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Tools for Online Engagement and Communication

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67 With contributions from David Brear
Learning outcomes

After reading this chapter, you should be able to use important online tools such as digital stories, blogs, and wikis to:

- Develop learners’ online identities and communicative abilities.
- Engage learners with course content and with their peers.
- Develop online learner communities.
- Vary modes of participation.

You should also be aware of theoretical and practical issues surrounding these tools, and collaborative and collective online and blended endeavours.

Introduction

“In the beginner’s mind there are many possibilities, but in the expert’s there are few.” (Suzuki, 2006, p. 21)

In Zen Buddhism, there is a notion of beginner’s mind (shoshin in Japanese), in which a person seeking enlightenment is asked to look at things as they are, without preconceived notions. A goal of looking at things from learners’ perspectives is to see things the way new students do, and to anticipate problems and bottlenecks that they might face, a task that takes on added significance in light of the relative newness of online education. Online education acts as a universal solvent, dissolving many of the notions and axioms that we have taken for granted. Lynn Kirkland Harvey’s observations about online identities (Chapter 29, Identity in Online Education) are important to keep in mind because the theme of online identity is one to which we often refer.

This chapter includes two sections on relatively new technologies—blogs and wikis—not only to introduce the possibilities of creating sets of many-to-many relations within classes, and potentially outside classes as well, but also to encourage educators to use blogs and wikis in their classrooms as a way of returning to a state of beginner’s mind. These tools are not only powerful in themselves but may have an even greater potential when used together.

Joseph Tomei and Richard Lavin’s section on blogs in this chapter argues that they may be the best (if such a claim makes any sense), all-round tool for computer-mediated communication (CMC). They are an ideal tool for helping learners (and educators) get their feet wet with online learning, and, revisiting Harvey’s theme, they allow learners and educators alike to build their online identity in a semi-enclosed space from which they can venture out on their own terms to engage with others.

Lavin & Tomei’s section on wikis points to some of the possibilities of these powerful tools for collaboration and some of the issues associated with them. They argue that, in general, wikis work better when learners already have a solid foundation in blogging. They mention recent work that attempts to merge the functions of blogs and wikis. Also in this section is a discussion of usability and flow. These concepts come to the fore with tools like wikis that are unfamiliar or can sometimes be difficult to grasp.

We then move to digital storytelling. David Brear walks educators through the process of planning and creating their own stories, preparing them to teach their students how to do the same. In the process, he takes one of the oldest urges of humankind and places it firmly in the technological present. The process of assembling various media and pieces of information into a story encourages deep learner engagement and can be a wonderfully effective way to master curricular content, while helping encourage a computer literacy that is becoming more and more important. David’s guide also provides a fitting introduction to another of the underlying themes of this chapter, that of narrative structure, revisited especially in the sections on blogs.

Blogs, identity, and engagement

by Joseph Tomei & Richard S. Lavin

“Our achievements of today are but the sum total of our thoughts of yesterday. You are today where the thoughts of yesterday have brought you and you will be tomorrow where the thoughts of today take you”. – Blaise Pascal

INTRODUCTION

The blogging boom shows little sign of abating, and it is not surprising that more and more educators are showing an interest in using blogs for educational purposes.

In this section, we give a brief overview of blogs and what makes them work. We will assume in the bulk of the section that you will be helping your students set up individual blogs, which we would recommend in most cases.

A word is in order here on our teaching context. We are teachers of English as a Foreign Language (EFL) to Japanese university students, but we try to make our suggestions applicable to the widest possible audience. We feel that blogs are very flexible and can be adapted to
a wide range of contexts and users. We recommend that educators wishing to take things further also take a look at the section following this one on wikis, which shows how a class with a solid foundation in blogging might profit from using this more collaborative tool.

**WHAT ARE BLOGS?**

For the purposes of this section, we will use the following definition of a blog, which appeared in a 1999 Salon.com column:

> “Weblogs, typically, are personal Web sites operated by individuals who compile chronological lists of links to stuff that interests them, interspersed with information, editorializing and personal asides. A good weblog is updated often, in a kind of real-time improvisation, with pointers to interesting events, pages, stories and happenings elsewhere on the Web. New stuff piles on top of the page; older stuff sinks to the bottom.” (Rosenberg, 1999, para. 6)

The name *weblog*, now generally shortened to *blog*, is a portmanteau suggesting a logbook that is available through the Web. It is an outgrowth of programmers’ *logs* in which actions are recorded in chronological order to help with troubleshooting and debugging. A variation of this practice involves programmers, often working in teams whose members are located in different time zones, themselves recording their own observations as *web-accessible* ‘diaries’. Because this was all taking place on the Web, it was a logical step to add links to web pages, which conform to previous conceptual framings of footnotes as well as leveraging the power of social networks, in that following links from a person’s weblog can introduce readers to material they would never find on their own.

As this process became a social phenomenon, software developers began creating blog software with features to improve ease of use, and entrepreneurs entered into the field of providing free blogs. Modifications to the software allow more advanced features like group blogging (where a group of people assume authorship), tags or categories (where posts are classified according to theme and for which custom views are available), and comments (where people reading a blog can comment on a particular post or simply communicate with the author or other readers), and these features have by now become all but standard.

Why did blogging become such a social phenomenon? We suggest that the main reason is that a blog conforms to a certain mental model of writing (the individual diary) that was built upon and extended. This may explain why wikis, the development of which pre-dates blogs, have not caught on so quickly or widely. Blogs also benefited from a cycle of popularity, innovation, and commercial potential. Initial popularity triggered interest from developers, which led to rapid innovation and further popularity, in turn increasing the attraction of blogs to advertisers. This led to commercial blog services, which in turn created a critical mass of blogs as well as a host of other services and capabilities (photo-sharing, RSS feeds, *trackback*, *tagging*), which continues to feed the development of blogs. The result is a rich ecosystem of tools and services, ready to be exploited by educators.

The situation is good and getting better, though there is one proviso: There is not one ready-made and proven solution for every situation, so educators need to be willing to experiment with various tools and services to exploit blogs to their full potential.

**SIGNING UP FOR A BLOG**

Currently, there are many blogging services, ranging from the free and very large Blogger (formerly BlogSpot) with an estimated 14 million blogs as of July 2006 (Riley, 2006) and WordPress.com to smaller hosting services such as Squarespace. It is beyond the scope of this section to cover all of the possible alternatives for starting a blog, but creating a generic example and stepping through the sign-up procedure can establish some points of reference. For this example, we will use screenshots of Blogger (http://www.blogger.com/) to illustrate the process.
A key advantage in using a service like Blogger is that it relieves you of the responsibility for installing and maintaining software. It also allows for a wide range of student computer connections and setups and links to a range of computer services. For example, here in Japan, all of our students have camera-equipped mobile phones. Blogger permits the uploading of photos to a blog from a camera, and has connections with photo-sharing services like flickr.com. This increases the options for students and eliminates the need for computer storage. This model may be the best one for educators who have access to Internet-connected computers but do not have extensive tech support resources.

It is convenient to view the signing up/creating process of a blog as having three separate stages. In the first stage, the prospective blogger presents or creates his identity and password so that we can know who owns, and is thus responsible for, the blog, although in very large classes it may be impossible to ensure that students are doing their own work.

The second stage is creating the location in cyberspace. Most free services have you choose an identifier that is then prefixed to the service’s domain name to form your own subdomain. However, edublogs (http://edublogs.org) derives this information from your login details. This is a significant difference between free blogs as part of a business model and blogs in the classroom. In the classroom, we assume that students want to participate (and receive credit) under their true identity, but blogging as a social process may well entail assuming pseudonyms.

The final stage is personalizing the blog, which involves choosing a look and feel, usually through choosing a template and setting various options, such as who can comment on one’s blog and whether the comments will be moderated before they appear.

Often, when introducing blogging to new classes, these three stages are fused into one. This may be fine with computer-savvy students, but with students who are less technologically fluent it is useful to separate these stages, so that it becomes easier to identify where
students are having problems and devise appropriate remedies.

**BLOGGING AS SELF-EXPRESSION**

An essential step in creating a successful blog is that the blog must reflect a personal identity of the blogger. Thus, any steps you can take that allow students to demonstrate their personal identities within their blogs should be supported. Some of the things that can help are:

- encouraging student choice in naming their blog
- encouraging students to choose a template for themselves, rather than insisting on a standard template
- using and creating an avatars, a representation of the blog author
- encouraging students to post pictures through services like flickr.com and photobucket.com
- suggesting niches where a student might situate their blog within their peer group, perhaps writing about a specific set of topics or even just one topic.

It may be tempting to save time by cutting these steps short, but this may be a false economy. As an illustration, in one class, in order to simplify the signup procedure, students were instructed to entitle their blogs “(name)'s Diary” and the form of the URL was also stipulated in advance. This did save some of the considerable time that it takes our (non-native English speaker) classes to complete the set-up procedure, but the blogging aspect of the class never reached a critical mass. Conversely, some of our most successful blogging experiences have occurred when students have found an interesting or unique way to personalize their blogs that has been adopted by others in the class.

**A DIGRESSION ON LEARNING MANAGEMENT SYSTEMS**

At this point, it is useful to consider the difference between the pattern of blog usage we propose and the use of a CMS or LMS (course/learning management systems) such as Moodle or Blackboard. Our use of blogs (and also wikis) exemplifies a “small pieces loosely joined” approach (Weinberger, 2002), which emphasizes the use of tools that we call **bland technologies**. These are small (i.e., having one central function), inexpensive (often open source and/or free) tools that can be combined with other such tools to create a learning system that is appropriate for your specific situation.

Once students have a blog, you (or they) can choose whether they also need, for example, a flickr account for photo sharing, and, later, whether you want to add a wiki to the mix. Blogs can be read by the outside world, which can be motivating, and this aspect of blogging offers an opportunity for students to think seriously about audience. Moreover, when the course has finished, students still have their own blogs to use as they see fit. By contrast, a CMS or LMS is generally a closed system, so viewing is restricted to those within the system. In addition, students who have finished a course, or graduated from an institution, may no longer have access to the system.

Using free services permits schools and teachers with tight resources to avoid purchasing software or even storage space. A teacher can put together an entire online course using free websites.

**EVALUATING BLOGS**

One question that arises is how to evaluate student blogs. In our work with EFL students, our chief concerns are to encourage self-expression and regular writing to develop fluency. In an attempt to quantify this, one of the authors uses a weblog assessment index

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68 Readers interested in identity should refer to Chapter 29, Identity in Online Education.
(WAI), which we present here as one possible evaluation metric. Students are given WAI templates and are asked, in their final post of the semester, to calculate their own points. They are also encouraged to do this on a provisional basis from time to time throughout the course, so that they can have some idea of their performance and how to improve it if necessary. These occasional self-assessments can also lead to negotiated changes in the WAI, for example if some positive behaviour that the teacher did not originally envisage occurs. For example, an assessment item below was introduced when it was found that one student was using her blog as a vocabulary diary to reinforce study material from another class.

Calculating your Weblog Assessment Index (WAI)
Take the number of words you have written
Add the number of posts × 20
Add the lowest number of monthly posts × 100
Add the number of vocabulary posts × 50
Add the number of book posts (reviews, etc.) × 50
Add the number of posts with links to outside × 20
Add the number of posts with links to other class blogs × 50
Add the number of posts with links to other WinK blogs69 (not your own class) × 100
Add the number of posts with pictures, a suitable title, and at least 2 sentences × 30
Add the number of posts reflecting on your blogging or study × 100
Add the number of complex posts × 20
Add the number of comments made on other blogs × 20
Add the number of incoming comments × 10
Add the number of reviews written by you on Amazon and linked to from your blog × 30
Subtract the longest period you didn’t blog (days) × 30

Notice that the number of words, typically in the thousands, is the base here, and the multipliers for the other items have to be decided based on experience in a specific course. If the multipliers are too low, students may decide that it is not worth learning, for example, to create links, and they may devote their efforts to writing longer posts. Conversely, if the multipliers are too high, students might, for example, link to another post each time they write for trivial reasons, using this as a way to avoid writing a reasonable number of posts. We have found that some adjustments in the multipliers have been necessary each year.

For example, in our April–July semester courses, there is a week-long public holiday at the beginning of May, which comes just as students are getting used to blogging and would normally be expected to start increasing the frequency and length of posting. This tends to lead to a drastic dip in contributions. The third and final items in this version of the WAI seek to counteract this, as any extra posts in the least prolific month will increase the positive score, and even a very short post during the holiday will decrease the minus score.

Although teachers in other contexts are unlikely to find that the WAI, in its present form, is appropriate for their needs, if you accept the principle of quantifying behaviour that you find desirable, you may find it a useful base. In general, we suggest that courses pitched at more advanced levels, or those where students are keen and able to write large quantities, may benefit more from conventional rubrics, while courses where blogging is initially difficult for students may profit from the WAI or similar schemes.

EXPANDING HORIZONS WITH BLOGS
After the student blogs have been established, our goal is to have students expand the horizons of their blogs. There are two ways to do this. The first is through comments, which students usually pick up with no, or very little, guidance. The second is through linking, which can be to external pages, bringing in new material, or to other student blogs, which links the students together. The latter possibility can be enhanced with the use of backtrack. When backtrack is available, if student A writes a post linking to student B’s post, a link to student A’s post, along with a short excerpt, appears at the foot of B’s post. This is far more powerful than conventional linking, which is strictly one-way.

There are a number of targeted exercises to guide students through the possibilities. Below are a few examples:

- meme tag—In this activity, the teacher asks the students to ‘pass’ a task to other students, linking to the previous students to perform the task. This may be as simple as the Alphabet Shopping Game, where the teacher posts ‘I bought Apples and Bananas’ and asks the next student to link to that post and add an item beginning with C, and then pass the task on to another student. A more complex example might be to ask students to list their favourite three meals, again passing on the task to another student.
- pinnthemap.com—Ask students to identify a place using pinnthemap.com, and then write a blog post about the location.

69 WinK is an acronym for Weblogging in Kumamoto, a local community of university students blogging in the Kumamoto area.
• topic of the day, week, month;
• specific assignments or writing topics to be posted on the blog; and
• introduction of specific websites for topics related to the class. A class dealing with movies might be introduced to the Internet Movie Database (imdb.com) or a class dealing with public health issues might be introduced to the flu wiki (fluwikie.com).

Note that the last site is a wiki, which is a form of collaborative software discussed after blogs and again in Chapter 26, Techno Expression.

Many of these exercises may simply be mechanical, but they allow students who lack specific computer/Internet skills to acquire them, while doing something that, though perhaps trivial, is also fun. They also provide the teacher with a metric to assess students’ comfort level with the technology. It is useful to distinguish clearly between the technical requirements (hypertext linking, copying, or editing) and the content aspects of such exercises. Having students hone their technical skills in this way allows them to gain a measure of automaticity (Hasher & Zacks, 1979) and allows the class focus to shift gradually from technical to content aspects. It also serves to give students a measure of computer literacy that will continue to be of use in other classes and after graduation. These tasks can often promote a sense of social community within the class, and, if linked to the course material in some way, can prepare students for more demanding tasks later.

THREE SCENARIOS

In general terms, there are three scenarios for using blogs and wikis in education:

(1) Providing an added dimension to the physical classroom.
(2) Housing the majority of the material and provide a focal point for occasional face-to-face classes.
(3) Allowing teaching and learning to take place in a totally online environment.

It is useful to consider the different strategies required for each. In a class where blogs or wikis are supplementing the class material, the teacher can easily draw upon relationships and organization developed in the classroom as a framework for using the technology. A teacher may simply be providing supplemental materials (a blog where he or she writes all the posts, a wiki which has supplementary class material) and the blog would simply provide an asynchronous channel for comments.

In a class where the online component is the greater part of the class, the teacher should consider using the classroom relationships and organization as an initial structure in order to develop the online component. An analogy is to a seed crystal, which, when added to a supersaturated solution, has the effect of creating a crystal structure from this initial seed. This may not be possible if the first face-to-face meeting occurs after the start of the class, which would make the class conform more to the third scenario.

In the third case, the teacher must find ways to create relationships and organization from scratch. Thus the teacher may be doing some things that appear overly simplistic. However, assuming that students will be able to organize themselves with ease online in the absence of the familiar framework of face-to-face interaction is usually overly optimistic, and we may at first do well to err on the side of excessive handholding.

BLOGGING ISSUES

We have given a rather optimistic view of using blogs, so it is useful to introduce a note of skepticism here and discuss some problems associated with their introduction. Here is a useful list of problems that were faced by one educator with blogs (Chirnside, 2006), interlaced with our own comments. He writes:

We have run several f2f [face-to-face] events here in our town to raise the issue of blogs. Has not worked really. It’s just been too much.

Our own blogging ventures have to a large extent been focused on the long term: we tend to think in terms of introducing blogging into the system, as much as or more than introducing blogging to students. It is very tempting to expect students to create fully formed blogs with long posts, substantive comments, and a vibrant network of linked blogs, but thinking in terms of introducing blogging into the system (i.e., to fellow educators and into the curriculum) rather than to your current students encourages smaller and more realistic steps. Having the first set of students simply use a blog as a cyberlocation for a set of assignments that can then be perused at the teacher’s leisure establishes blogs without overly high expectations.

The writer goes on to draw some conclusions about blogging:

• Introducing blogs into an educational setting seems to work best if there are some experienced bloggers around.
Most courses do not afford enough time for too much trial-and-error learning. There are psycho-emotional barriers and tech things as well.

Thinking of blogs as curricular innovation rather than individual achievements helps create an upward spiral of improvement. While we expect (and hope) that students will graduate from our class and not have to return to be taught the same material, the products those students have produced in the previous term or year can be highlighted, even if those students have moved on. Choosing examples that constitute best practices from the previous term also helps to overcome psycho-emotional barriers as well as tech problems. Think of the introduction of blogs as a learning process for the teacher as well as the students.

• Some of the important issues involved personal questions of identity, voice and security, confidence and audience.

For some students it takes time to build the confidence needed to actually post, and to come to grips with what blogging is about—it is quite different from forum posting and traditional academic writing.

As we noted earlier, helping students make the blog their own is of crucial importance. In this context, getting students to think about how they present themselves to others is key. What personal information would the student like the teacher to know?

What to write is another problem, and one way to address this is to give specific assignments, as well as the kind of blog games recommended earlier in this chapter, in the Expanding Horizons with Blogs section.

• Unsure … whether clear [targets] …work against blogging. [Students get too caught up with] “How many posts do I have to make?” “Does this count?”

In a traditional class, a student is expected to show control (or ideally mastery) over the content presented. However, this notion that there is discrete content, separable from other facts and skills, is one from which education has been moving away, towards a goal that the student be able to use the content presented in real-world situations. There is no way to prevent some students from aiming to fulfill only the minimum requirements, but blogging, in common with many other online activities, does provide a more-or-less automated way for the teacher to ascertain if the student is working throughout the term, rather than rapidly writing the requisite number of blog posts in the evening before the final evaluation.

• Private online forums seem to have a different dynamic than blogs (ownership, identity, group, etc.).

This is very true, and such forums can prevent weaker students from getting a foothold. Blogs, because they constitute individual spaces, help overcome some of the problems that can be seen in online forums.

• Unsure about community blogs. I think (tentatively) they can help bridge to genuine personal blogs. But I do know they can assist in achieving learning outcomes … And I think they are different to forums. While community blogs are a possibility, as noted above, we view them as something best done subsequent to personal blogging.

• I think blogs are sometimes a huge bonus in informal professional learning settings. Sometimes they are not.

While we have presented an optimistic view of blogs, preparing the groundwork for using blogs is time-consuming, just like introducing any new technology or technique into the classroom. Providing opportunities for peer review, self-evaluation, groupwork, or other techniques can be described in the same way, so this is not something that is a characteristic solely of weblogs in particular or software in general.

Back to things not working. We just found it too much to go from zero to blogging in one hit. The key to using blogs in any educational context probably starts with reading blogs. (Chirnside, 2006)

This point cannot be emphasized enough. Setting aside time within the context of the classroom (in a mixed class) or specifically requiring students to identify good posts and link to them, adding their own thoughts, is one of the things that has helped fuel the growth of blogging in our classes.

**ONLINE DANGERS**

In addition to the specific issues with blogs dealt with above, any type of online interaction presents certain dangers in two directions. Teachers must not only consider the social responsibility aspect but must protect themselves from possible legal action. The first source of danger is outsiders viewing what your class has done. Strongly urge your students to avoid using their full
names or any data that could be misused. You may also want to suggest that students avoid posting pictures of themselves. This presents a conundrum, in that we have recommended that students establish a personal identity with their blog, but one that cannot be easily traceable. As we noted in the section on signing up for blogs, commercial blogs often separate real identities from online identities by permitting the use of nicknames or handles. The use of avatars in place of actual pictures also supports personal identities without risking sensitive personal information.

Also, because the walls of the classroom are now, in a sense, transparent, the teacher has to consider activities and exercises where the teacher may take a controversial position in order to stimulate participation. Consider a discussion on free speech where the teacher, in trying to get the students to consider the limits, takes on the persona of a white supremacist or asks students to take that role. This would ideally be understood as a classroom exercise in the context of the classroom, but it is possible that someone could stumble upon it while surfing the Internet and, shorn of context, believe that it represents the actual views of the teacher or students.

Below are a number of situations that could arise:

- A student writes a sarcastic review of a local eatery that suggests the owner uses non-standard ingredients.
- A student notes that, along with another student, they engaged in some embarrassing and potentially illegal behaviour.
- A student discusses one of your colleague’s classes in unflattering terms.
- A student makes a post or comment directed at another student using inappropriate language.

Situations like these are generally avoidable if the teacher sets clear guidelines, but it is important that the teacher consider the possibilities before they arise.

**BLOGS AS THE CMC TOOL OF CHOICE**

There are as many teaching situations as there are teachers and classes. In some distance learning situations, a priority may be to bring all learners together at the same time to communicate in real time. In such cases, teachers will typically employ chat or a similar tool, either a standalone tool or one embedded in a learning management system. In another case, a teacher may want to field occasional questions from students and will probably decide that email is the simplest way to go. If questions are rather more frequent, and the teacher occasionally sends out announcements, then a mailing list may be worth setting up.

All of these choices are valid, as they are based on the teacher’s judgment of his or her needs within a specific context. There are many cases, however, where it is difficult to ascertain exactly what needs exist. In face-to-face teaching, especially where there is a single weekly class meeting, a teacher may have a vague feeling that some computer-mediated communication (CMC) tool would enhance a class or extend its boundaries, even though there may be neither institutional requirement nor student demand for such a thing. In such cases, there are many tools that would probably fit the bill. The authors, and countless other teachers, have variously used email, mailing lists, chat, and discussion forums in this way, and they have found that each offers benefits.

In general, however, we suggest that benefits are likely to be greater in the long term, and more open-ended, with blogs rather than with other CMC tools. A teacher can start by creating her own blog and inviting students to visit it from time to time. To make it worth a visit, she might post a summary of each class as soon as it has finished, and add some remarks about the next class a couple of days beforehand. Then, once students have become used to reading a blog, they can be led through the signing up process as detailed above.

Blogs may function as a simple online journal and then morph into a conversational tool, making them, in our view, of more general value than other existing tools, and, because each blog belongs to a student rather than to a course, more likely to be of continued use.

Notwithstanding the above, if your main need is to inform students of a room change tomorrow, you should probably stick with email. In most contexts today, email is a given, and blogs can be introduced on top of this without overwhelming students.

Another proviso to the above is that our advocacy of blogs is centred on learning needs of students. Tracking students’ work, whether as an institutional requirement or to make life easier for the teacher, is something better done with a learning management system (LMS). LMSs are dealt with in Chapter 7, Learning Management Systems.

**GROUP BLOGGING**

After getting students to develop their own personal blogs, it is possible to move to group blogs. In our experience, though it may seem more efficient to create group blogs initially, this generally fails if students do not have any previous experience in blogging. Thus, we feel group blogs should be introduced only after learners have developed sufficient familiarity with individual blogging. In our experience, groups of two to five members are best, as too many bloggers flooding a single blog with multiple
posts leads to entries being pushed down from the top of the screen too quickly and therefore missed.

There are two ways to have students create a group weblog: the first being a real group blog; the second being a technical hack to create something that looks very similar. The first is to establish a new blog where a small group is given status as co-bloggers. This entails creating a new space, but, from a technical standpoint, this is the easiest way to accomplish a group blog. A second way is to take individual student blogs and group them together using an RSS (really simple syndication) or similar feed, which scans a blog and, when a post is added, sends a notice, an excerpt, or the entire post to another blog. By scanning individual students’ blogs and compiling changes in a central location, the effect is to create a group blog.

**FUTURE DEVELOPMENTS**

It seems almost certain that blogging is set to expand further. We may soon reach a point where the technical ability to create a blog and write a post is all but taken for granted, much as the ability to use a mouse is now. More recent developments such as vlogs (video blogs) are now receiving attention. Though these are valuable potential enhancements to our courses, educators need to be sure to leverage the opportunity presented by students’ greater familiarity with blogging by putting greater effort into improving the content of blogs and refining the teaching practices that use them, rather than diverting all our energy into learning and teaching the latest advances.

Another important point is to avoid the duplication of effort and wasted opportunities caused by the continued institutional focus on what are often styled course silos, which might lead different teachers to separately require students to create blogs for their courses. Blogs belong to the learners, and we should never require learners to create a new one without good reason. Rather, we should encourage learners to use the categories or tagging features provided by most blogging software to organize work in different courses, for example by creating a “Psych101” category or tag.

In line with the point that blogs belong to the learners, it is wise to be cautious of providing blogs through a learning management system, since there is a danger that students will lose access to their blog on graduation.

**FURTHER READING ABOUT BLOGS**

For educators wishing to read more about blogs, a good starting point would be Rebecca Blood’s *The Weblog Handbook: Practical Advice on Creating and Maintaining Your Blog*, which has excellent advice that continues to be timely despite technological changes in the years since its publication. In addition, the tutorial pages on blogging service sites (the Blogger” Help Centre, for example) are well worth a look.

**BLOGS LEADING TO WIKIS**

We have discussed blogs from a classroom standpoint, with the assumption that educators want to have students create blogs and ideally link those blogs to a network to create a social environment that expands the horizons of the classroom. This expansion is both in the sense of time (in that students can participate asynchronously), space (in that students can bring in their own experiences and situations), and cyberspace (in that students can, through linking, bring in other websites and information). This is all easily achievable through what is available now on the Internet.

The next section, about wikis, describes software that is less established and does not fit so easily into earlier mental models of publishing. For this reason, our discussion of wikis, in contrast to our discussion of blogs, tends towards the theoretical. However, we feel that blogs provide a foundation that may be necessary for students to take full advantage of the possibilities of wikis.

Wiki technology for online education

*by Richard S. Lavin & Joseph Tomei*

“The parts are the tools within the whole, they make sense only in the unity of the whole, every single organ performs its intended goal for its organism and this intentional functionality is not situated outside of nature but its value lies within it.” — Alexander Neuer, 1936 (Stein, n.d., Alexander Neuer, para. 2)

**INTRODUCTION**

Wikis are collaboratively editable websites that can be used for various purposes. They are particularly well suited to taking students who are already competent bloggers to the next level.

**From weblogs to wikis**

For many contexts blogs may be the tool of choice, and sufficient by themselves. As we have shown in the previous section, they can be used for a wide range of purposes and can foster reflection and communication
among students, classes, and institutions, and thus they can move us in the direction of learning communities.

There are cases, however, where blogs alone may be limiting. There may be a need to bring older blog posts to the forefront, to build on earlier discussions or knowledge. Of course, this is always possible, through an archive search, followed by copying and pasting into a new post or linking to the old post, but blogs, because of their temporal organization, are not ideally suited to such use. It will sometimes be desirable to have a more- or less complete snapshot of the state of knowledge built up over a course, possibly several iterations thereof. Again, the teacher could conceivably write a summary linking to key posts that contribute to such an understanding, but this would be an inefficient use of a blog, and that summary post would again be pushed down the stack as new content was added.

In such cases, we suggest that wikis provide an answer, if taken with “a measure of caution” (Tomei & Lavin, 2007, p. 26). Wikis are free-form, collaboratively editable websites, designed to work with a minimal set of simple markup commands rather than the more difficult HTML. Content can be arranged in whatever ways make sense; and, since wikis are simple, they can be edited as needed. Although wikis can be used as stand-alone websites, independently of blogs, here we are interested in the possibilities for complementing blogs. A wiki could be used to archive key blog posts in an easy-to-find organizational scheme, together with extra details or commentary. Alternatively, it could be used as a database of background information to raise the base level of the blog discussions.

It is their collaborative editability, however, that makes wikis such powerful tools, potentially enriching students’ interactions and fostering cooperation and collaboration inside and outside the classroom.

**What are wikis?**

In the preceding section, we gave an informal definition of wikis. Before discussing how to use them in more detail, let us attempt a more rigorous definition, which may serve to clarify their uses, strengths, and weaknesses. Wikis may be defined as instantly updateable, collaboratively editable, radically hypertextual websites. Let us take a look at each component of this definition.

“Instantly updateable” means that there is no need to edit a local copy of a website, upload the new version, and then reload the new version in a browser. Though such a process is not difficult, it is just enough trouble that countless small-scale websites remain untouched for long periods of time. (Teachers reading this may be familiar with the leave-it-till-the-end-of-term syndrome.) With wikis, it is enough to click the Edit button, correct a typo or change a deadline, for example, and then press Save to implement the change.

“Collaboratively editable” means that there can be multiple authors of a website, possibly at multiple locations, or people other than the authors who are able to make changes. This is the feature that is of most interest to us in this chapter, though it is best to keep the other features in mind.

When Tim Berners-Lee devised the original specifications for the World Wide Web (Berners-Lee, 2000), he envisaged that everyone would publish and edit information, rather than just read pages and click to follow links. Instead, for a time the Web became something like a “glorified television channel” (Berners-Lee, 1999). Wikis started the move towards a web more in line with Berners-Lee’s vision.

Consider a standard hyperlink on a web page. In the absence of specialized software, you need to use a moderately complex code to create it. It points to a whole page, which may be quite long, and you may have to do further searching within the page for the information you want. The destination page does not point back automatically to the originating page, so if your browsing had taken a different route you might never have discovered the connection between the two pages. And if you link to something that does not exist, you get an error message.

Hypertextuality means that links are two-way rather than one-way, so you can find your way back to pages you have looked at before and also to pages that link to the page you’re on. (This is essentially the same technology as blog trackbacks, discussed earlier.)

Links can point at small chunks of information, rather than whole pages; and information can be organized freely, without resorting to hierarchical structure based on directories and sub-directories. Most importantly, as long as you know the name of a page, you can link to it without knowing where it is within the wiki. The system used in most wikis is known as CamelCase, as, in addition to an initial uppercase letter, CamelCase words, otherwise known as WikiWords, feature a hump or humps of intermediate uppercase letters.

This does not apply only to pre-existing pages; new pages can also be created using the same syntax, meaning that it is very easy to expand on existing information, and even add whole new categories of information. This is why Klobas (2006) suggests that the Berners-Lee dream of a fully interactive web may already have been surpassed, thanks largely to wikis.
Wikis and Wikipedia

Since Wikipedia is now the best-known wiki in existence, it may be useful to take a closer look at wikis through the lens provided by Wikipedia, noting features that are in common with other wikis and those that differ. Most readers will probably have heard of Wikipedia. It is a large (more than 1,800,000 articles as of June, 2007), multi-lingual (fourteen languages with more than 100,000 articles, and more than 60 languages with smaller numbers), freely accessible to anyone with an Internet connection, and, more radically, freely editable, in principle, to anyone in the world.

Entry page for Wikipedia (http://wikipedia.org/)

Thus, anyone who finds an article with factual or typographical mistakes can rapidly correct the mistakes. Similarly, if an article exists but is incomplete (many of these articles are marked as “stubs”) anyone with knowledge of the topic can add details or links to further resources. As long as this is done with a sense of responsibility, students who contribute in this way can justifiably feel they have made a real contribution to human knowledge, if only in the sense of making knowledge already available in one place simultaneously available in another, more central, location.

Wikipedia can be said to be typical of wikis in the sense that there are generally no specific software controls over who can change the wiki (except that certain IP addresses that have been identified as the source of malicious changes are excluded, but only after a process of consideration by members of the community). It is atypical in the scope of its subject matter and in the size of its target community. In fact, since most communities are partially defined by whom they exclude, the Wikipedia community is very unusual since potentially it includes all humankind (though in practice, of course, some may never hear of Wikipedia, some may not be interested, and many, for economic or geographical reasons, may never have access).

The other major wiki that we will mention is Ward’s Wiki, the wiki created by Ward Cunningham, the inventor of the first wiki engine (found at http://c2.com/cgi/wiki/WikiWikiWeb). This wiki’s subject matter (People, Projects, and Patterns in Software Development) is rather esoteric and may hold little interest for most people. However, its discussions on thread mode and, more broadly, on wikis, how they are used, problems with wikis, how to choose a wiki engine, and so on, are most valuable. In addition, Cunningham has resisted the recent trend to add features to wiki engines, consistently favouring simple code and a minimal feature set. Thus, this wiki functions as a useful reference point when comparing wiki engines or when defining what is often termed wikiness.

It might be overstating the issue to claim that these two wikis represent the alpha and omega of wikis, and all other examples would fall somewhere between them, but they serve as two useful poles of wiki development, that of a constantly evolving and growing set of pages and users and a smaller, more focused, and maximally simple wiki that might help you understand the tension between the two poles.

INTRODUCING WIKIS TO STUDENTS

The nuts and bolts of choosing a wiki engine to install oneself, or a wiki hosting service to make the installation unnecessary, is dealt with in greater detail in Chapter 26, Techno Expression, so we will avoid details here. We will instead focus on the practical and pedagogical issues once the wiki is installed and ready to use.

We should emphasize first, though such warnings may be unnecessary, that simply creating a wiki site and telling students to “interact” (or “collaborate”, or “play around”) on the site is unlikely to work satisfactorily, unless students are very mature and self-motivated and they have a lot in common, or a ready-made purpose in the nature of the course. Whereas it is fairly easy to start students blogging by describing a blog as an online diary and asking students to introduce themselves or write about what they did at the weekend, such an obvious entry point to wikis does not exist. Since processes are best explained in terms of steps, and problems are best solved by breaking them down into sub-problems, we shall take a closer look at possible difficulties with wikis in the next section.
**Wikis are not easy**

For inexperienced learners, wikis may be a difficult tool, and therefore it may be difficult to create the conditions where they lead to real engagement. In addition to general computing skills such as typing, copying, and pasting, the major characteristics of wikis given above point to possible areas of difficulty.

Initially, it may take some students a long time to get used to the simple but radical idea of **instant updateability**. They may not notice the Edit button, for instance, until it has been pointed out to them several times. Since they are not accustomed to web pages being editable, their eyes may at first gloss over the editable window in the centre of the page as they search for something recognizable as a database field to fill in.

Collaborative editability represents a complex mélange of technical and social issues. Students may resist the very idea of touching someone else’s work without specific permission or conversely be offended when someone touches theirs. Even when they have become accustomed to the Edit button, it may not occur to them that it is possible and permissible to actually edit existing pages, or even sentences and paragraphs, and they may restrict themselves to making new silos with their own personal content. Thus, it is advisable to be ready to give extensive instruction to students in these possibilities, along with guidance on any restrictions you wish to impose.

Finally, the radical hypertextuality of wikis can cause severe disorientation. It may take students some time and considerable guidance to master the mechanics of making links. Even then, it may not be possible for all students to grasp the structure of the wiki as a whole, resulting in difficulties fitting in new content and linking it to other relevant pages.

**Blogs as an entry point to wikis**

Our own experience with weblogs and wikis has led us to conclude that weblogs can act as an entryway into using wikis by establishing a firm foundation for learners. Some of the skills necessary for wiki use that can be established by regular use of weblogs are as follows:

- manipulating computer text (copying, cutting, pasting),
- using tags and understanding how they work,
- writing short coherent paragraphs of content,
- commenting on others’ work,
- linking to external sources, and
- linking to internal sources (within the weblog).

These skills may seem so basic as to need no introduction, but we have found that even groups of sophisticated learners, when placed in a new environment, often transfer only some of these skills, and then only fitfully.

**Using Wikipedia and other global wikis**

Since most students will probably have heard of Wikipedia, and many may have experience using it for reference, this may be the easiest entry point. The teacher could find a page on a topic of interest to the class and show the present version and selected older versions for comparison. If there is a live Internet connection, the teacher could find a page with typographical or minor factual errors and correct them in real time, explaining that anyone throughout the world can now benefit from the new version. If students are deemed ready, and of course with appropriate supervision, they can be guided to pages that they can improve, and be invited to make minor edits. This should be sufficient to demonstrate that wikis are valuable tools.

If Wikipedia is considered somewhat forbidding, there are other global wikis that allow students to improve the world in some small way by correcting faulty information or, more commonly, providing missing information. We shall introduce three of these here: Wiki Travel (wikitravel.org), Wikia (wikia.com), and Wikibooks (wikibooks.org).

When we were looking for a simple wiki-based project to excite our tertiary EFL students in Japan, we were delighted to discover that Wiki Travel had no mention of the students’ home area of Kumamoto. Although the students’ writing proficiency is fairly low, as are their technical skills, they were able to create this section and provide some useful information to prospective travellers. The fact that there was no existing information lowered the stakes, since any information they could provide represented an improvement. They were delighted when other Wiki Travel users from around the globe corrected some of their linguistic errors. Subsequent cohorts were surprised to discover that the Kumamoto section had been created by their seniors, many of whom they knew personally, and were pleased to be able to build on their predecessors’ work.

Our students’ experience with Wiki Travel also points to some potential pitfalls with projects of this kind. One of the Wiki Travel guardians at one point asked us to make sure that students’ work was corrected before posting in the wiki space proper, since the majority of articles are quite polished. They suggested that students’ personal pages within Wiki Travel would be a better place to host relatively raw work, prior to polishing, perhaps via peer editing, and moving to the wiki space proper.

Wikia, formerly known as Wikicities, features thousands of wikis on specific topics. Many of these are related to
places, and the focus differs from that of Wiki Travel in that they are not aimed primarily at tourists but typically at providing a convenient information source for residents. Places that do not have enough articles to make it worthwhile creating a separate wiki can have an entry in the Towns, Villages, and Cities wiki. Most wikis on Wikia are still in their infancy. This lowers its value as an information source, but at the same time maximizes its potential for student projects.

Wikibooks is an attempt, launched in 2003, to provide textbooks on a whole range of subjects, and as of June 2007 there were over 25,000 English-language wikibooks available, in various states of completion, on topics ranging from organic chemistry, the solar system, and quantitative finance, to bartending, Turkish, and table tennis. A smaller number of modules in an assortment of languages are also available. Wikibooks are divided broadly into Wikijunior books (aimed at ages 8–11), Wikistudy books (typically aimed at secondary education examinations), Wikiprofessional books (typically aimed at those preparing to sit professional examinations), and Wikiversity books (all others, with an emphasis on the idea of lifelong learning). Since the wikibooks have a very serious purpose, any project aimed at improving any of them should have a similarly serious intention.

An example of such a successful project is the Rhetoric and Composition Wikibook started by Matt Barton and his students in a composition class, announced on Kaironews (Barton, 2005a), and further explained on Barton’s website (Barton, 2005b). The wikibook is for students in first-year university composition classes, and thus represents a case of near-peer role models creating course materials, tempered by collaboration with instructors. As of this writing, the book is available online for editing and also as a free PDF download (http://en.wikibooks.org/wiki/Rhetoric_and_Composition).

Other simple wiki projects: conventional website plus

The fact that wikis have great potential as collaborative writing tools does not necessarily mean that they must always be used in this way from the outset. One way to get started is for the teacher to use a wiki as, at least initially, a conventional website. This could include the syllabus, assignment deadlines, and useful resources. An opportunity to show students that the site is not quite like the ones they are used to is presented when an error (strategically inserted beforehand if necessary) is discovered during a class meeting, or if a deadline is renegotiated, for example. Far more powerful than a promise to update the site later is to instantly correct the error and show students the new version on the spot. Taking this a little further, when during a class a new concept is introduced, the teacher could create a link to a new page introducing the topic and create a two- or three-sentence page stub on the spot.

Once students have had a chance to see a wiki in action, its collaborative editability may not come as such a shock. The teacher could prepare for a class meeting by creating an Introductions page, containing links to each student’s name (typically a full first name, followed by the initial letter of the surname, such as RickL, or JoeT). Students should know that the page will not exist until they click on the link.

The above example can be taken as far as necessary. If the teacher notices that several students have the same hobby, she could create a page devoted to that hobby, with a descriptive title such as TrainSpotting or ReadingBooks, and show students how to link to the page with minor changes to their own sentences; for example, simply changing I like reading to I like ReadingBooks. As a simple demonstration of the power of the richer model of hypertext employed in wikis relative to the Web at large, teachers could show how the back-links to the ReadingBooks page constitute a list of all students who like reading.

In this way, apart from giving students a painless introduction to wikis, any divide disappears between the official course website and the course wiki as a new tool to be understood (and a new URL to be remembered). It also constitutes a very low-risk strategy, as not very much depends on successful completion of any wiki-based assignments, and in any case none of the assignments mentioned is difficult enough to make failure likely.

Even if students do not take to the wiki, the teacher has discovered an approach that may revolutionize his approach to lesson preparation and course re-tailoring. Because the wiki is instantly editable, any lesson plan that is overly optimistic about the amount of material to be covered can be changed immediately for the following iteration of the course. If the teacher is worried about unauthorized edits, she can write-protect the wiki. If she wants to keep the content secret, she can read-protect it. If she wants to have certain sections such as quizzes protected, and others editable, this is also possible, depending on the wiki engine.

WIKI FOCI AND PROCESSES

Although it is possible to use a wiki without any specific problems, it is useful to have a grasp of some of the already existing conceptual work. This can also help you get more out of wikis.
**Wikis imply engagement with ideas**

Typically, where a team of people is working on creating a knowledge base of some kind, a wiki implies engagement with information and ideas more than with people, though of course it was ultimately people who produced those ideas. Interaction will generally need to be focused on creating a product, however tentative, and this implies a degree of sophistication on the part of the learners.

It is interesting to compare wikis with discussion forums. A discussion forum emphasizes engagement with others, making it easy to engage in friendly communication that may or may not be related to the main topic of concern. Substantive debate is also possible, but, crucially, the debate is a kind of meta-dialogue, that is, talking about something, but often not creating anything new in a systematic way. A participant is more likely to say “I think you’re wrong about that, because …” than to say, “I think you’re wrong about that; instead, I would say …”. Hewitt (2001) found that it can be very difficult with discussion boards to pull disparate threads together, as one message may simultaneously address multiple issues. Without extra synthesizing steps, for which discussion forums fail to provide specific mechanisms, valuable contributions can be lost before they have been understood for what they are. Reinforcing what we said in the previous paragraph, since a wiki is focused on product (an actual collaboratively generated version of a text), engagement is with ideas, even though those ideas may have been produced by others. As Jennifer Claro suggests, wikis are a cognitive **constructivist** tool in the Piagetian sense, in that they create knowledge from within the learner rather than imposed from outside by the educator (2005, personal communication).

Any activities requiring use of a wiki will typically have to be carefully tailored to learners, and possibly the wiki should be seeded with templates to provide some kind of structure to make exercises easier. **Mind mapping** or flowcharting can often help students develop a structure.

**Thread mode for communication**

People now are accustomed to seeing Wikipedia as representative of wikis in general. Since Wikipedia is designed to present a friendly face to people visiting briefly to get specific information, it tends to obscure the writing processes that produced the apparently finished article on view. To see what goes on behind the scenes, you can click on the tab labelled **discussion**. What you will find may be enlightening, and perhaps a bit frightening, especially in the case of contentious topics.

However, the earliest wikis were commonly used in thread mode, where a signed contribution at the top of the page is followed by another signed contribution responding to the first, and so on. When a wiki is used in this way, the point about ideas and information being favoured over people may become invalid.

At first sight, this threaded mode may appear to be no more than a discussion forum without many of the functions we have become accustomed to. Yet it has the trivially easy hyperlinking features of wikis, which allow one to refer to other discussions easily. Most importantly, it has the potential to be transformed from thread to document mode.

Where discussions need to take place, but the wiki proper needs to serve simultaneously as a resource for others, users would typically make use of the discussion feature mentioned above, which is now a fairly common feature across wiki engines. Sometimes, this appears in the guise of a comments feature; in WackoWiki, for example, comments are appended to the bottom of a page, in a separate space. Users can choose whether to show or hide a page’s comments.

**Direct transformation over meta-dialogue**

Wikis are sometimes seen as less desirable for discussion than discussion forums. This may well be the case when discussion is the sole or main purpose of instruction. As we have mentioned, the standard mode of use is to attempt to create a page that is a product of some kind, however tentative its status and however many more iterations may appear in the future, as the scenarios below may illustrate.

An advanced user, B, when finding a page authored by another advanced user, A, may, while respecting the intentions of A, alter the text to reflect B’s concerns in addition to A’s concerns. In many cases, A will infer the intentions of B from the changes, and this understanding forms the basis of a continued collaboration, with A and B engaging in true co-authorship. When users are able to see the creation of a wiki page as a social process, in the sense that they are able to imagine the intentions of their co-authors, wikis can become a social constructivist tool. Of course when co-authors disagree, they may choose to make a phone call or launch a discussion by email, for example; however, in general it seems to us that a large part of wiki interaction consists of a kind of tacit debate, where the debate is in a sense encapsulated in the version changes of the wiki pages. It further seems to us that this is a very efficient way of working and that it would be wrong to conclude that the lack of metadialogue is necessarily a deficiency, although it may mean that much wiki work falls outside the scope of
strict definitions of collaboration (see Chapter 28, Online Collaboration: An Overview).

A technologically unsophisticated user D, encountering a page authored by a user C, may in many cases feel too intimidated to alter the text in any way and may instead create a totally new page. If this is titled User D Perspective, for example, this may be an entirely appropriate strategy. If the pages largely overlap in content, though, and if the relationship between them is not indicated, it creates a redundancy which may never lead to real engagement between the two users, since the wiki does not have the structures in place to push users towards discussion; or rather, although wikis can easily support discussion, this functionality is not foregrounded by default. The emphasis is very much on creating pages, which are works in their own right, ready to be read profitably by others.

Thus, it may be better to avoid wiki exercises with non-advanced users or to make the exercises very limited in scope and pre-structure the wiki to some degree.

**Product over process**

While co-authoring a wiki page can be a highly collaborative and ongoing process, each time a page is saved it becomes a product. Although this product has the potential for future development, it is nevertheless very much a product in the eye of the casual visitor, and there is an unseen pressure on the authors to make it a “real” product on each page. Although much depends on the purpose of the wiki and the context surrounding its creation, in general the product aspect can be considered as being foregrounded, and this has a subtle effect on the dynamics of the process and the interaction between users. It is up to teachers to decide whether or not this is a positive thing. In general, we consider it overwhelmingly positive, as it focuses attention on incompletions and imperfections.

Note that this does not mean that all problems have to be solved definitively. However, they do have to be acknowledged and defined as far as is practical, and this opens the way for future attempts at completion.

**From thread to document mode**

It is with relatively sophisticated users that wikis may come into their own, when teachers encourage the use of thread mode initially, but also encourage a process leading to a product in document mode (Bruns & Humphries, 2005; Morgan, 2004). In other words, at first learners respond to each other’s ideas on the page as if the page were a thread in a discussion forum, but gradually begin to take ideas from other contributors, from various parts of the page, and merge them into a partial summary or reconciliation of different viewpoints. These summaries serve in turn as raw material for others to summarize or exploit in other ways to achieve a higher synthesis.

“Wiki goes meta—almost naturally.” (Morgan, 2004)

In this process, even signed comments lose any clear authorship and become material for the co-authored text that emerges. Though this process can be difficult to achieve, it is arguably the highest form of collaboration, and serves to demonstrate advantages of wikis over more fully featured threaded discussion forums.

**EXTENDED WIKIS**

As mentioned above, wikis are not easy to use to their full potential in many educational settings. A large part of the difficulty is a conceptual and attitudinal one. If students do not wish to work together, it will be difficult to use a wiki effectively (Rick & Guzdial, 2006). There may be resistance to the idea of editing another’s text. The number of cases where a satisfying transformation from thread to document mode takes place may be quite limited, except where students are mature and there is a pre-existing culture of collaboration (Chapter 28, Online Collaboration: An Overview).

In addition, there a number of difficulties associated with classic wiki engines that may be overcome by enhancements to the software, and we deal with some of these here. We use the term extended wiki to refer to software that is in general functionality and look-and-feel a wiki engine, yet sports enhancements that take it clearly beyond most wiki engines in certain areas. We do not offer a hard-and-fast definition because, as wikis in general evolve, the functionality that qualifies an engine to be classified as an extended wiki is something of a moving target.

**Simultaneous edits**

Wikis are asynchronous tools in the sense that there is no requirement to be logged in at the same time as other users. This is on the whole a strength, but classic wiki engines can be inconvenient for in-class use because two users may edit the same page at the same time, potentially causing one user’s changes to be lost, depending on the relative timing of the respective users’ saves. Most wiki engines these days implement some measures to alleviate this problem. PhpWiki, for example, uses special markup to indicate areas where two people have made simultaneous edits between saves, giving the user the chance to reconcile the two versions, usually by
merging both edits. MediaWiki allows each section of a page to be edited separately. Neither, however, represents a complete solution to the problem.

Wang and Turner (2004) describe some wiki engine enhancements that they introduced to make wikis more useful and easy to use in their classes. A key one is a simple mechanism to handle concurrent edits: when one student is editing a page and another attempts to edit the same page, a timer appears on the first student’s screen. She is expected to save her changes on the page before the timer ticks down to zero, after which her work will be saved automatically, she will be locked out, and the second student gets priority.

Managing cohorts
It is arguably wasteful for each cohort to start from zero. As in real life, it is generally more fruitful in education if each cohort can build on the work of previous cohorts, with collaboration extending across course and time boundaries. This may not always be very convenient for teachers, however, nor satisfying for students, as it is difficult to pinpoint what a specific cohort has done. Another of Wang and Turner’s (2004) enhancements offers a partial solution, in the form of a snapshot function that can be invoked at the end of each iteration of the course, archiving the state of the wiki at that time.

Course management
There are a number of features that can aid in course management. Typically, a teacher will want to keep some pages un-editable by students (for example, syllabus details), and perhaps some un-viewable by students (for example, future quizzes). With a classic wiki, the standard solution would be to keep such material off the wiki, finding some other medium to archive or display it. More modern wiki engines provide functions to make alternative media unnecessary.

For example, WackoWiki has access controls that can be customized per page. PmWiki and DokuWiki have a namespaces feature which allows certain sets of pages to be made un-editable or even un-viewable, usually by means of password-protection. Wang and Turner’s engine goes one better by means of a visibility function, reminiscent of Moodle’s hidden function: by switching visibility from false to true, for example, the teacher could create all course quizzes before the start of the course, revealing each one on the day of the quiz.

Media types
Wikis typically are very text-heavy, and in many cases this is a welcome feature when students may spend hours adding pictures, colours, and animations to a PowerPoint presentation, forgetting to prepare sufficient material or to practise what they are going to say. But there may be a legitimate need to include other kinds of media.

Nowadays, many wiki engines can incorporate pictures in some form, usually as attachments that need to be uploaded to the wiki, and then downloaded by the viewer and opened separately. This should be regarded as the minimal requirement, as it is not desirable to require students to keep track of multiple sites or online hubs. Far better is a wiki engine that allows pictures to be viewed within the body of the page. Again, this is no longer a rare feature, but some wiki engines take things further. Of particular interest is WikkaWiki, which allows users to incorporate mind maps created in the open source mapping software FreeMind, in addition to Flash animations. LizzyWiki (DesiJetis, 2005), an experimental testbed rather than a generally available product, allows files to be attached using syntax similar to that used to create a new page, alleviating one possible difficulty associated with incorporating external resources.

With research students, or those working in mathematics or related fields, UniWakkaWiki may be a good choice, as it supports MathML, for mathematical notation, and BibTeX for handling citations and reference lists.

Output
For many projects, the wiki itself is the result of the work in the wiki, and people who wish to view the work can simply be directed to the wiki’s URL. In other cases, to emphasize the completed product aspect of the project, print output may be desirable. To avoid arduous copying and pasting, some kind of special export feature is necessary. WackoWiki can export documents in Microsoft Word format, while UniWakkaWiki does the same in OpenOffice format. PmWiki has an optional extension that can create attractive PDF documents.

Structure
While the free-form nature of wikis is one of their biggest attractions, there are times when some kind of structural support could be invaluable, for example when there is a need to create a set of pages of similar format, such as tourist guides to a range of destinations. For beginners for whom simply mastering the mechanics of page editing is challenge enough, it may also be helpful to reduce the field of choices as regards structure. When there are few categories of information, some limited form of hierarchical organization may be useful, and similarly linear arrangement of information can sometimes be the most obvious and helpful way to go.
Linear navigation schemes in wikis are commonly called WikiTrails. PmWiki was one of the first popular wiki engines to offer this feature, and an example of a trail can be found in the PmWiki documentation, starting at Basic Editing (http://www.pmwiki.org/wiki/PmWiki/BasicEditing). In this case, the creators of the site have judged that someone just beginning to explore the functions of PmWiki might first want to know the basics of editing an existing page, then how to create a new page, then how to create links, and so on. In a course website, you may wish to create a trail of short pages introducing lectures in the order in which they are held, or a series of past quizzes for present students to refer to. An important thing to remember about trails is that they are a secondary navigation system overlaid on the basic wiki structure, and can thus be used or ignored by readers as they wish.

Another helpful feature offered by LizzyWiki is optional page templates. These can be applied to any pages that require them, they serve as a reminder to writers regarding what information to include, and they offer some indication as to suitable length.

PmWiki, DokuWiki, and MediaWiki are three wiki engines that offer groups, or separate namespaces. Consider, for example, a course with four or so major topics, each of which features pages like JohnsPerspective, Lindsey'sReaction, and so on. To avoid ambiguity between John's perspective on Topic 1 and his perspective on Topic 2, we might create a Topic 1 and a Topic 2 group. Thus, the two pages would become TopicOne/JohnsPerspective and TopicTwo/JohnsPerspective, respectively.

In a course orientation, or when introducing wikis for the first time, one may have a clear idea of what order would be best for presenting information. One way would be to put all that information on the wiki's homepage, arranged in headings, sub-headings, paragraphs, and lists. Another would be to put only one link on the homepage, so that readers are pretty much forced to follow the prescribed path. Neither of these methods would be ideal, however, for people looking for more specific information.

Ease of use

QwikWeb offers a wonderfully easy entry to wikis. It functions as a simple mailing list, and this is the facet that can be shown to learners initially. Instead of sending an email to several users, the teacher can simply request that emails should be sent to the stipulated qwikWeb address, which forwards emails to list members. However, qwikWeb is also a wiki. After users are accustomed to sending email to each other through the list, the teacher can introduce the wiki URL and then, for example, offer instruction on how to edit an entry or combine it with another.

LizzyWiki recognizes the problems that many users have handling links, and therefore offers a more forgiving syntax, allowing variants like WikiWord, Wiki_word, and wiki_word to all point to the same page (Desilletts, 2005). It also extends this same pattern to uploads, such that entering my_document.doc will prompt the user to locate a file to upload. Equally importantly, it has a mechanism for graceful recovery from link-related errors, providing a button that renames the current page and repairs all links to the page.

Wikispaces goes even further in facilitating error-free link creation, providing a kind of wizard that prompts the user to choose an internal or external link and then, if the link is internal, giving a list of link targets to choose from. In this it takes a cue from VoodooPad, the desktop software based on wiki links that has long recognized the difficulty of remembering the names of all pages to which one might want to link.

COMBINATIONS AND EXTENSIONS

The extended wikis we discussed in the preceding section, though offering certain extra functions not usually associated with wikis, are still recognizably wikis. The software we discuss in this section go beyond wikis in functionality, and in many cases are not based on any wiki engine. Yet they still have the collaborative editability of wikis and take their inspiration from them. The second group of tools examined here, blikis, represents a merging of blog and wiki functions, and we believe these represent an important direction for future development.

Super-wikis and non-wiki collaborative tools

JotSpot is the best known example of what we term super-wikis. Though based in the wiki ideas of collaborative editability and instant updateability, the code is different, and the functionality is an order of magnitude greater. JotSpot has various types of fields in addition to plain text fields, and thus, although it can also be used as a standard wiki, it can also serve as a web application development environment.

Wikindex can also reasonably be considered as a super/wiki. At its heart is a database of reference information in BibTeX format that can be freely cross-referenced like a wiki. Wikindex also contains a writing module that references the database.

Collaborative writing applications such as Zoho Writer, Writeboard, and Google Docs are in essence...
word-processors with a subset of the functions of a desktop program such as Microsoft Word, but running wholly on the Web and allowing multiple users to work on the same document. For more structured data, tools like Google Spreadsheets or Zoho Sheets can be a useful alternative. To a large extent, these tools solve the limitation common to most wiki engines that prevents them from being used for synchronous collaboration, saving any change automatically and almost instantly.

**Bilikis and Drupal**

We argued in the preceding section that blogs are a suitable general-purpose CMC tool for most purposes, and that wikis are best supported or preceded by blogs. An exciting recent avenue of development is software that combines the two types, which we shall refer to generically as bilikis, though other terms such as wikilogs are also sometimes used.

While blogs typically are suited to quick noting of thoughts and experiences, the writing in wikis tends generally to be the product of deeper reflection, often processing a number of ideas at the same time and coming to a kind of synthesis. In many usage scenarios, a wiki will incorporate many ideas or pieces of information that have previously been talked about on the writers’ blogs. If this is the case, then it makes sense to link the two together in software, rather than leaving writers to trailer through their blog archives looking for material.

There are several different approaches to bilikis, which reveal interesting differences in the developers’ views regarding the essence of blogs and wikis. Here we shall look at a few specific examples.

Wikilogs (http://websitiz.fluxent.com/wiki/) take a wiki as a base and incorporate weblog entries as a special kind of wiki page, named with a yyyy-mm-dd format date. Thus, a subset of the wiki entries is arranged in reverse chronological order like a blog but, because those entries are within the wiki space, they can be referred to easily by other wiki pages, some of which will be topical entries building on the blog entries. Likewise, PmWiki is a conventional wiki engine that allows the creation of blog entries through extensions.

Both the above examples are clear cases of wikis with blog-like features added on. TiddlyWiki (http://www.tiddlywiki.com/) and its many derivatives are rather more platform-neutral, though they are still located on the wiki side of the fence. Items (tiddles) are small chunks of text rather than whole pages, and a sidebar offers flexible options for viewing content either chronologically or according to content tags or keywords associated with items.

It is possible to have a separate wiki and blog, but linked in a way that approaches biliki functionality. For example, people signing up for an edublogs blog (http://www.edublogs.org) are given a free wiki on Wikispaces. The customized WordPress Multiuser administration controls have a special Wikispaces tab, while Wikispaces admin has a WordPress tab, and wiki updates are usually posted automatically in the blog sidebar.

One package that is not known as a biliki but functions in a broadly similar way, in addition to having discussion forums and offering multi-blog installations, is Drupal (http://www.drupal.org). In Drupal, users would typically have their own blogs, while the wiki-type functionality lies within the book module. This is different from a real wiki, in the sense that there is no wiki-style linking system. Instead, pages are created and then arranged in a linear and hierarchical structure. Similarly to a wiki, typically all users can edit the pages in a book, as well as manipulate the structure of the book. Blog entries and book pages, as well as other content, can have keywords associated with them. Clicking on a keyword attached to one blog post, for example, will show all items of any kind with that keyword. Thus, the blog and wiki-like entries are part of the same seamless space.

**WIKIS AND USABILITY**

We conclude this section on wikis by broadening our focus to usability. This issue is relevant to all educators seeking to introduce new technologies, but it is arguably of particular concern with wikis, because software-related difficulties may be entangled with conceptual or attitudinal issues. In other words, the nature of the tasks that learners are expected to perform may be unfamiliar or be at odds with learners’ expectations or preferences, while at the same time more mechanical issues such as how to create hyperlinks may be a source of difficulty. By finding out what aspects of the software interface cause problems for learners, and focusing our initial instruction on these aspects, we can create some space for addressing directly the wider issues surrounding the use of wikis and other collaborative software. Ultimately, we can find ways to improve the software to alleviate these problems.

Lavin and Tomei (2006) attempted to isolate usability factors by giving pairs of wiki novices deliberately trivialized tasks to perform, and observing the wikis they created, trying to understand the difficulties by means of think-aloud protocols. Though we were only partially successful, we discovered that linking was a task fraught with difficulty, students forgetting where the Edit button was, and making all manner of errors with WikiWords.
Training can no doubt overcome these problems, but there clearly is scope for improvement in the software, if we are going to use it widely with novices. Desilets (2005) concluded that requiring novice users to use raw wiki syntax to manipulate wiki links is not appropriate.

The Lavin and Tomei (2006) study showed that the effort involved in creating syntactically correct links led one pair of students to create a page which consisted wholly of one link, leading to a page consisting wholly of one link, which in turn led to another page consisting wholly of one link. It did not seem to occur to the students that content other than links might profitably be included.

The above examples are extreme, and we should not lose sight of the fact that wiki syntax is indeed easy when compared to HTML, for example. However, as a general rule, it is probably dangerous to assume that any computing task will be easy for all learners, however trivial it may seem to us. When software makes tasks complex, the frustration often makes it impossible to concentrate adequately on the central task at hand, thus destroying any chance at achieving a state of flow (Csikszentmihalyi, 1990), when learners can be at their most productive and absorbed in the activity.

Several projects address usability issues with wikis. LizzyWiki (http://lizzy.iit.nrc.ca/LizzyHelpNew/public/wiki.cgi), developed at the National Research Council of Canada, is a leading candidate for educational use, partly because of the thought that has gone into removing some of the stress associated with linking, though at the time of writing it was not yet available to the general public. MediaWiki now has eliminated CamelCase as a linking mechanism, requiring double pairs of square brackets instead. Though this is arguably slightly more time-consuming, it may prove to have some benefits in terms of ease of use.

CONCLUSION

The length of this section on wikis reflects the great importance that we attach to wikis, partly as tools in their own right, and partly as lenses on a wide range of issues including usability, the nature of collaboration, and ways in which technical aspects of e-learning tools can become entwined with wider issues of deployment. Such issues may be part of any new tool, but the collaborative editability of wikis brings them to the fore, and teachers deploying wikis may wish to reflect on their goals as well as the extent to which they are willing to embrace new technology and work practices.

Digital storytelling

by David Brear with Joseph Tomei

INTRODUCTION

Digital stories are a natural in any classroom, whether filled with young children or adult learners. The concept is very easy to understand. Students and adults love to tell stories. Stories can be about family, friends, or favourite things; anything that relates personally to the teller can be grounds for a powerful story. Once students have the idea, they can plan a story, create it electronically, and share it with their class or the world.

This section on digital storytelling provides implementation tips, educational uses, and examples, while guiding the reader through the steps to creating digital stories with students: drafting a proposal, creating a story outline, and producing a digital story. Since stories find their most natural home with children, we will begin with that audience in mind, and follow on with ideas for adaptations for other groups of learners.

WHAT IS DIGITAL STORYTELLING?

“People did not wait until there was writing before they told stories and sang songs”. – Albert Bates Lord (Lord, 1995, p. 1)

Add the use of technology, and storytelling goes digital! There are many forms of digital storytelling that may combine any of the following elements: text, image, sound, voice, and moving images in a coherent story. It is the interplay of these unique elements that gives this medium its power. However, no amount of digital magic will turn a poor story into a good one.

By examining how to introduce digital storytelling to students in Grades 7 and 8, we can see the differences and similarities between modern multimedia methods and oral traditions of sitting around an open fire passing on valuable family stories from one generation to the next. This section will underscore the connection between the two.

Today, we can turn the classroom into an environment where students relate what is important to them using the digital tools that are available. It might be holidays, friends, family, an activity, an idea, sports, or something else they choose. When I work with students, I mention to them that each digital story is unique and that each student brings something special to their own stories. It is gratifying to watch their faces and their eyes light up as they then think about an idea. It is this
power, the primal power of storytelling, that makes this useful and appropriate for the classroom.

**DIGITAL STORYTELLING IN THE CLASSROOM**

Digital storytelling can contribute to the development of many of the competencies we want our students to acquire. While Chapter 28, Online Collaboration: An Overview, discusses collaboration with an emphasis on adult learners and higher education, the present section provides an example of such collaboration among young learners. However, since many of the same principles apply, it is important to realize that digital storytelling for younger students offers an initial jumping off point for these principles, because it is an ideal environment in which students can work in teams and learn to collaborate on decision-making and task accomplishment throughout the planning, production, and post-production phases of their digital stories. These interactions are crucial to acquiring knowledge as well as developing multiple learning styles.

A further strength of digital storytelling is that it can be used to integrate subject area knowledge in many areas of the curriculum because those who can tell a story understand the subject: their knowledge is not merely a recitation of facts or events, but knit together by an underlying narrative.

“To be a person is to have a story to tell”. – Isak Dinesen (Maquire, 1998, p. 37)

**Benefits to learners**

There are two kinds of benefits that learners realize when engaging in digital storytelling. The first is the kind that accrues from the use of stories. When younger students realize that their stories are valued, and of interest to their instructor and peers, they experience an increase in self-esteem and confidence. Another perspective on this kind of benefit that may be more salient to older learners is learning that the information they incorporate within their stories is embedded with a framework of their own experiences, which leads to deeper learning and greater retention.

The second kind of benefit is technological: students tell their stories while developing a familiarity with computer software and protocol. This serves to anchor this knowledge into a framework that is useful for students and will be for years to come.

**Benefits to instructors**

There are multiple benefits to instructors. Stories help instructors learn more about the students, which allows instructors to fine-tune teaching and intervention. In addition, instructors may learn as much as, or more than, the students with regards to the various uses for multimedia. Moreover, because instructors will be able to promote learning through peer relationships, everyone becomes a teacher and a learner simultaneously.

**GETTING STARTED**

For younger students, the idea behind a digital story is that it should be about something that is important to the student. So asking them to choose a suitable topic should be the first step in a digital story.

After students have been introduced (if need be) to the basics of using computers, you should ask them to begin to collect materials, using a digital video camera or a scanner for visual materials, and a recorder and their favourite music for the audio materials.

At this point, it is a good idea to introduce existing digital stories to the students. Obviously, when you first try digital storytelling in the classroom, you will not necessarily have examples to hand, so accessing examples at sites like Seven Elements of Digital Story Telling (http://t3.k12.hi.us/t302-03/tutorials/digistory/elements.htm) and Digi Tales—The Art of Telling Digital Stories (http://www.digitaless.us/resources/seven_steps.php) can provide starting points. These sites provide a series of steps that you can adapt to your own teaching situation, as well as a wealth of other information about digital storytelling.

After showing examples, I ask students to plan their digital story around a story they want to tell and ask them to write out their script to be combined with the visual and audio materials they have collected. A progress chart to allow students to document their progress is a useful device. It is also useful to give students a concrete idea of how their projects will be evaluated. One example is given below:

Create Your Digital Story, to include:

- Script, written and shown to Mr. Brear (30 marks)
- and any 5 of the following:
  - Voice (10 marks)
  - Digital Imagery (photos) (10 marks)
  - Text (titles) (10 marks)
  - Music (10 marks)
  - Video (10 marks)
  - Sound (10 marks)
  - Animation (includes transitions and effects) (10 marks)
Spelling, Originality, Attitude, Cooperation (10 marks)
Finished Product (10 marks)

Total 100 marks. Your Mark _______

Source: http://members.shaw.ca/dbrear/DigitalStoryProjectGr.8.pdf

Brainstorm ideas
Having students write down their ideas on paper in a brainstorming session is an important activity. Yet I also have had success developing brainstorming with a software program called Inspiration (http://www.inspiration.com/). For more information about using concept mapping software in general, and Inspiration in particular, see Inspiration and Concept Mapping (http://members.shaw.ca/dbrear/inspiration.html).

At this stage, it is important not to censor student ideas, and it is equally important that the students don’t censor themselves. Remind them that it is much easier to delete things at a later stage, but difficult to create a story if there is insufficient material.

Once the students have decided on a topic and gathered some ideas, it’s time to put those ideas into linear form. They do so in a process called storyboarding.

Storyboard your ideas
A storyboard is a visual script of the story and is an important part of the planning process. Creating one provides an organizational tool to make the production process flow more easily.

Depending on the elements the students have at their disposal (image, text, soundtrack(s), motion) the storyboard will be more or less complex. In determining the appropriate level of detail, consider whether the final product will be a printed page, a multimedia project on computer, or a video. The output will also determine what your storyboard needs to include. It may include any or all of the following:

• sketches for a page, screen, or scene
• text that will appear on the screen or page
• scripts (for live actors)
• appearance of text (colour, size, font)
• narration
• sound effects
• music
• descriptions of movement
• interactive elements (for onscreen buttons)
• notes on props, location

Tip
Make sure you have a storyboard for each page, scene, or screen of your project. Number your scenes and pages.

Write your script
A script is simply the words used to accompany the digital images of the story, and creating it at this point will help students plan the development process. Students should have an idea of who the audience for their stories will be, as well as some idea of the dramatic question, a notion from dramatic theory. Some examples drawn from A Dramatic Question (http://www.storycenter.org/memvoice/pages/tutorial_1b.html) include “Does the guy get the girl?” or “Does the hero win?” When the question is answered, the story is over. A blank template for a simple script can be found at Script Template for Digital Story: Grade 8 Explorations (http://members.shaw.ca/dbrear/dsvsscript_template.pdf).

We suggest that students write one or two sentences that would require about 20 seconds of recording time, which seems to be the most comfortable in terms of recording one’s voice over a clip. Our blank template has 10 cells, so filling all of them gives the students a three-minute digital story, though an initial attempt might be better at about two minutes, with no more than 20 images.

Collect materials and resources
When you ask students to collect materials, let them know that these can be Internet-based, collected from home, handed down from an older person to a younger person, folklore, pictures, or even letters from family members. The more materials students collect, the more they will have to draw on for their digital stories.

Slow and steady wins the race
It is important to start off slowly. Have students refer frequently to their storyboard and script as they develop it. The process will naturally take time as they put the pieces together. Computer movie software allows students to film different parts, save them, and scan pictures for inclusion. Have students screen their own and one another’s work and then re-edit it. Point out that movies undergo multiple edits and screenings.

“Don’t say the old lady screamed—bring her on and let her scream”. – Mark Twain (Carroll, 2002, p. 87)
Start putting your digital story together
Because any story delivery has to be linear in regards to time, approaching the project as a linear timeline is helpful. Therefore, ask students to scan and place pictures into a sequence that relates to their storyboard and script, and then add the music tracks that they have chosen to accompany the images. Next, have the students practise laying the voice track in the appropriate places. Finally, students should create and insert their video clips into the proper sequence.

“The essence of cinema is editing. It’s the combination of what can be extraordinary images of people during emotional moments, or images in a general sense, put together in a kind of alchemy”. – Francis Ford Coppola (Cristiano & Letizia, 2006, p. 26)

At all points, encourage students to test their stories as they develop them, sharing ideas and products with their peers. Also encourage them to be open to suggestions for improvement from everyone, because the process of giving and accepting feedback is as important as the final product.

“I suppose film is distinctive because of its nature, of its being able to cut through time with editing”. – Oliver Stone (Kreisler, 1997)

An overview of the process
The chart below, from Seven Steps to Create a DigiTales Story, provides a visual guide for the creation of digital stories. Note the division of the production into three distinct phases: pre-production, production, and post-production.

COMPUTERS, SOFTWARE, AND EQUIPMENT
If this discussion has whetted your appetite for digital storytelling, then it is time to take stock. It is obviously not possible to review all of the possible configurations of computers, so making a list of your hardware and software is the first step in determining what is possible.

(1) Does the computer have USB ports and a DVD or CD-ROM burner?
(2) What type of access do you have to a network, and how easy is it to post, distribute, or share projects?

The following are all good programs for creating a digital story.

- iMovie (Apple Computer)
- Microsoft Movie Maker
- Broderbund Telling Stories Basic

Tip
Apple’s iMovie site has a range of iMovie-specific art, sounds, downloadable plug-ins, and assorted other resources.

Tip
Microsoft’s Movie Maker site (http://www.microsoft.com/windowsxp/using/moviemaker/default.mspx) has Movie Maker tutorials, tips, and downloads.

Tip
Broderbund’s Telling Stories Basic (http://www.broderbund.com/) focuses on creating a digital scrapbook based around a personal reminiscence, making it useful for oral history projects, especially within families or communities.

Another useful tool is a scanner to scan photos of family, friends, and scenes for use in the digital story. Powerful and evocative projects can be created with a simple combination of individual still photos, background music, and voiceovers, as was demonstrated by Ken Burns’ Civil War series. In a pinch, a digital still camera or a video camera can serve as a scanner.

Digital music can be used, but even if you don’t have the equipment to access and transfer digital recordings, a microphone can record music or voiceovers.
EXAMPLES
One example is given below, but you can view a wide range
of student made stories at Digital Stories (http://www2.
sd43.bc.ca/banting/Web%20Pages/dstories.html).

Eric's sport life
The movie

When looking at those example stories, please don’t
view them as rigid templates that need to be slavishly
adhered to, but as seeds to see what you and your stu-
dents can develop.

DIGITAL STORYTELLING FOR OLDER LEARNERS
We find that younger learners often have fewer inhibi-
tions about creating digital stories, while older learners
may encounter affective barriers in creating digital sto-
ries, thinking them childish. There are several reasons
for this. Older learners already have an identity in which
they have invested (see Chapter 29, Identity in Online
Education, for discussion of this). Older learners are
more cognizant of the separation between one’s private
life and what one shares within the classroom. Finally,
the general pattern of modern institutionalized educa-
tion has been to discount more creative, individual ways
of learning in favour of mass education. None of these
barriers is insurmountable, and there are a number of
tactics for getting older learners over the hurdles, but
only if you are willing to reexamine your role within the
classroom. Furthermore, many of the points discussed
previously can be recast for use with older students,
often through the use of a Socratic dialogue to get stu-
dents to develop these notions independently.

Create an external objective
While younger students will often engage in digital sto-
ries for the sheer fun of relating their own stories, older
learners will often be more reticent about relating per-
sonal details about themselves. Rather than rely on the
student’s own interest, share with older students the
reasons why you want them to do this. Some students
may view the teacher’s role as simply providing the in-
formation that they need to learn, but a project draws its
strength from having the students provide information
for the class to share and learn from.

The play’s the thing
Long a staple of literature classes, the class play can eas-
ily be updated to be a digital effort. Have students un-
derstand that by creating a digital version of the play, or
even a part of the play, they will better understand the
underlying narrative. Even these shorter versions can
contain the power to impress and awe. The Reduced
Shakespeare Company, a three-man troupe, has caught
the attention of audiences world-wide by performing
condensed versions of Shakespeare’s plays. While pre-

tended humorously, the troupe’s performances under-
line the idea that simplified storylines can lead people to
a fuller appreciation of the Bard. That same approach
can serve you and your students well.

The digital recitation
Imagine asking a class of students to recite a poem that
was assigned by you. Student after student trudges up to
the front of the class, while the rest of the class yawns in
boredom. Some students are unprepared, leading to
further wandering of attention. Now imagine that you
ask each student to create a digital version of the recita-
tion by simply creating a PowerPoint presentation of
images that they move through as they recite the poem.
Now imagine students using a program such as Profcast
(http://www.profcast.com/) that allows them to record
their recitation in sync with the PowerPoint presenta-
tion. This enables a radical change in workflow, allowing
you to screen student assignments before class, choosing
the best three, for example, and have students discuss
which of these is the best. This concentration of effort
and attention provides a focal point for both teachers
and students.

The story behind the story
Digital stories are not simply for language arts. For stu-
dents studying science, a digital story describing how a
discovery or invention came about allows students to
not only gain a better understanding of the process, but
allows them to restore human elements to technical
subject matter.

Digital stories as timelines
A digital story represents a narrative that must neces-
sarily be told over a stretch of time, and as such it repre-
sents a wonderful opportunity for students to present
actual historical timelines as narratives that they con-
struct, illustrated with appropriate images.
Digital stories as group projects
We can often depend on younger learners to develop their own stories individually; with older learners, permitting them to produce their story as a group project allows them to draw on their collective resources and promotes class cohesiveness, while increasing opportunities for peer-to-peer learning to take place. A fortunate byproduct of this is that it reduces the evaluation burden on the classroom teacher. Rather than a load of 32 individual projects to review and grade, groups of four reduce that to a manageable eight projects.

Digital stories as an upward spiral
Conducting digital story productions over a longer period of time with consecutive classes permits teachers to select the best work from previous classes and present them as exemplars for subsequent classes. In this way, the bar is constantly raised, challenging students to match and surpass the productions of the previous year’s students.

CONCLUSION
We hope that we’ve given you some ideas to take storytelling into your classrooms. A further source of inspiration is in indigenous traditions of storytelling. For example, in Japan, children are often the audience for kami shibai, or paper theatre, where large pictures are displayed as backgrounds while portions of the stories are read. These are ideas and traditions of narratives that can be tapped into to make digital storytelling a natural and enjoyable part of your classes.

Chapter summary
“Teachers are expected to reach unattainable goals with inadequate tools. The miracle is that at times they accomplish this impossible task”. – Dr. Haim G. Ginot (Ramsey, 2006, p. 96)

In this chapter, we have presented three tools that, while technologically advanced, are still being perfected. Both blogs and wikis are specific software applications, while digital stories rely on a combination of software and hardware. These tools will not do everything that you need them to do, but that may be mainly because what we need them to do changes so rapidly.

In reviewing this chapter, a profitable way to examine it is to view the contents as a possible path that students might take to negotiate an online learning environment. Following the chapter on learner identity, we see learners establishing online identities and then learning to interact with other students, noting the problems and possibilities as we introduce various activities, from responding to and creating narratives in the form of storytelling, to creating their own personal narratives through the use of blogs. We also see learners beginning to collaborate with other students to create repositories of knowledge through wikis.

In all this, the educator stands as a guide on the side rather than a sage on the stage, setting up appropriate scaffolds to support learners, trying to minimize the number of dead-ends that learners encounter, and guiding them beyond those that they do. To do this, educators have to embrace learners’ perspectives, in effect, becoming learners themselves. In this sense, students, by going through the process, teach teachers. In all of this, learners and teachers alike ideally are all engaged in and committed to building and continuously renewing communities of practice, the subject of Chapter 30, Supporting E-learning through Communities of Practice.

Before reading on, we urge you to spare a moment to reflect on the speed at which our notions of online environments change. For instance, in Beatty’s fairly recent (2003) book on educational technologies for language learning, technologies such as wikis and blogs, central foci of this chapter, receive no mention. The coming years will no doubt see the arrival of new technologies, some of which may supplant those in use today. While we forefront specific technologies in this chapter, we hope that readers will continue to reflect on the underlying themes of engagement, identity, narrative, communication, cooperation, and collaboration, which remain important whatever tools and techniques we choose to use.

Resources
This is a list of resources for readers who wish to explore further the topics in this chapter.

BLOGGING
Well-known blogging engines include WordPress and TextPattern. WordPress MU is the multi-user version of WordPress, used when you want to install the software once and have several users, each with their own blog. Drupal, although a more broad-based content management system, is also good as a multi-user blogging engine.

Unless you have time and a certain amount of technical expertise (or good tech support), we recommend free hosted blogging services. There are several of these, but
because of mergers occurring and new companies entering the market, it is not possible to present a list that will remain current or be exhaustive. At the time of writing, the following selection of services is available. Nevertheless we encourage readers to use a search engine to search anew for “free blog services”.

Commercial blog services
- Blogger—the largest blog service is now owned by Google, which means that Gmail, Google’s free email service, is the easiest route in.
- Wordpress.com—As the name suggests, this service is closely affiliated with the WordPress blogging engine.

Educational blog services
These are blog services that use one of the major blogging engines, but are designed for a specific educational niche:

- Edublogs—a service which uses the WordPress MU blogging engine, created to offer blogs specifically to educators and students. Although Edublogs originally were designed for teachers and education professionals, there also used to be blog subgroupings designed for specific student needs, such as for university students and for learners of English as an additional language (Uniblogs and ESLblogs).

Other blogging services with which students may already be familiar
These services, recently called social network sites (Boyd & Ellison, 2007), may not be suitable for classroom blogs, but students may have individual experience with them. They include:

- MySpace (http://www.myspace.com/)
- Xanga (http://www.xanga.com/)
- Live Journal (http://www.livejournal.com/)
- Windows Live Spaces (http://spaces.live.com/)

There are a number of social networking websites that have blog-like features. For an up-to-date list, please see Wikipedia (http://en.wikipedia.org/wiki/List_of_social_networking_websites). Educators in other countries who are technically advanced, but do not use English as a general means of communication, may also have SNS in their own vernacular. In Japan, Mixi (http://mixi.jp/) and in Korea, Cyworld (http://www.cyworld.co.kr/ US page at http://us.cyworld.com/), are two such sites.

Photo sharing and image hosting services
This field is in a constant state of flux, so we will only recommend a few sites. Also, because many sites do not monitor images, we urge some research before choosing a service. The ones listed below do monitor images, and they are:

- flickr (http://flickr.com/)—a service that now belongs to Yahoo! If you have a Yahoo! ID, joining flickr is quite simple, but can be a bit more complicated if you don’t. However, Yahoo! offers the simplest interface for including pictures in blog posts;
- photobucket (http://photobucket.com/)—a free, independent service;
- zoomr (http://zoomr.com)—offers geotagging of photos and unlimited uploads

Also, many of the social networking websites (mentioned above) include image hosting as an option.

WIKIS
The wiki field is not as well-endowed as that of blogs, though several useful services exist. Newcomers to both blogs and wikis might wish to take advantage of the chance to get a free Wikispacespace with a new Edublogs accounts. Augar, Raitman & Zhou (2006), Mindel & Verma (2006), and Tomei & Lavin (2007) provide recent accounts of wikis. Please see the references for details.

Two current wiki-related projects:

- WikiEducator (http://www.wikieducator.org/)—free e-learning content repository
- Wikiversity (http://en.wikiversity.org/)

“Wikiversity is a community for the creation and use of free learning materials and activities. Wikiversity is a multidimensional social organization dedicated to learning, teaching, research and service.” – Wikiversity (Wikiversity: Main Page, June 29, 2007)

Wiki sites
You may wish to get students acquainted with the concept of a wiki by asking them to contribute to public wiki sites. However, as the person responsible for bringing students into the wiki, you have some responsibility that they behave and exhibit good netiquette. All of these sites use the Mediawiki software, so they have the same look and feel as Wikipedia:
• Wikipedia (http://en.wikipedia.org/wiki/Main_Page)—thought of as the exemplar of wikis, it has so many users that it may be difficult to have students participate in a protected way. The URL will take you to the English language Wikipedia, and Wikipedia in other languages are linked to from there.
• Wiki Travel (http://wikitravel.org/en/Main_Page)—a wiki that seeks to provide travel/tourism information for locations all over the world.
• Wikibooks (http://en.wikibooks.org/wiki/Main_Page)—a wiki that works to create open source textbooks.

Wiki engines (software that you install on a server to run a wiki)
• Mediawiki (http://www.mediawiki.org/wiki/MediaWiki)—the software that powers Wikipedia, handled by the non-profit Wikimedia Foundation. Immensely powerful, but with a steep learning curve.
• LizzyWiki (http://lizzy.iit.ntu.edu.sg/CrossLangWiki/public/ywiki.cgi)—a wiki engine specifically designed to deal with bilingual and multilingual sites. Still in development, but something to watch for.
• Moodle wiki module (http://docs.moodle.org/en/Wiki_module)—integrates wiki features with Moodle LMS functions.
• PmWiki (http://pmwiki.com/)—a very user-friendly engine to install and use. Has a very active user community and many extensions written by users for extra functions. More details at pmwiki.com.
• UniWakkaWiki (http://uniwakka.sourceforge.net/HomePage)—This engine is ideal for math and science wikis because it can display formulas and bibliographic references generated with MathML and BibTeX. Suitable for collaborative publication of printed materials as it can export to LaTeX.

Free wiki services
• Wikispaces—based on the Mediawiki engine, found at http://www.wikispaces.com/. You can get a wikispace included with an edublogs account or go directly to Wikispaces for Teachers: http://www.wikispaces.com/site/for/teachers. Non-paying users are limited to 2Gb of storage.
• PBWiki (http://pbwiki.com/)—a free wiki service, limited to 10Mb for non-paying users, that uses ad-support to cover costs.
• JotSpot (http://www.jot.com/ and http://www.jotlive.com/)—a pay service that also offers a free wiki service, with restrictions on storage and numbers of users and pages.
• EditThis.info (http://www.edittthis.info/wiki/Main_Page)—this site uses the Mediawiki engine, so it has the look and feel of Wikipedia. It permits administrator control and currently operates via donations.
• Wetpaint.com (http://www.wetpaint.com)—this site allows you to create a topic-specific wiki (or contribute to a pre-existing one). Note that you cannot create closed communities with this service; anyone with an interest in your wiki’s topic can contribute. Though tracking learners’ contributions may be hard, this is one of the most authentic ways for learners to contribute knowledge to the global community of Internet users.
• SeedWiki (http://www.seedwiki.com/)—another service with free and for-fee levels of service, the latter allowing password protection and other advanced features.
• The wikipedia entry on “Comparison of wiki farms” (http://en.wikipedia.org/wiki/Comparison_of_wiki_farms) has a list of these and other services.

Online writing software
Online writing software is used to create web-accessible documents, to either display individual work or, more interestingly, for collaboration over the Internet. Examples are:

• Writeboard (http://www.writeboard.com/)—this software, from 37signals, was, as far as we can tell, the first of its kind. Users can create an unlimited number of Writeboards free of charge and with an unlimited number of co-authors. Alternatively, Writeboard can be used as part of the pay service, Backpack.
• Google Docs and Spreadsheets (http://docs.google.com)—in March, 2006, Google purchased the startup Upstartle and its online word-processing software WriteIt. Subsequently, Google incorporated the service into Google Accounts and added Spreadsheets and a PowerPoint-like Presentations module. Documents created can be kept completely private, shared with specified individuals, or published either to a Blogger blog or to the Internet at large with a google.com URL.
• Zoho Writer (http://www.zohowriter.com/)—an option for online writing, part of an extensive suite of online software, including presentation software, spreadsheet, groupware, project management, and more.

DIGITAL STORYTELLING
• The Multimedia Project’s The Video Guide—a resource for both students and teachers to use as they explore the world of video. Containing four categories, the materials include such assets as advice sheets,
activities, and glossaries (http://pblxmm.k12.ca.us/TechHelp/VideoHelp/VideoGuide.html)

- Visual Knowledge Project—highlights some of the resources on digital storytelling which are available online (http://crossroads.georgetown.edu/vkp/newsletter/0902/resources.htm)
- The Complete Eejit’s Guide to Movie Making—focuses on storyboarding from the artist’s perspective. It has some excellent tips on how to indicate camera directions from within your storyboard (http://www.exposure.co.uk/eejit/storybd/index.html)
- Storyboard Organizer—a simple step-by-step approach to creating a storyboard (http://www.thirteen.org/edonline/lessons/storyboarding/)
- Royalty Free Resources—a guide to royalty-free resources. (http://www.pembinatrails.ca/program/technology/royalty_free_resources.htm)
- Digital Storytelling—a resource for students and educators who are engaged in learning through digital storytelling. (http://www.wsl1.org/digitalstorytelling/)
- Digital Story Telling Education—introduces the Digital Storytelling project, a library for Broadband schools in the East of England Broadband Region and other Regional Broadband Consortia. You can search and access digital stories. From this site you can also learn how to create your own digital stories, understand more about copyright and access further digital story resources from the Links section (http://story.e2bn.net/)
- Digital Story Telling—an extensive list of resources including articles, samples, and workshops (http://members.shaw.ca/dbrear/dst.html)

Glossary

Accidental learning. Learning that is unplanned by both the teacher and the learner.


Asynchronous. A term used in computer-mediated communication for tools such as email, bulletin boards, blogs, and wikis, for which it is not generally assumed that responses will be immediate. Contrasted with synchronous tools such as chat.

Authentic assessment. A process that involves examining students’ basic skills, control of information, high level of understanding, personal characteristics, and habits of mind; and it allows students to participate actively in their own learning.

(Pre-) authentication. A process which determines whether, for instance, educational materials actually serve intended purposes, for particular learners or groups (before they encounter or use such materials); a counter-example: early childhood education case studies for present or future adult educators (see Authenticity).

Authenticity. A term used to measure to what extent a task used for educational purposes represents tasks that learners might have to perform outside the formal educational system.

Avatar. An image used to represent a writer or participant. An avatar can be an actual picture, a caricature, or even an unrelated image that is used consistently to represent the writer or participant.

Backlinks. Also referred to as inbound links, this term refers to all the links to a given web page. Some implementations are known as linkback or trackback. Having bi-directional links is often considered one of the keys to realizing the original vision of an interactive, read-write web.

BibTeX. This is an electronic format for bibliographic information, readable by most specialist reference management software (such as EndNote or Bookends) and online reference management services (such as CiteULike or Connotea). It was originally designed for use with LaTeX typesetting systems.

Blending. Using a variety of teaching and learning methods, a range of tools, synchronous and asynchronous computer-mediated communication in addition to face-to-face meetings, and a combination of individual and collective activities.

Bliki. a software program that shares properties of wikis and blogs. Implementations differ according to whether wiki or blog functionality is considered primary.

Blog/weblog. A website that consists generally of date-ordered entries, from newest to oldest, that can be added to or edited via the Internet.

Brainstorm. A method by which any and all ideas are put forward freely, for review at a later stage. Useful for compiling a list of keywords and identifying main concepts.

CamelCase/CamelCase. The practice of writing compound words or phrases where the words are joined without spaces, and each word is capitalized within the compound. The name comes from the uppercase “bumps” in the middle of the compound word, suggesting the humps of a camel (e.g., MaySchedule, Start-
Page). Used in most wiki engines to create new pages (and link to them) or link to already existing pages.

**Cohort.** A group of students taking the same class or at the same point in a curriculum.

**Collaboration.** Working together with complex interactions and high interdependence among learners.

**Comments.** A feature of most blog software, allowing short remarks or long conversations to be appended to a blog post.

**Competency-based assessment.** The assessment of abilities vis-à-vis standards set for knowledge and skills in a particular area, typically used in vocational education and professional certification processes.

**Computer-mediated communication (CMC).** Any kind of communication between people carried out with the use of computers. Tools typically used for CMC include email and chat software, blogs (weblogs), and wikis. Of these, chat is usually called synchronous CMC, because responses are usually almost instantaneous, and the others are examples of asynchronous CMC, because responses are often time-delayed.

**Constructivist.** A psychological theory of learning that knowledge is constructed, and continuously re-constructed, actively by each individual, based on interaction between knowledge that he or she already has, as well as new information. Serves as a partial explanation of the phenomenon noted by many educators that students don’t always learn what teachers teach (Allwright, 1984).

**Cyberspace.** The space in which interactions take place on the Internet, a metaphor which permits an understanding based on interactions in “real space”.

**Disidentification.** A characteristic of online identity which combines aspects of anonymity and pseudonymity.

**E-portfolio.** A collection of authentic and diverse evidence, drawn from a larger archive that represents what a person or organization has learned over time, designed for presentation to one or more audiences for a particular rhetorical purpose.

**Editability.** A feature of wikis and Web 2.0 software that allows previously written/saved information to be changed.

**Enculturation.** A process whereby members of a group deepen their sense of belonging and come to accept group norms for participation.

**Engine.** The part of a software program that works “under the hood”, providing its functionality; distinguished from the interface.

**Entry page.** The page that a visitor to a site will usually see first (unless entering from a search engine that takes the visitor directly to a page with specific content). It is important that the entry page offers easy paths to most of the pages that a visitor is likely to want to see.

**Facilitator.** In formal educational settings, typically a role that many constructivists suggest teachers should adopt; rather than simply giving information to students, teachers should support students in their attempts to construct new knowledge.

**Flexible assessment.** A form of assessment that can include any of the following: checklists, portfolios, performance tasks, product assessments, projects (undertaken in groups or individually) and simulations, observation of the learner, questioning, oral or written tests and essays, role playing, work samples, computer-based assessment; flexible assessment is intended to suit learners’ paces and styles of learning and assess individuals when they are ready.

**Forum.** A location in cyberspace, sometimes called a board or bulletin board, where people can exchange information or opinions.

**Hierarchical structure.** A clear, levelled information structure, where everything at a lower level is part of, or belongs to, only one unit at a higher level.

**Human capital management.** Identifying and managing what a person or a group of people knows and can do, rather than relying on credentials.

**Hypertext.** Text containing hyperlinks that allow the reader to easily access supplementary or connected information or citations.

**Hypertextuality.** The property of text, especially on the Internet, that allows it to be linked to other text.

**Incidental learning.** Learning that is not the teacher or curriculum’s goal, but is something that is expected to be acquired.

**Informal learning.** Learning which is generally outside of the classroom but still with expected outcomes, with typical examples being activities such as mentoring.

**Instant updateability.** The property of wiki-based, and some other, websites that allows minor changes to be made in place and very rapidly; contrasted to conventional websites where typically a change would be made on a personal computer and then uploaded to the remote website.

**Interface.** The way a user interacts with a particular website or software. The interface is often posited as a separate entity that can either aid or hinder a user.

**Mind mapping.** Creating diagrams, usually fairly simple and often multi-coloured and rich in images, that represent semantic or other connections between pieces of information. It is often recommended as a way to plan lessons, and also for learners to take notes on lectures, and so on.

**Moblogging or mobileblogging.** Blogging by posting text entries and/or pictures from a cell phone. As laptop computers and public wireless connections become
more common, this is coming to mean any blogging that takes place in a temporary location.

Moodle. An open-source course management system, or learning management system, popular as an alternative to commercial systems such as Blackboard or WebCT.

Namespaces. A method of grouping in a wiki. In wikis, page names generally are unique. Using namespaces (“groups” in the parlance of some wiki engines) a wiki can be divided into semi-independent areas, and a page name in one of these areas can be the same as that in another.

Prior learning assessment. A process of exploring, determining, and recognizing an individual’s non-formal and informal learning for the purposes of formal recognition in academic environments, or appropriate employment.

Read-write web. The subset of the Web that is editable by readers, conforming more closely to Tim Berners-Lee’s original vision (1999) than the predominant model of information producers and consumers.

Social network site (SNS). An Internet enterprise that permits users to share information with other members of the network for the purpose of social interaction. Some examples include MySpace and Facebook.

Storyboard. A set of illustrations displayed in sequence for the purpose of pre-visualizing an animated or live-action film or other form of digital story.

Super-wikis. Software (usually a web service) that has the collaborative editability and instant updateability of wikis and major additional functionality. The developers may or may not use the word wiki in describing the software or service.

Synchronous. A term often used in e-learning and computer-mediated communication for chat and other communication systems where responses can be almost instantaneous; distinguished from bulletin boards, email, wikis, and blogs, etc., which are tools for asynchronous communication.

Tagging. A process by which tags or keywords are attached to pieces of information. These tags can then be used for classifying the information flexibly.

Templates. A set of default properties assigned to a set of functionally or conceptually similar pages, for example, on a wiki.

Trackback. Technology used to notify bloggers when their postings are cited or linked to from other sites.

Upload. To send a file to a remote location on the Internet.

Videologs or vlogs. A kind of blog where the entries are short videos.

Web-accessible. A page, a piece of software, or some other information that is placed on the Web and can be accessed by anyone who is online.

Wiki farm. An installation of wiki software that serves multiple separate wikis.

Wiki. A website that can be edited freely and easily by anyone with an Internet connection or by the members of a specific group. The software used to run a wiki is called a wiki engine, and is usually hosted on an Internet or intranet server. Derived from the Hawaiian word for quick.

Wikilogs. An example of blikki software, a wikilog is a blog with posts that can be easily edited by users.

Wikiwords. Words, usually written in CamelCase, that become hyperlinks within a wiki.

References


