically interactive sites and Web 2.0 tools (one of the best listings for educators can be found in Hart, 2009). Many of these sites provide tools that facilitate the writing process, especially development of ideas, by providing spaces for collaboration online.

Web 2.0 is particularly good at putting writers in touch with audiences. In the read-only era, writing on the Internet meant sending an email or putting up a Web page, but these techniques are rooted in Web 1.0. Web 2.0 not only gives scope for but *requires* interaction. For the past decade, increasing numbers of educators have been harnessing the power of the growing array of Internet tools as a means of fostering collaboration among both students and teaching peers. Many teachers have found it particularly effective to use blogs and wikis to increase student motivation by encouraging and empowering them to collaborate with others in their widely distributed peer group. Motivation is enhanced when students find authentic audiences for whatever it is they wish to express, and this is particularly applicable in teaching writing. The motivating potential of these collaborative tools was corroborated in a recent study of 3001 students in which 61% of those who blogged rated their writing as "good" or "very good" as opposed to 47% for those who didn't (Clark and Dugdale, 2009).

Web 2.0 encourages conversation, commenting, and collaborating, as the ascendancy of computer-mediated conversations (envisaged in Locke, Levine, Searls, and Weinberger, 2001, and echoed in Sessums, 2007) play themselves out in schools and in other places on and offline wherever people interact. For those who blog frequently, it is not unusual to put up a post and get a response right away from someone in another part of the world, and then have someone in yet another location respond to the comment, perhaps with a counter-essay. The frequency of interaction of those who participate in such discussions helps writers articulate and develop their arguments in response to the observations and feedback of others. Such feedback commonly occurs with many genres of blogs, including those dealing with educational technology, professional development, or student writing.

The sheer ubiquity of blogs and wikis with features favoring collaboration, inclusion of multimedia, and instant publishing is altering our notions of how we can communicate most effectively through available media. All these affordances are having a knock-on effect on education and are changing how educators go about preparing students to adapt to accelerating change in what they need to know in the not-so-distant future. Accordingly, use of Web 2.0 tools with students could be excellent preparation for helping them develop skills needed for 21st century job markets. One study concludes that "the

processes of engaging with Web 2.0 technologies develop a skill set that matches both to views on 21st-century learning skills and to those on 21st-century employability skills” (Hughes, 2009).

From Print Literacy to Multiliteracies

Ease of publication in so many modalities is leading to an emergence of new approaches to literacy. Easy upload to massively popular sites such as *YouTube* has led to some videos there achieving meme status. A meme is an artifact that gets ingrained in shared culture and is then frequently imitated by others who share that culture; for example, the *YouTube* videos of “The Machine is Using Us” (Wesch, 2007) and “Did you know?” (Fisch and McCleod, 2007), and the catchy Web 2.0 tutorial videos by Lee and Sachi LeFever at *Common Craft* (<http://www.commoncraft.com/>).

This genre of new literature utilizes concatenations of text, video, and sound to effectively convey its messages. Terry Freedman’s “Coming of Age” is a good example of blended technology (Freedman, 2006). This work appears as a book which you can download free as a pdf file or buy in hard copy; but there’s also a podcast version in which the authors read the texts they wrote for the book, and these can be downloaded as podcast audio files. Thus, despite inclusion of media besides text, the importance of writing is clear when the spoken versions are in fact articulated writing.

Writing for professional or academic purposes is a skill that will always be required, but the relative importance of text as a component in our means of communication overall has diminished. For a long time, writing was our dominant means of communication apart from speaking, and certainly it was for a long time a primary way to preserve information which people wished to record. It remains true that an ability to write well is important – and even crucial – to the art of conveying ideas today, but crafting *text* in digital format is no longer the only skill which needs to be mastered in order to communicate effectively throughout an online distributed knowledge network (Lorenzo, Oblinger, and Dziuban, 2006).

Nowadays, after several centuries when print was what was understood by the term *literacy*, educators have started thinking in terms of *multiliteracies* (Unsworth, 2001), a term coined by the New London Group (1996) to denote literacy skills that enable people to communicate meaningfully in all media and modalities available to all parties in conversation. The concept of multiliteracies has many dimensions; Selber (2004), for example, breaks the concept into its functional, rhetorical, and critical aspects. In his view, to be multiliterate, you must be able to:

- use technology fluidly, to the point where you use it comfortably, seamlessly;
- control technology rather than its controlling you;
- communicate with others about how you use, develop, and repair technology;
- understand and articulate the many impacts of technology on our lives and those of others in other walks of life and economic strata. (Selber, 2004)

More recently, Mark Pegrum has developed a rationale for focusing on literacy and digital technologies in education through five types of lens:

- technological
- pedagogical
- social
- sociopolitical
- ecological (Pegrum, 2009)

Literacy and networking are hardly new concepts. Since prehistoric times, people have had to communicate with one another and share knowledge about what it was important to them to *know*. We know at least that they drew (or perhaps wrote) on cave walls. We can imagine that they must have been communal and encountered other communities with whom they shared knowledge essential to survival regarding hunting, fishing, harvesting, and keeping warm, safe, and healthy.

Relieved of the need to focus intently over everyday survival, most of us in modern times consider what it is essential for us to *know* in the context of our domains of interest and certain practices we wish to master. Our literacy skills and means of networking have evolved as well. Typical of popular genres of group software from the last century were bulletin boards and listservs, but by the turn of the century the concept of communities of practice (Lave and Wenger, 1991; Wenger, 1998) had emerged as a powerful framework for describing a more purposeful interaction for groups that attracted members wishing to promote the distribution of knowledge within a particular domain of practice. More recently Downes (2006) has highlighted distinctions between groups and networks with respect to education. Downes characterizes the information in distributed learning networks as nodes which in aggregate contain what anyone in that network needs to know.

Ways that people are able to connect and collaborate over the Internet have further evolved to redefine literacy. Although popular VOIP (voice over internet protocol) and telephony are largely phenomena of the current era, it was possible for Internet users to use voice over Internet toward the end of the last

century by means of free voice-enabled products such as *PowWow* and *HearMe* (both freely downloadable at the time from now-defunct providers). Those of us who used these products when they first became available can recall what a striking development this was for helping to project personality and identity and thus nurture relationships crucial to the formation of online communities. Even now, wide use of VOIP applications such as *Skype* (<http://skype.com>) and voice-enabled presentation software are making possible a large repository of digital recordings that augment the written literature in many fields (e.g. *Ted Talks*, <http://www.ted.com/>) and further expand notions of literacies crucial to the new era. These multiliteracies are being mastered to varying degrees by teachers who model them in ways that expose learners to transformative learning contexts.

The essential skill for the read-write century is to develop heuristics for accessing the information in networks as if it were an extension of one's own brain. In other words, the skills a person needs to possess in order to be "knowledgeable" are those that connect that person to the wider, more knowledgeable network. This is the essence of *connectivism* (Siemens, 2005, 2006), which couches the primacy of the personal learning network into a framework where, in Siemens' (2004) famously expressed view: "The pipe is more important than the content within the pipe." In other words, the infrastructure developed to distribute knowledge throughout a network is more important to individuals wishing to access that knowledge than the knowledge contained within the network.

Blogs: 21st Century Literacy Skills for Getting from PUSH to PULL

It was at about the turn of this century that blogs started proliferating on Web 2.0 sites, breaking the mold of the static Web by allowing users to comment on each other's Web pages. Blogs lend themselves particularly well to communication through a full range of media including videos, slide shows, flash animations and graphics of all types, and embedded sounds from a variety of sources stored almost anywhere on the wider Web. When these media files are hosted at Web 2.0 sites and spaces, typically the code for embedding them in one's own blog is available on the site, and increasingly, people seem to know how to use that code, or can figure it out, and make the media play on their own blogs and Web pages. Consequently, blogging has greatly widened the scope for means of communication via the Internet and has set the literacy bar several notches higher than "just text."

Perceptions of what makes communication successful in the new media have changed accordingly. One emerging genre for teaching using a multiliteracies approach is digital storytelling. The means to tell a digital story have proliferated with the emergence of Web 2.0. A good characterization of what digital storytelling entails can be found in a podcast on the topic by Wesley Fryer

(Fryer, 2006) or through example in Alan Levine's compilation, "50 ways to tell a digital story" (Levine, 2007–2009). Note that the literature cited just now includes not only text, but oral and visual literacies, and the means to record and convey messages digitally. If this use of multiple media now seems legitimate in mainstream writing, then it illustrates the acceptance of other media besides print to act as repositories of what we currently regard as literature, which is a significant departure from the not-so-long-ago practice of citing only printed matter in written publications.

Blogs have in common characteristics such as reverse chronological listing of postings, permalinks (that is, any one posting is automatically assigned a unique URL), the ability for readers to comment, and the ability to tag entries (see the characteristics given in Dieu and Stevens, 2007). In particular, blogs generate *RSS feeds* (Richardson, 2005a). This is a crucial aspect of blogs, as subscribers use these feeds to efficiently track new content posted on blogs they wish to follow (and other new content as it is created on many other genres of Web services as well).

RSS is simply script that describes content as it is added to a Web site. When you add a posting to a blog, the script, or "feed," from the blog is updated. Anyone who subscribes to that RSS feed can then be informed when new content is available (see LeFever and LeFever, 2007, for a non-technical explanation). Will Richardson was among the first to explain the impact to educators when he touted RSS as the "killer-app" for education. Richardson showed how teachers could use RSS to easily track changes to student blogs using aggregators such as Bloglines or Google Reader, which will display in bold the link to any blog where there is new content which the teacher hasn't seen yet, simplifying the task of following blogs for a class of students (Richardson, 2005b). In other words, when students add content to their blogs, the listings for those blogs are highlighted in the teacher's aggregator, so the teacher doesn't have to open each student's blog (or blogs) individually to check for new content; new content automatically announces itself in the teacher's feed aggregator.

Similarly for wikis, RSS feeds can be used to track changes so that wiki managers are alerted the moment changes are made to the wiki. Changes from one posting to any other can easily be compared, and wikis can easily be reverted to a previous state in case content put there is inappropriate or needs to be corrected.

Nowadays any number of sites where content is frequently updated contain RSS icons. Examples of such sites include blogs and wikis, or forums of learning/content management systems such as *Ning* (<http://www.ning.com/>) or *Drupal* (<http://www.drupal.com/>), and discussion postings in *Yahoo! Groups* (<http://groups.yahoo.com>; where discussion on those lists has been made public). Also it is possible to subscribe to feeds of output from other aggregators themselves

such as *Technorati* (<http://technorati.com/>) or Stephen Downes's *Edu_Rss* (http://www.downes.ca/xml/edu_rss.htm) or to portals collecting other aggregated content such as *NetVibes* (<http://www.netvibes.com/>) or *iGoogle* (<http://www.google.com/ig>), sites that display in one place collages of content from numerous RSS feeds). You can also set up newsfeeds that update content on a given topic by continually polling a set of selected feeds all funneled through a single aggregator set up to *PULL* content using a range of sophisticated filters and other techniques that Robin Good calls *newsmastering* (Good, 2004).

Coming to terms with *PULL*, i.e. with selectively filtering and pulling information as wanted from the Internet, implies a mindset amenable to transition from print literacy to multiliteracy. In the read-only century, most information was distributed top-down, utilizing *PUSH* technologies. The classic example of *PUSH* technology is email (because senders control what they push your way). One result is spam in inboxes, or worse, email from phishers. In *PUSH* information distribution systems, end-users have inadequate control of what comes their way. They are vulnerable to a glut of unwanted email attachments (possibly multiple versions of the same document, and they sometimes lose track of which is the most recent one).

If information transfer systems are re-envisioned, then documents are stored in one place and updated as required. When certain documents are updated, those who have subscribed to the appropriate feed are alerted that an update is available. The only system that each person has to master then is competency in managing subscriptions to the correct feeds, and some of that could be automated. Such *PULL* systems are more streamlined and efficient than systems in which irrelevant material is *PUSHed* out to everybody in hopes of reaching the few who need it. The 21st century skills associated with such competencies should be modeled by educators, as when educators are seen to routinely use such competencies themselves and taught in schools by educators who are proficient in such skills (Stevens, 2007). In fact, *Google* has recently come out with *Wave* (<http://wave.google.com>), a new application that effectively reconfigures collaboration and data transfer within networks to incorporate *PULL* models.

Wikis: Reading and Writing in the Read-Write Century

Reading and writing can be viewed as two sides of the same coin, utilizing in many cases similar cognitive and mental processes. Bill Grabe (e.g. Grabe, 2002) writes insightfully about reading being a conversation with a text. There is much written on the processes of reading and writing as being or resembling conversations with text or with thought, as playing with words, and – bringing it back to writing – anticipating an audience reaction, a real or imaginary one.

The modern technology that most naturally instantiates that critical interplay between reader and writer is the wiki.

Wikis are a near-perfect match for the conversational nature of the read-write Web. This can be observed, for example, when people make changes in *Wikipedia* (<http://www.wikipedia.org/>), where a click on almost any page's history tab reveals a constant play with words, meaning, context, and facts – a fluid interaction between readers and writers. This interplay happens as a matter of course with *Wikipedia*, where anyone can take the role of reader or writer at any time, but crucially this is *not* possible with a printed encyclopedia, an informational medium in which the roles of readers and writers are completely distinct. The interactive affordances of wikis are a huge breakthrough for consumers and creators of text. For a fascinating example of how wikis undergo change over time, and how a distributed network operates to mediate both vandalism and radicalism, see the screencast in Udell (2005).

Meanwhile, wiki software has become increasingly user-friendly, and sites such as *Wikispaces* (<http://wikispaces.com>) and *PBWorks* (<http://pbworks.com>) allow virtually anyone to create wikis and use them to collaborate however they wish. Wikis normally have multimedia potentials similar to blogs. One disadvantage to wikis, however, is that if someone is writing on one, it is locked for use by others until the first user has saved his/her contribution. Otherwise, one person would change the wiki while another was working on it, and the user to save last would over-write the changes others had made. Some wikis will alert users when other users are editing the wiki; *PBWorks* for example, tells you the wiki is locked by another user until that user leaves Edit mode, and offers to let you “steal the lock” if you think the other person is not really editing the wiki. This can be inconvenient and has the potential for data loss when two users are working on the wiki at the same time.

A significant development in wikis has been Google's introduction of *Google Docs* (<http://docs.google.com>), which function similarly to MS-Office applications but store documents in the *cloud* (a reference to the online spaces where computer users are increasingly tending to store content, whereas previously content was most often kept on individual PCs and local storage media; see Johnson, Levine, and Smith, 2009). *Google Docs* utilize superior technology to save changes to the wiki so frequently that one user can see the changes made by another as two or more users are writing on the wiki at the same time. This can yield interesting affordances in online classes as well as in face-to-face learning situations where students and teachers interact together in the wiki, with the output visible to the whole class via projection to a whiteboard. This feature makes *Google Docs* the wiki of choice when multiple writers need to work on the same wiki simultaneously, or when students or teachers want

to give immediate feedback on each other's writing. Another site that works similarly in Notepad format, *Etherpad* (<http://etherpad.com/>), has recently been acquired by Google.

The interplay between readers and writers is less pronounced in blogs. In blogs there is generally an author whose point of view predominates, though others have a chance to comment – albeit in a less prominent capacity. For a comment on a blog posting to have the same stature as the original posting, rather than the status of a secondary comment on someone else's original idea, that comment almost has to be made as a posting in its own right in the commenter's blog. The second party in the conversation then links to the original posting. An ability to trackback and pingback to posts which reference one's own blog post are common features of blog software which help to automate the tracking process, and there are also third-party offerings, such as *Cocomment* (<http://www.cocomment.com>), which enable users to manage comments across numerous blogs, helping them to track and sustain multiple conversations. Aune (2008) describes 13 other such tools for tracking discussions in the blogosphere.

Still, the interfaces are not quite available yet to make all of this seamless. Whereas blogs and wikis can form the basis for writers to interact with audiences, in practice it is difficult to publish in the sense in which a publisher would promote or advertise your product, i.e. announce it to the world and thereby attract readers. However, some interesting tools and features have evolved on the read-write Web to make possible not only publication but also promotion of otherwise unknown blog postings, so that someone in one part of the world can become aware that others, perhaps a class of students in another part of the world, are blogging on topics of interest to them. This is the point where Web 2.0 becomes especially interesting for writers seeking feedback on their work.

Part II will show how writers and readers can tag their work and use RSS and other aggregation tools to find one another online and carry on conversations about each other's writing.

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