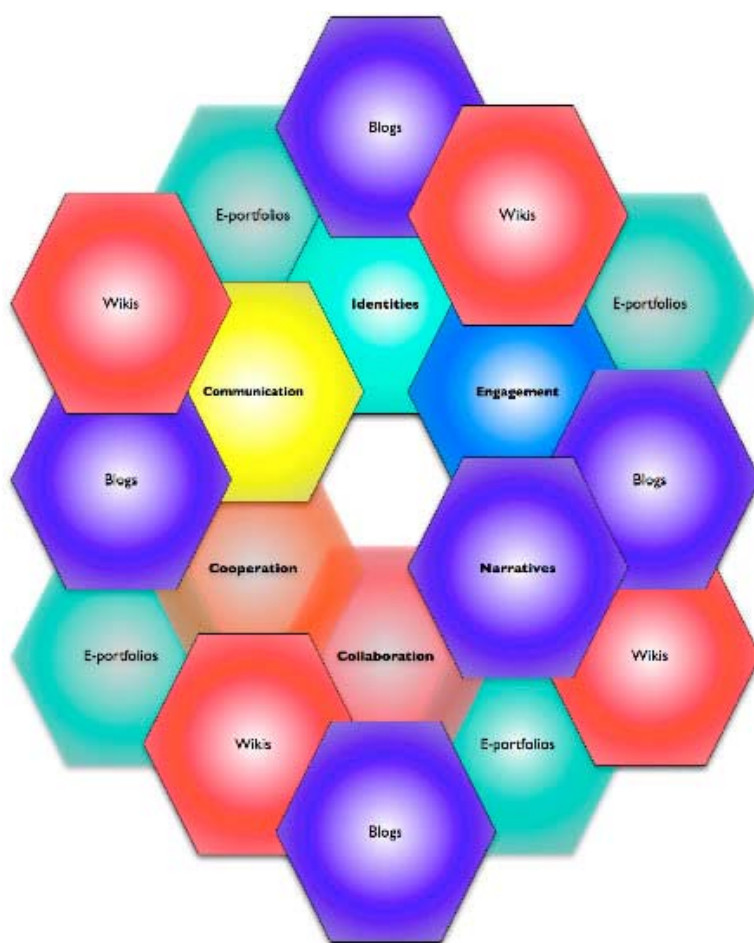


Part 5:
Engagement and
Communication

25

Tools for Online Engagement and Communication

Richard S. Lavin, Paul A. Beaufait, and Joseph Tomei⁶⁷



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.



Entry page for Blogger

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.

Sign up page for Blogger

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.

Finding a place in cyberspace with Blogger

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.

Selecting templates in Blogger

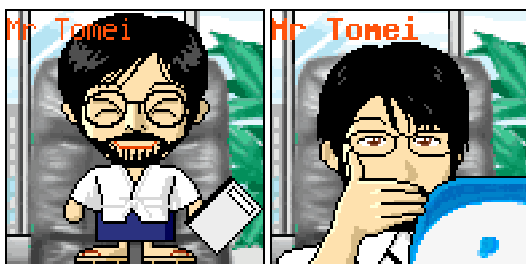
Often, when introducing blogging to new classes, these three stages are fused into one. This may be fine with computer-savvy students, but with students who are less technologically fluent it is useful to separate these stages, so that it becomes easier to identify where

students are having problems and devise appropriate remedies.

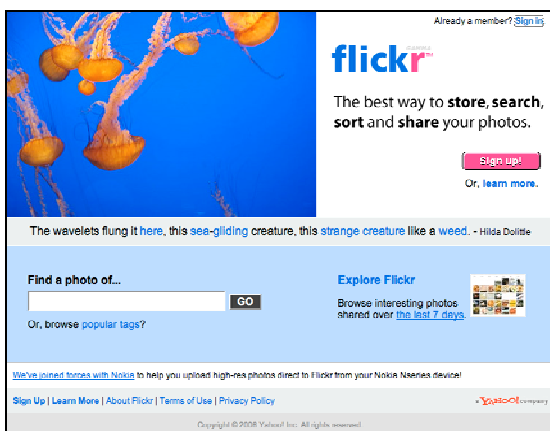
BLOGGING AS SELF-EXPRESSION

An essential step in creating a successful blog is that the blog must reflect a personal identity of the blogger.⁶⁸ 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



Entry page for flickr.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 on-line 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

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

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

⁶⁹ WinK is an acronym for Weblogging in Kumamoto, a local community of university students blogging in the Kumamoto area.

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 *trackback*. When *trackback* 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.
- **pininthemap.com**—Ask students to identify a place using pininthemap.com, and then write a blog post about the location;

- 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 syn-

drome.) 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 update-ability**. 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 melange 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 sophisti-

cated 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 travelers. 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 Kairosnews (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 meta-dialogue 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 incompleteness 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 are 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 (Desillets, 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, LindseysReaction, 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 (Desille, 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.

Wikindx 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. Wikindx 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.

Blikis 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 blikis, 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 trawl through their blog archives looking for material.

There are several different approaches to blikis, 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://webseitz.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 (tiddlies) 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 bliki 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 bliki 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/digstory/elements.htm>) and DigiTales—The Art of Telling Digital Stories (http://www.digitales.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 **brainstorms** 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/dsvvscript_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 (Kreiser, 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

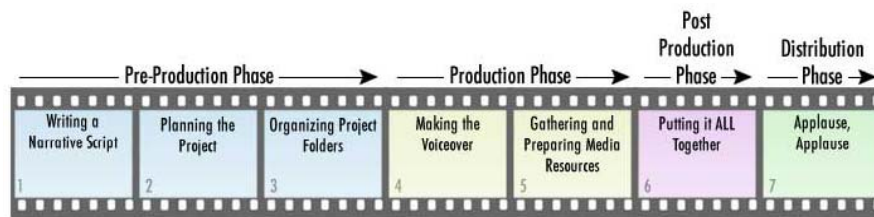
Microsoft’s Movie Maker site (<http://www.microsoft.com/windowsxp/using/moviemaker/default.msp>) has Movie Maker tutorials, tips, and downloads.

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.

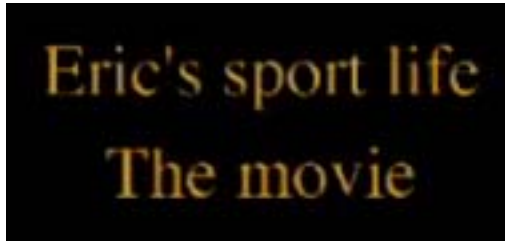
Digital music can be used, but even if you don’t have the equipment to access and transfer digital recordings, a microphone can record music or voiceovers.



Source: *Seven Steps to Create a DigiTales Story* (http://www.digitales.us/resources/seven_steps.php)

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 story

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 students can develop.

DIGITAL STORYTELLING FOR OLDER LEARNERS

We find that younger learners often have fewer inhibitions about creating digital stories, while older learners may encounter affective barriers in creating digital stories, 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 education 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 students to develop these notions independently.

Create an external objective

While younger students will often engage in digital stories for the sheer fun of relating their own stories, older learners will often be more reticent about relating personal 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 information 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 easily be updated to be a digital effort. Have students understand 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 presented humorously, the troupe's performances underline 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 recitation 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 presentation. 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 students 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 necessarily be told over a stretch of time, and as such it represents a wonderful opportunity for students to present actual historical timelines as narratives that they construct, 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 learn-

ers 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.
- More details can be found at Wikipedia (http://en.wikipedia.org/wiki/Blog_hosting_service).

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 Wikispaces 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 first 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/Media_Wiki)—the software that powers Wikipedia, handled by the non-profit Wikimedia Foundation. Immensely powerful, but with a steep learning curve.
- LizzyWiki (<http://lizzy.iit.nrc.ca/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 wikispaces 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.editthis.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 Writely. 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://pblmm.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.wsd1.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/dbreear/dst.html>)
 - Digital Storytelling: Capturing Lives, Creating Community (book) by Joe Lambert (2nd ed.), with updated resources (<http://www.storycenter.org/book.html>)

Glossary

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

Alternative assessment. Alternative means of enhancing educational assessment through, e.g., confidence measurement, analysis of self-awareness, and performance evaluation.

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 reconstructed, 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 bliki 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.

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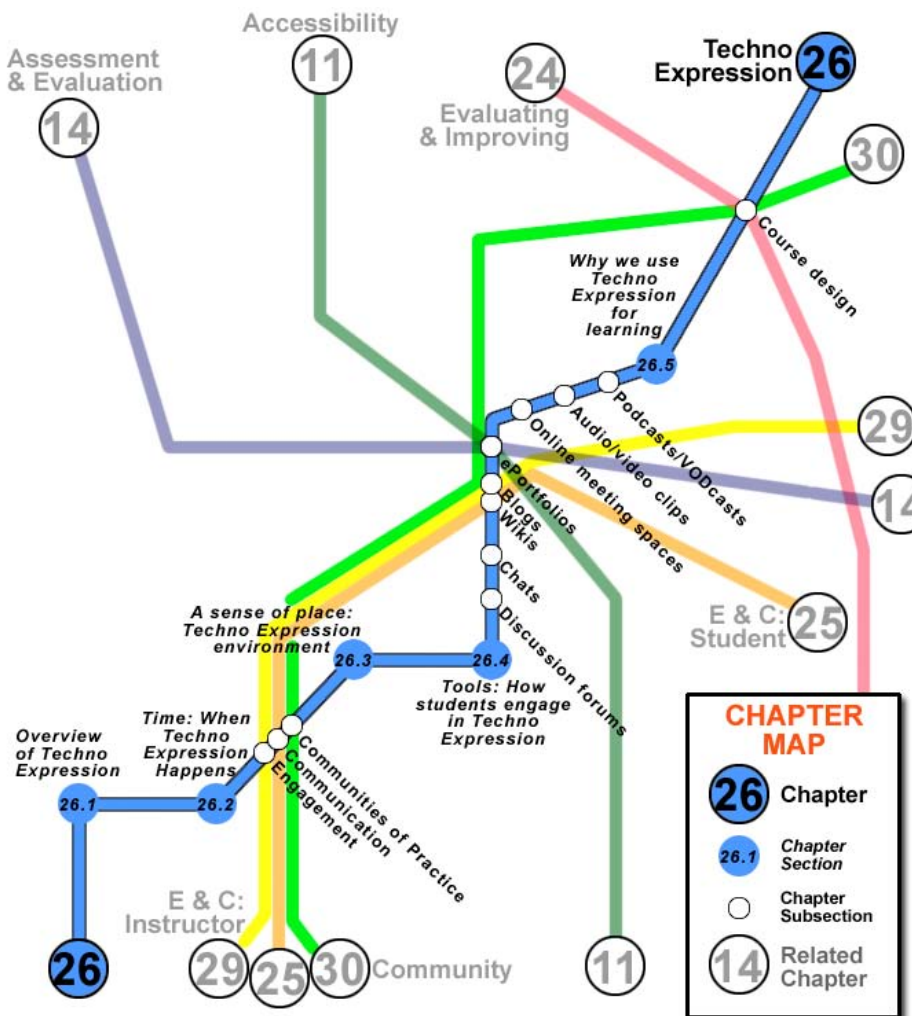
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26

Techno Expression

Kevin Kelly and Ruth Cox

... everybody who is human has something to express. Try not expressing yourself for twenty-four hours and see what happens. You will nearly burst. You will want to write a long letter or draw a picture or sing, or make a dress or a garden. – Ueland (1987)



Learning outcomes

After completing this chapter, you should be able to:

- Define techno expression.
- Identify aspects of a learning situation that would provide opportunities for techno expression.
- Determine whether to use synchronous or asynchronous methods for techno expression.
- Create a safe online environment for techno expression.
- Choose appropriate and equitable tools for techno expression.
- Set reasonable expectations for techno expression.

Introduction

“In the life of the human spirit, words are action, much more so than many of us may realize who live in countries where freedom of expression is taken for granted. The leaders of totalitarian nations understand this very well. The proof is that words are precisely the action for which dissidents in those countries are being persecuted”. – Carter (1977)

This chapter lays a foundation for online teachers to recognize K–12 and post-secondary students’ needs to express their ideas and viewpoints, both within and outside the context of their coursework. There is a human at the other end of each web page, discussion thread, chat entry, blog, or wiki contribution. We outline specific strategies to create a safe environment for techno expression and offer specific examples of how educators can model and encourage this expression through various technological means. We also describe various tools that instructors can use to facilitate the process. This chapter complements the chapters related to instructor and student engagement by looking at course design, effective online practices, and technological tools that give students opportunities to express themselves.

Until recently “techno” referred mostly to electronic dance music. Related forms of expression ranged from inventing dance moves to expression within creating the music itself. We have seen the term “techno expression” take on a different connotation in places such as the “2006 Techno Expression Series” by the New Jersey Institute of Technology. The first seminar in this series, called “Podcasts, Wikis and Blogs ... Oh My!,” was designed to inform communications professionals about new technologies. For the online teaching and learning arena, however, this seminar covered only part of the

bigger picture. We define “techno expression” as “a technology-based process by which one or more people, either individually or collaboratively, use words and/or media to articulate ideas or thoughts.” In this chapter, we will look at a number of variables—notably time (when), a sense of “place” (where), types of media and technology (how), and course design (why)—that affect techno expression in instructional settings and activities.

The human element in technology environments: an overview of techno expression

“What is passion? It is surely the becoming of a person. Are we not, for most of our lives, marking time? Most of our being is at rest, un-lived. In passion, the body and the spirit seek expression outside of self”. – Boorman (1992)

Now more than ever, online learning environments provide opportunities for interaction and collaboration. The sonic boom of social networking echoes around the world, as more and more people enter MySpace, Facebook, ELGG, and other social networking sites. What does this tell us? For one thing, it tells us that people want technological ways to communicate their ideas and opinions to a small community of friends, to the entire world, or to any sized group in between. Despite the medium (or media), people are seeking human interaction. The bigger questions for educators are:

- How do we tap into students’ energy around social networking and channel it into meaningful, networked learning?
- How do we create a culture of expression that encourages students to consider what they say, how they say it, and who might see or hear it?
- How do we extend learning opportunities to include access to ‘outside and offsite’ expertise?

Students of all ages log into online environments to explore different forms of self-expression. Younger students want to differentiate themselves from their parents, to create and/or recreate an identity, and to interact with a larger world that they have only just discovered. Older students want to share their experiences with others, to connect with others who share similar views, and to make their mark on the world. As instructors, our job is to create safe and engaging spaces

for all of this to happen and to facilitate activities in a way that advances learning success for everyone.

“When I taught pre-school and K–1 students, I found that half of the learning took place in the classroom and the other half outside it. Outside the classroom environment, my task was to help the children with social interaction skills, such as appropriate ways to express themselves, to communicate, or to act. Interestingly enough, when I began teaching graduate students, I found that not much had changed. The goal of working together peacefully in the sandbox had become the goal of working together peacefully in small groups or project teams. I was still required to help the graduate students with developing strategies for human interaction.

“Frankly, I am still not sure which group is more difficult to manage! In the online environment, I ultimately found that I had to set the stage—not only for students to succeed in reaching the learning objectives, but also for them to succeed in expressing their views in a public forum.”
– Kevin Kelly

Bridging offline, real-life experiences with virtual communication can offer students of all ages access to a world of web-based resources, experts, international exchanges, and virtual fieldtrips. Cyberspace provides access to collaborations that would have been impossible in earlier eras. “Education is no longer the exclusive responsibility of teachers; it benefits from the participation and collaboration of parents, business people, scientists, seniors, and students across age groups” (Kozma & Shank, 1998, p. 5).

For example, in 1996, fourth- and fifth-grade students in Chula Vista, California, studied insects by collecting specimens, obtaining information from websites on entomology, and creating multimedia reports. A special school-university partnership provided these students with even more powerful learning experiences. Students sent their insects to nearby San Diego State University, which was connected to their school via fibre optic cable. Through two-way audio and video, scientists guided the students in examining their insect specimens under an electron microscope. The students were visibly excited as they prepared for each online session with the scientists. While many fourth graders may never have heard of an “electron microscope,” these 10- and 11-year-olds were actually using one (Chen, 2001).

In an example from higher education, health experts join students in an online class weekly. Students are

required to post a minimum of three times weekly, sharing their own ideas and responding to classmates on challenging topics such as relationships, addiction, and death awareness. For more introverted students, or those self-conscious about public speaking, the safety of online discourse is palpable. Students are excited and affirmed by direct access to experts working in the field. For the guest experts, logging into the asynchronous discussion forum several times during the week and responding to individual student’s posts provided a very different experience than giving a lecture in real time. One expert reported that the online discourse provided the seed ideas for a new book. Bringing what happens “offline” in life into the online learning environment can enrich and deepen learning, creating a seamless exchange of ideas and experiences.

Time: when techno expression happens

“By Modernism I mean the positive rejection of the past and the blind belief in the process of change, in novelty for its own sake, in the idea that progress through time equates with cultural progress; in the cult of individuality, originality and self-expression”. – Cruikshank (1989)

The temporal, or time-based, nature of each online activity contributes to how students express themselves. Lisa Kimball, a founder of one of the earliest online communities, the Meta Network (1983), spoke about the importance of *time* in creating a successful experience: “We’ve been working with time in different ways to create a pulse in the asynchronous time of cyberspace. For an online facilitator, the *walls of the room are made of time*” (Chautauqua Conference on Meta Network, Item 40, 1997). Time is a crucial element in building and sustaining rapport or deepening reflection in the learning process online.

If the activities are asynchronous (that is, not happening simultaneously), then students can synthesize information and form thoughts before engaging in the process. If the activities are synchronous, then students can connect with fellow students for discussions or concept generation sessions. Consider the following pros, cons, and use cases for the two activity timing types to help you determine what to do with your students. (Also see Chapters 25, 29, and 30 for more information related to engagement and communication, as well as communities of practice). Overall, combining asynchronous

and synchronous elements throughout a course seems to be the best approach. Students can create a community in different ways and at different times, while having equal opportunities to brainstorm and delve deeply into the material.

Example: Lessons from Wild Geese

At the start of a class, we often turn to metaphors from nature for creating community.

We pose the question, “What can we learn from the behaviour of wild geese as we form our learning community?”

Students post or respond with suggestions such as:

- “They stay in formation.”
- “As each bird flaps its wings, it creates an updraft for the bird following. By flying in a V formation, the whole flock adds greater flying range than one bird alone.”

And we guide the conversation towards “How might we draw on each other’s strengths?”

“When a goose gets tired, it rotates back and lets another take front position—geese instinctively share the leadership role and do not resent the leader.”

We ask students to apply the metaphor to the online environment: “How might we do this online, with shared leadership, and community roles?”

“Geese honk from behind to encourage each other to keep going.”

“When we notice that someone has not posted, how might we reach out to encourage them?”

ASYNCHRONOUS METHODS OF EXPRESSION

Asynchronous activities allow students to enter more deeply into the material or an idea. There is time to look up facts, to draft an outline of what to say, and to revise mistakes before others respond. For students who speak English as a second, third, or fourth language, asynchronous activities give them time to translate instructions or other students’ ideas and to refer to other resources before they communicate their own thoughts. Provided that they have done some preparation, students can be more confident in their work. This aspect of student expression should not be underrated.

On the flip side, some people feel that going through a course with only asynchronous forms of communication can cause students, and even instructors, to feel disconnected. While I have participated in some amazing discussion forum sessions in which students have demonstrated genuine care for their peers, I recognize that we were in a hybrid class that got to meet in person

half of the time. Students may drop out of a fully online class, even if it is past the drop deadline, if they do not feel a connection to the instructor or at least to some of the other students. At the beginning of an online course we’ve found it useful to ask students to talk about what fosters their learning. We share a script of online discourse from a previous semester and cast roles. After the script is read, we ask students to describe what they heard. They often respond by describing the voices as “respectful, collaborative, and caring”, or “thoughtful and insightful—I could really hear that people took time to respond”. How opinions are shared can be crucial to sustaining a safe environment that all will participate in. Hearing what a democratic dialogue sounds like can help to set a valuable tone and move a group from being a group of learners towards becoming a learning community.

Creating asynchronous assignments that will motivate students to express their opinions is not difficult. For example, a peer-reviewed, written assignment about the US war in Iraq and its impact on international business will generate some impassioned responses. A discussion forum debate about stem-cell research will enliven a biology unit about cell division. If you want to use debate as a way to encourage student expression about topics in your field, the International Debate Education Association (IDEA) has a database of debate topics, called the Debatabase, and a database of debate exercises for instructors to use (<http://www.idebate.org/teaching/exercises.php>).

Even in math- or science-related fields, students can express opinions. For example, you might create a wiki for the entire class or small groups to solve problems together over time. The first part of the assignment could be for each student to state the best way to solve the problem, to provide a rationale, and to vote on the one the group will use. For problems with more than one solution pathway, this could generate some interesting dialogue. Be sure to read all the winning solution pathways so you can steer groups in the right direction if no one got it right, or if the group chose the wrong pathway.

SYNCHRONOUS METHODS OF EXPRESSION

Synchronous activities can provide a sense of community. For fully online courses, chat sessions or meetings may be the only time that students are in the same place at the same time. Encourage students to use synchronous tools to interact among themselves for small group projects or to help each other with questions or concerns.

Conversely, not everyone can express him or herself quickly in a real-time situation using speech, much less by typing. If you are using a video chat or online meeting

space, then students who speak English as a foreign language will be at a disadvantage. Other students may be left out due to lack of access to the additional technologies needed. Synchronous chat sessions can be shallow in content and hard to follow. Words sometimes fly by your eyes faster than you can read, or several threads of conversation can become confusing when students interject new ideas or questions before the first idea or question can be addressed. Your job will be to manage the flow of the conversation. You can do this by setting protocols before you start (see Tip below).

Tip

You can create a virtual “talking stick” by telling students to type a special character or phrase as a way to “raise their hands” during a chat, such as an asterisk (*) or the words “hand up”:

Instructor: From the readings, what are examples of music playing a role in freedom movements around the world throughout time?

Student C: *

Student B: Hand up

Instructor: Go ahead, Student C. Student B, I will call you next.

Student C: Chimurenga music in Zimbabwe’s liberation struggle

Instructor: Good. Student B?

Student B: US slave songs were sometimes used for communication about escape

Instructor: Right. So, is there a relationship between these examples and today’s hip hop?

Example

We conducted a synchronous chat exercise to give students a chance to solicit feedback about their final project ideas from their peers. For this 90-minute exercise, we assigned eight students to a group. Each student was given five minutes to state his or her final project ideas, answering common, predetermined questions. Then he or she was required to stay quiet while the other seven students typed ideas, comments, and other feedback. We had made a rule that constructive criticism meant the peers were obligated to help construct solutions for any problems that they identified throughout the process. There were no problems with student behaviour. Everyone provided supportive and helpful feedback. A survey conducted later determined that the students felt it was a very useful activity for the success of their project. As we archived the chat sessions, it did not matter that the

student feedback was almost impossible to read as it was being typed by seven people simultaneously. Each student would have a section of the archive that he or she could review later to determine what changes to make if he or she could not keep up with all of the comments or ideas.

If you are able to have a face-to-face session with students, you can demonstrate the potential for cacophony in synchronous meetings by asking everyone to talk at the same time. Students quickly see the need to take turns in chat or group environments. As we stated when describing strategies for success with asynchronous tools like discussion forums, read a script that models the type of chat you want to conduct. Let students know that it is important to you that they state their opinions openly without fear of attack from the instructor or other students.

A sense of place: the techno expression environment

“I desire to speak somewhere without bounds; like a man in a waking moment, to men in their waking moments; for I am convinced that I cannot exaggerate enough even to lay the foundation of a true expression”. – Thoreau (1906)

THE PROS AND CONS OF A TECHNOLOGY-MEDIATED ENVIRONMENT

The type, or types, of media that you require students to use to express themselves can change the results that you get from students. We co-teach a hybrid class about distance education, where five of the ten class meetings are conducted online. The first classroom meeting is face-to-face. At this meeting, we ask students to use pastel pencils and construction paper to draw a symbolic representation of how they see the educational process. At the same meeting we use a focused listing activity, first asking students to list five to seven characteristics of the best course they ever took, and then to compare those lists with a neighbour to find similarities. We go through these two exercises back-to-back. It is always interesting to see how they yield some similar results, confirming what the students think, and some different results, perhaps due to the fact that the students are using a different part of their brains. The same is true for you. Provided that your students have equal access and ability to use various media applications, you can ask your students to use different methods to express their ideas.

Constant advances in technology give students more options for communication and collaboration than they had even two or three years ago. For the symbolic representation and focused listing activities described above, we ask the face-to-face students to use art supplies, pen, and paper. We would use several technologies to do the same exercises online: an art program, like KidPix or Photoshop, a word-processing program or an online reflection space, and an environment to display the results, like Angel or Moodle. Web 2.0 brings new possibilities for expression within educational contexts. According to Wikipedia, the term Web 2.0 “refers to a second generation of services available on the World Wide Web that lets people collaborate and share information online (para. 1)”. Weblogger Richard McManus defines “Web 2.0” as “The Web as Platform”. No matter how you slice it, technology has changed to make it possible for the everyman to interact with the entire globe, using just a computer with an Internet connection and browser.

While this newfound power has many people excited, there are some who see a downside. “Basically, ideological lines run thusly: Web 2.0 either empowers the individual and provides an outlet for the ‘voice of the voiceless’; or it elevates the amateur to the detriment of professionalism, expertise and clarity” (Wikipedia, n.d., para. 17). It is ironic that the Wikipedia entry for Web 2.0 contains this discussion, since many educators require secondary sources when students use information from Wikipedia to support arguments. For example, “Alan Liu, a professor of English at the University of California at Santa Barbara, adopted a policy that Wikipedia ‘is not appropriate as the primary or sole reference for anything that is central to an argument, complex, or controversial’” (Jaschik, 2007, para. 8). Dr. Liu is not alone in his hesitation to trust a community-built resource as a primary reference for an argument. Since anyone can edit Wikipedia, anyone could add false or unverified information that students might accept as the truth.

In the world of education, we do not always have to be so esoteric. Yes, we need to make sure that research data is valid, reliable, and unbiased. In fact, I tell my students that they should question every source: published or unpublished, print or digital, peer-reviewed or not. However, when asking our students to participate in learning activities, our goal is to level the playing field so that everyone can participate equally. With Web 2.0 technologies, such as weblogs, wikis, and really simple syndication (RSS), students can share reflections to which others can reply, collaborate on projects over distance, and publish media broadcasts (e.g., podcasts)

to which other people may subscribe. We will get into the tools used for techno expression right after a section on setting boundaries. In other words, define the rules before you provide the tools.

CREATE A SAFE PLACE FOR TECHNO EXPRESSION BY SETTING AND ENFORCING BOUNDARIES

Before the class begins, define any conventions that you, your department, or college, and even your school or university have related to student behaviour in the online environment. Use your syllabus to document these conventions. Start by stating your own expectations and having students brainstorm norms that they’d like. You can augment those rules with those of your department or college, such as link to a student code of conduct, or those of your campus, such as a link to an acceptable use policy (AUP). University first-year experience (FYE) courses and new student orientations are a good place to start this type of conversation from the institutional perspective.

Some instructors just refer to one of the many Netiquette (Internet etiquette), definitions on the Web. Common Netiquette rules include “Think before you post,” “Remember the human,” and “Remember: your future employer may be reading.” Even if students are not motivated by the other rules, this last rule may be more true than students think. An article in the *Washington Times* (Palank, 2006) discusses the perils of students expressing themselves too freely on social networking sites and other publicly accessible areas online. Using your syllabus to tell students your expectations about their behaviour is the first step to successful expression.

Example

Here is a syllabus section about student responsibilities in the online environment that includes a sentence about Netiquette.

Student Responsibilities in Online Environment (Moodle)

We will be using Moodle as the primary method to communicate class-related messages. You are responsible for making sure that the correct email address is attached to your Moodle username, both at the beginning of the term and if you change your email address. We will use the “Core Rules of Netiquette” as guidelines for online interaction (see <http://www.albion.com/netiquette/core.rules.html>).

Starting with a common framework like Netiquette does not mean that students cannot express themselves

freely. Techno expression and students' rights go hand in hand. While you do not need to concern yourself with student expression on private websites or personal space on social networking sites, we are starting to see these spaces intersect with education and even the courts. In "Education tips from Indiana University" (<http://newsinfo.iu.edu/tips/page/normal/2316.html>), the campus media relations office raises issues related to student expression and the law, citing a student who "bashes her teacher on a private blog" as an example of something that might initiate disciplinary action at a school. The First Amendment Center posted an article about student expression in K–12 public schools (<http://www.firstamendmentcenter.org/speech/studentexpression/overview.aspx>), but many of these ideas definitely translate to the higher education environment as well. Overall, you do not need to go overboard. If you let students know the boundaries, then they will usually respect them.

When the time comes to facilitate student interactions, the key is to maintain a safe environment for everyone to share. Keep in mind that students may not know that they have done or said something offensive. In one example, a student may post a message in All Caps—using only capital letters—to encourage someone. Internet protocol, however, equates All Caps to shouting, which many consider rude. In another example, a student may take advantage of a listserv used by a large class by sending an inappropriate email, such as an advertisement for a friend's concert or a relative's business. A good rule of thumb is to contact the student by email to let them know what words or practice they should change in the future. Remind them to look at the syllabus and include a statement about what will happen if they do it again. Make sure that the students know your ultimate goal is to create a safe environment for them to express themselves.

Tools: how students engage in techno expression

"Technology is not an image of the world but a way of operating on reality. The nihilism of technology lies not only in the fact that it is the most perfect expression of the will to power ... but also in the fact that it lacks meaning". – Paz (1967)

We have spent a good deal of time talking about expression, but not as much about technology. For this topic to work, it needs both. There are a number of technologies—asynchronous and synchronous, print-based and

media-based, old and new—that comprise a wide variety of choices to engage students. The rapid change in technology will not slow down, so we have to adopt strategies that are based in the learning objectives, rather than the technology itself. That way, we can adjust the technology required to complete assignments, but the students are still required to demonstrate the same types of knowledge, skills, and attitudes.

Maureen O'Rourke from the Australian National Schools Network wrote an article about taking a "Multiliteracies Approach" to engage students. In the article, O'Rourke (2002, para. 2) describes three levels of student engagement: technical, practical, and critical. To help students reach the highest level, critical engagement, she recommends that we "provide them with opportunities to both express themselves and make sense of the world through multiple modes of communication" (O'Rourke, 2002, para. 3). There are quite a few tools at our disposal to help our students become multiliterate.

THREADED DISCUSSION FORUMS

Threaded discussion forums provide some of the best opportunities for techno expression. Forums allow students and instructors to continue classroom discussions when time runs out, to start conversations about class readings or assignments, to review course material before tests or evaluations, and more. Being asynchronous, students can reflect before they submit their ideas, comments, or feedback. This levels the playing field for students who speak English as a second language and students who are not savvy with technology. Students can take their time to construct an argument, review their ideas, and even run spell-check before they actually post it in the forum.

Tip

To encourage students to share different points of view, ask them to discuss the significance of the course material in relation to current events or to their personal lives. This works for almost every discipline. Give students specific expectations, such as what they should accomplish with their threads (e.g., explain a concept in their own words, react to a statement, contradict an expert, etc.), how long their discussion thread should be (e.g., number of paragraphs or words), whether or not they should refer to the readings, how many replies they should submit, and when it is due.

CHATS

In some ways, chats can resemble a classroom setting in both good and bad ways. In the “good” column, chats are live, synchronous activities that gives participants a sense of being in the same place, even if they are all sitting at home with a cup of coffee and a cat in their laps.

In the “bad” column, only a small percentage of students get a chance to express their views in the classroom. The same is true for chat sessions. Factors that contribute to this in chats include, but are not limited to, social dynamics involving students who dominate conversations, cultural tendencies not to speak up in public, reluctance to contribute due to language difficulties, poor typing skills, or shyness. As an instructor, it becomes your job to facilitate discussions that give everyone a chance to add their ideas to the conversation. (Review the tip and example in the section on synchronous methods of expression above, for facilitation and assignment ideas to try.)

WEB PAGES AND GRAPHICS

Static web pages provide a space for faculty and students alike to state their views on academic and non-academic topics. Some learning management systems (LMS) provide space for students to create web pages. Many schools and universities now provide web space in conjunction with email account. If appropriate, ask students to create web pages related to your course material.

Consider asking students to engage in creative expression with applications like Adobe Photoshop or other graphic creation and editing tools. For example, students can create a digital collage to show how they feel about a topic. In the past this type of assignment was done with magazines, scissors, and glue. Now students can do it with magazines and scanners, web image search engines, Photoshop, and colour printers. Even if you ask students to draw something with paper and pencil, they can scan it and post it to get feedback from other students.

Example

At the Manhattan Center for Science and Mathematics, the Advanced Multimedia class requires students to create a self portrait using Frida Kahlo’s paintings as an inspiration (<http://www.mcsm.net/art/frida.html>).

Before assigning students to create web pages and digital images, you should check to make sure that they have access to the hardware and software required to make them. There are several free web page editing software applications, such as SeaMonkey Composer by Mozilla.

WIKIS AND BLOGS

Wikis, or collectively built web pages, provide students an opportunity to collaborate on group or class projects. Since anyone can edit the wiki pages, it is a good idea to set some ground rules, similar in nature to the concept of Netiquette described above. Some common wiki rules include not deleting anyone else’s contributions without permission, avoiding slang and acronyms, and contributing only original material.

Example of techno expression assignment using wikis

Wiki assignments that encourage expression might be similar to those described above for static web pages, or they might be more complex.

Wiki assignment example for a seminar in intellectual freedom at Indiana University: In the assignment, students are asked to do two things:

- Make a wiki entry on a controversial intellectual freedom issue

“For the first part, you will collaborate with another person and write a wiki entry on a controversial intellectual freedom issue that is discussed either in class or in the readings ... This entry should have three main sections. In the first section, clearly introduce and define the issue that you are exploring and explain its significance. In the second section, develop the main argument of the entry. Explain both sides of the issue (you explain one side and your partner explains the other). Try to offer the strongest case for your side of the issue. Make use of other resources in your entry, including articles and websites, where appropriate. In the third section, take an informed position on the issue. This means giving your opinion and supporting it in some way. You will express your opinion as will your partner. You and your partner can agree, in which case you can write this section together, or you can disagree, in which case each writes his or her own third section” (Rosenbaum, 2006, para. 72–73).

- Contribute to at least two other wiki entries

“For the second part of the assignment, you will contribute to at least two other entries in the wiki. This will involve posting your informed opinions, clarifications, additions or suggestions for deletions to other entries. In your posting, be sure to make reference to relevant materials whether from the course or your other reading” (Rosenbaum, 2006, para. 75).

Students can and will go beyond the assignment parameters. For example, look at the results of a wiki project assigned by co-professors Michael Jones and Gail Benick. In the winter of 2006, they taught a second-year survey course in communication, culture and information technology through a joint Sheridan/University of Toronto–Mississauga degree program. Jones and Benick (2006) reported that:

“the approximately 140 students of CCIT 205 created 598 pages through nearly 9,000 edits. In comparison, as noted on the Wikispace main page, the top public Wikispaces average about 1,000 edits a month. The level of activity was simply mind-boggling.

“More important than these numbers, however, was the strong student evaluation of their Wikispace experience. Students took it upon themselves to create an assignment feedback page separate from course requirements to share their experiences. Even without being formally required to share their experiences, 54 students did—and with a few lukewarm exceptions, evaluations were positive, sometimes extraordinarily so” (para. 11–12).

Interestingly enough, this was an experiment for these instructors! They entered the world of wikis with little idea of what to expect, and the students responded by creating a community. One of the many student comments pulled out the theme of this chapter:

“As we progress further and further into an ‘inter-connected’ environment, from WebCT, initially, to Wiki spaces, there becomes more room for communication, expression and collaboration. I find it interesting how technology that may appear superfluous, superficially, can actually bring people together to share, learn and grow. The possibilities of these types of applications in educational institutions are endless!—S” (2006, para. 10).

Weblogs, also called blogs, give students a space to reflect about any number of topics. For example, an instructional design professor at San Francisco State University assigns her students to use weblogs to reflect on the readings and to relate course material to their jobs, if possible. Most blog tools allow students to sign in and start writing.

Examples of techno expression assignments using weblogs (blogs)

A weblog would be perfect for a set of activities like those described in the Shorecrest Preparatory School’s Upper Division Catalog:

“Humanities: This segment of the Ninth Grade Wheel is an introductory course which uses a variety of media and activities to promote critical thinking and discussion about several forms of creative expression across time and cultures including visual art, architecture, theater, music, and dance. During the nine week course, students will begin to formulate and express their ideas about the arts beyond “I like ...,” or “I don’t like ...,” using the philosophies and the vocabularies relevant to these disciplines as introduced in class” (2005, para. 25).

Blog assignment example from an Introduction to Multimedia course at American University:

“300 word summary of why the study of cybernetics is important to society, specifically, the way in which humans interact with machines, and how that might affect the quality of life” (Packer, 2004, para. 17).

Blog assignment example from a course called “e-rhetoric: writing persuasively in a digital world” at Stanford University:

“As part of our experimentation with e-rhetoric, students will create and post to a class weblog. Each student will complete at least 5 individual posts and contribute at least 2 comments to their classmates’ blogs. Keeping the blog will enable the student to track his/her development as a writer and researcher, as well as to gain hands-on experience with one distinct and very popular form of e-rhetoric” (Alfano, 2005, para. 1).

Advice on using blogs to teach philosophy from Academic Commons:

“Philosophical creativity involves raising the most thought-provoking questions and defending one’s own answers to such questions. Blogging encourages creativity in philosophical debate, especially when each student has his or her own blog, because it allows for fairly spontaneous expression of ideas and it invites students to journey out of their

blogs into the blogworld established by another” (Patrick, 2005, para. 6).

If the students use online weblog sites that are not controlled by the school or university, then you will have to decide to what extent you will watch what they post. While students should have full freedom of expression, they may need coaching about what is appropriate or inappropriate material. It is in the students’ best interest to listen, as prospective employers may be looking at these sites as well.

ELECTRONIC PORTFOLIOS

Instructors can use electronic portfolios to let students demonstrate knowledge and skills, using a collection of assets (e.g., essays, multiple choice exams, reflections, video clips of performance, observation logs submitted by experts, etc.). Following the concepts of universal design for learning (see Chapters 10 and 11), students should be able to choose different assignments to portray their abilities. For instance, a student might pick a history paper to represent his or her writing skills instead of a paper from an English class.

ONLINE MEETING SPACES

Regardless of the online meeting space tool (WebEx, Elluminate, Breeze, Horizon Wimba, etc.), students can express themselves in a number of ways. Many of these environments have options for real-time chat, polling, and voice channels (or a conference call option in conjunction with the online meeting). With these tools, you can allow students to make presentations to the rest of the class by virtually handing them the microphone.

Massively multiplayer online role-playing games (MMORPGs) provide an unorthodox, but highly effective, type of online meeting space. Todd Bryant (2006) outlines this concept in his article “Using World of Warcraft and Other MMORPGs to Foster a Targeted, Social, and Cooperative Approach Toward Language Learning.” He uses a fun environment that allows him to facilitate language learning activities. MMORPGs combine the social networking aspects of MySpace or Facebook with the entertainment value of video games. In their books, *What Video Games Have to Teach Us About Learning and Literacy* and *Don’t Bother Me Mom—I’m Learning!*, James Paul Gee and Mark Prensky look at the educational benefits of learning by doing and forcing students to make decisions in a low-stakes environment. If instructors can find ways to use them for education, MMORPGs offer positive motivation for learning in

that they are fun for all ages, genders, and backgrounds. For example, more people over 18 play World of Warcraft than people 18 and under. Instructors can capitalize on the students’ interest in MMORPGs by creating their own learning situations in Second Life and other virtual environments.

WEB-BASED AUDIO AND VIDEO CLIPS

Although the end product is an audio or video clip, you can still make strong writing the backbone of these assignments. Examples include digital storytelling, video clips of student presentations or student teaching, and audio clips demonstrating language proficiency. Hall Davidson (2004) describes a scaffolded process in which students do not always need a digital video camera to produce videos that demonstrate understanding of the course material. The Apple Learning Interchange (<http://edcommunity.apple.com/ali/index.php>) contains examples of teacher and student videos from middle school, high school, and higher education.

PODCASTING AND VODCASTING

Remembering that podcasts and VODcasts are more than just audio and video files, we must think of projects that would require students to produce a series of audio or video files to which people can subscribe via really simple syndication (RSS). If you want to do this as an entire class, individual students can each contribute one audio or video file, then you could make one assignment that requires each student to express his or her opinion about a topic. Each audio or video file will then be posted throughout the term as part of a series. You can also ask groups to contribute several files each over the course of an entire school term.

Examples of Techno Expression Assignments Using Podcasts

Before, we had position papers. Now, we can have position podcasts. Ask your students to take a position about a topic in your class. Then have the students sign up, individually or in groups, for a time slot when they will produce an audio or video file to be broadcast. The collection of audio or video position statements will become a compendium of student opinions for that term.

Example of using student podcasts in literature classes from Academic Commons:

“Each podcast assignment consisted of a “podcast pair” (two podcasts); students made a 5-minute reading of a passage from a novel, coupled with a 5-minute discussion of that passage: why the student

chose it, what details were most important, what themes and issues the passage raised, and how the passage related to the rest of the novel. These podcasts were posted on a server and all students in the class were required to listen to selected podcasts on what they were reading before coming to class discussions” (Evans, 2006, para. 4).

Each of the technology tools described above has the potential to let students express themselves. Some of them, such as audio and video, may open doors to creativity for students who have only written essays up to that point. Instructors who use media projects report that students are more engaged, especially if they know that other students or the public will view the final product. It is important to make sure that students will have equal access to, and relatively equal ability with, a technology when creating assignments that rely on it.

Why we use techno expression for learning

“We must continually remind students in the classroom that expression of different opinions and dissenting ideas affirms the intellectual process. We should forcefully explain that our role is not to teach them to think as we do but rather to teach them, by example, the importance of taking a stance that is rooted in rigorous engagement with the full range of ideas about a topic”. – Hooks (1994)

CONSIDERING TECHNO EXPRESSION DURING COURSE DESIGN

Chapters 10, 11, and 13 cover course design in great detail. In this chapter we focus on those aspects of course design that relate to interaction and expression. We will give some examples and strategies for providing students with opportunities for expression in any scenario, face-to-face courses with online supplements, hybrid courses, and fully online courses. We will also discuss our own experiences with, and preferences among, these three scenarios.

When you design your own online course environment, keep interaction in the front of your mind. Many people new to using the online environment start the course design process by planning what materials they want to upload. For example, many instructors state “I

just want to upload my syllabus for now.” This is a logical place to start. After all, you want the students to know up front what your expectations are, whether they are the course learning objectives, your course policies, or your grading plan. It does not take much more, though, to give students an opportunity to state their own expectations for the course. Create a threaded discussion or wiki assignment, asking students to review the syllabus and then to write one or two things that they would like to get out of the course, how the material could be made more meaningful to them or for their goals, and even their preliminary opinions about some of the main course themes or topics.

Even if you are not completely familiar with the online environment, you can go beyond just uploading a syllabus by including course materials, such as readings, presentations and lecture notes. Again, it will not require a huge effort to create one general threaded discussion to let students tell you about the applicability of the materials to their lives or studies or to express their opinions about different aspects of the content itself. If you want to make a discussion forum to gauge the effectiveness of the course materials, then Chapter 24, *Evaluating and Improving Your Online Teaching Effectiveness*, has many more ideas about getting student feedback and soliciting constructive recommendations.

In addition to giving students an opportunity online to discuss the course overall and its different components, we recommend giving students an opportunity to talk about themselves. Many face-to-face instructors devote some portion of the first class meeting to an ice-breaker activity or student introductions. You can do the same thing online. Create a discussion forum, blog, or wiki assignment for students to state how the class will help them meet academic or professional goals, or what they expect to achieve personally. An online activity like this allows you to return to it throughout the term, assigning student reflections about their own progress towards the previously expressed goals. The assignment can also enable other student techno expressions, such as photos, brief descriptions of where they are from, or even a sense of “in the moment” place (e.g., “From my computer, I can see the pine tree in my yard through the San Francisco fog each morning”). These activities can be limited to individual student-to-teacher communication, or they can be public, so other students can provide encouragement, feedback, related stories or resources, and more.

In a field study investigating the experiences of adults engaged in a year-long, computer-mediated MA program in psychology, participants took online courses, explored aspects of their psychological and spiritual

development and shared their life stories through creative writing and imagery online. The primary means of communication was within an asynchronous online conference (Caucus). Through an ethnographic participant-observation approach, supported by online transcripts, field notes, a focus group discussion, questionnaires, and phone interviews, some key themes about techno expression emerged. First, personal storytelling and virtual group discourse revealed that the participant's sense of self-identity extended beyond the individual or personal to encompass wider aspects of relatedness to others or to the natural world. Participants reported the importance of pace and flow in online discourse as well as a sense of immersive presence. Sustained online discourse was found to be the most crucial component in creating a supportive structure for collaborative learning.

Seven key elements were cited by students as being transformative:

- combining several face-to-face meetings with virtual presence;
- community size, structure, tone, and intention;
- being a part of a self-creating, self-maintaining, and self-defining class, through flexible curriculum design and whole-group learning;
- encouragement by instructors of in-the-moment self awareness, mindfulness, and immersive presence;
- guided risk-taking through shared feelings and life experiences;
- humour, improvisation, and creative expression; and
- a shared search for meaning: Seeing all of life and education as a transformational journey (Cox, 1999).

If you have a choice, we recommend designing a hybrid course over a fully online course. Even if it means having only two face-to-face sessions—one to launch the course by setting course norms and expectations and by reading a script of online discourse to set tone, and one to close the class—this will improve students' abilities to express themselves freely to peers.

Similarly, it is important to mix it up, with respect to the work that you assign. Apply the good lessons that we have learned from those who have explored online community building (see more about building communities in Chapter 30, *Supporting E-learning through Communities of Practice*), such as those that tell us to assign community roles, assign rotating facilitation, and incorporate assignments that ask students to engage in experiences offline and then to report back to the instructor or the class.

CONSTRUCT ASSIGNMENTS THAT ENCOURAGE EXPRESSION

You may already have dozens of ideas, or you may have some difficulty thinking of assignments that require students to express their points of view. Below are some questions that you can use to get started during the course design process.

To whom will students express themselves?

There are a number of potential audiences to whom students could express themselves: to the instructor, to an expert in the field, to a small group of peers, to the entire class, to prospective employers, and to the public. No matter what size the audience or who is in it, students should be prepared to make their case, to state their opinions, and to answer follow-up questions. This means that over the course of a term, you should mix up the audiences for various assignments to give students practice in expressing themselves differently. For instance, a marketing student creating a video advertisement presentation will most likely behave differently for a group of peers than for an advertising professional. A special education credential student writing a reflective weblog entry about a classroom observation only for the supervising faculty member might use different language than for the public at large. These types of experiences will prepare the students not only for future coursework but also for job interviews.

How will students express themselves?

The question of how students can express themselves was discussed earlier. During the course design process, your task is to identify the best method for students to achieve the learning objectives. If you want to assign reflection activities, consider using ePortfolio, a blog, or a podcast. These reflections can ask students to describe why they did something a certain way, or they can ask for opinions about a topic. If you want to have students work in groups to perform research, use a wiki and ask students to state their viewpoints in addition to the facts related to the research topic. If you want students to give a presentation, either live or online, then use podcasts or VODcasts, have students post PowerPoint slides with audio, or have them give the presentation using an online meeting space.

Why will students want to express themselves?

Many students will want to express themselves, but not everyone is built the same way. Some students may feel uncomfortable and others may not have much experience making their own thoughts public. Therefore, it

will help if you choose meaningful assignments, define the expectations, and provide examples of good work.

Example of techno expression rationale

“Why are we keeping a blog?”

Blogging gives us a unique opportunity to think about both the way in which electronic rhetoric transforms written discourse as well as e-rhetoric’s innovative relationship to both private and public communication. In addition, keeping a blog allows you to use writing to explore issues related to digital culture, to sharpen your analytical skills, and to participate in a larger community conversation about the impact of technology on our lives” (Alfano, 2005, para. 3).

PROVIDE GUIDELINES FOR STUDENTS

There are a number of ways that you can help students—before, during, and after the assignment. Before, the assignment, write clear instructions, including information about your policies on academic integrity and plagiarism. Provide examples of prior students’ work.

If this is the first group to do this type of assignment, go through the assignment yourself to create a model of what you consider to be good work. Let students know what could happen to their work if someone else were able to change it.

Example of techno expression guidelines for wikis

“REMEMBER: The work you submit is recorded and logged. Do not get mad if someone else edits your content for you, that’s the entire point of this exercise. Topics should not be ‘sat upon’ with tags such as ‘DO NOT EDIT THIS PAGE’. All topics are open to constructive addition by any member of this space. Also, keep in mind that you can always edit a page back to its previous state by clicking on the history link, clicking on the old page, and hitting the ‘revert’ link at the top” (Jones and Benick, 2006, para. 17).

Post rubrics or grading criteria ahead of time so students know what is important and how they will be evaluated. Include one or more criteria related to originality or expression (see Figure 26.1).

Evaluation Criteria	3	2	1
Student Expression	Student clearly states how the course material relates to his or her life, including how he or she feels about it	Student states how the course material relates to his or her life, but does not include his or her feelings about it	Student does not show how the course material relates to his or her life

Figure 26.1

During the assignment, watch for “flaming,” that is, angry or inflammatory messages (<http://www.computeruser.com/resources/dictionary/definition.html?lookup=6608>) in forums and chats. Keep an eye on how students are expressing themselves, and provide guidance if it seems appropriate to do so. Be sure to point out positive examples. In wikis, watch for students deleting other students’ work without permission. While it is okay for students to edit each other’s work, there are protocols for deleting. One student nominates a section for deletion and another person in the group—preferably the author—actually deletes it once there is a rough consensus.

After the assignment, use evaluation criteria such as the one shown in Figure 26.1. Include comments about how you think the students can improve.

ACKNOWLEDGE STUDENT VIEWS

It is not enough to just create an assignment that gives students a chance to give their opinions. For this to be a part of the learning process, we need to acknowledge the students’ points of view and provide feedback. If workload is a factor, then try acknowledging just one or two ideas in the face-to-face setting. You can choose these at random, or you can pick the ideas that have generated the most discussion. The point is to let the students know that you are aware of their work and that you value their opinions.

Summary

“It is the supreme art of the teacher to awaken joy in creative expression and knowledge”. – Einstein (n.d.)

In this chapter, we have answered the questions “Who does what to whom, when, where, how, and why?” as they relate to techno expression. The concept of student expression is not new, but the online teaching and

learning environment gives both instructors and students amazing possibilities in this area. There really are so many pathways to techno expression, it is staggering. We hope to see your examples on the Internet some day!

There are a number of factors that go into successful techno expression. You can establish asynchronous or synchronous timeframes, depending on your goals. For brainstorming and presentations, synchronous activities work well. For reflection, research, and collaboration, asynchronous activities give students time to generate original ideas.

Since students seldom get a chance to share their thoughts in academic settings, they may be tentative at first, though given the number of student accounts in social networking areas like MySpace and FaceBook, perhaps they will jump right into it. Either way, techno expression works best when students have a safe environment in which to try new things.

There are a number of tools that enable techno expression, and that list will continue to grow. Whatever media type you choose for the students—print, audio, video, multimedia, or multiple forms of interaction in an online environment—be sure to align the end result with the learning objectives. Students will be able to express their views, regardless of the medium.

Finally, allowing students to state their opinions does not automatically add work for the instructor, nor does it necessarily pull students away from the underlying learning objective(s). Instead, techno expression can inspire students to go well beyond expectations, as Michael Jones and Gail Benick learned during their wiki experiment. Students will appreciate any efforts you make to let them speak their minds. They will appreciate even more your acknowledgments, feedback, and responses. When designing a course, techno expression can be a way to add meaning to the assignments for the students. Be sure to make it fun for you, too!

Glossary

Flaming. The practice of sending angry or inflammatory messages online (<http://www.computeruser.com/resources/dictionary/definition.html?lookup=6608>)

Multi-literate. Being literate in the sense of being able to understand information in a number of contexts. "... students will draw on a range of knowledge and contexts from many disciplines, as well as on multiple modes of communication" (O'Rourke, 2002, para. 8).

Netiquette. Internet etiquette, usually based on the Golden Rule ("Treat others as you want to be treated").

Really Simple Syndication (RSS). A format for syndicating Web content (<http://www.webopedia.com/TERM/R/RSS.html>)

Techno expression. A technology-based process by which one or more people, either individually or collaboratively, use words and/or media to articulate ideas or thoughts.

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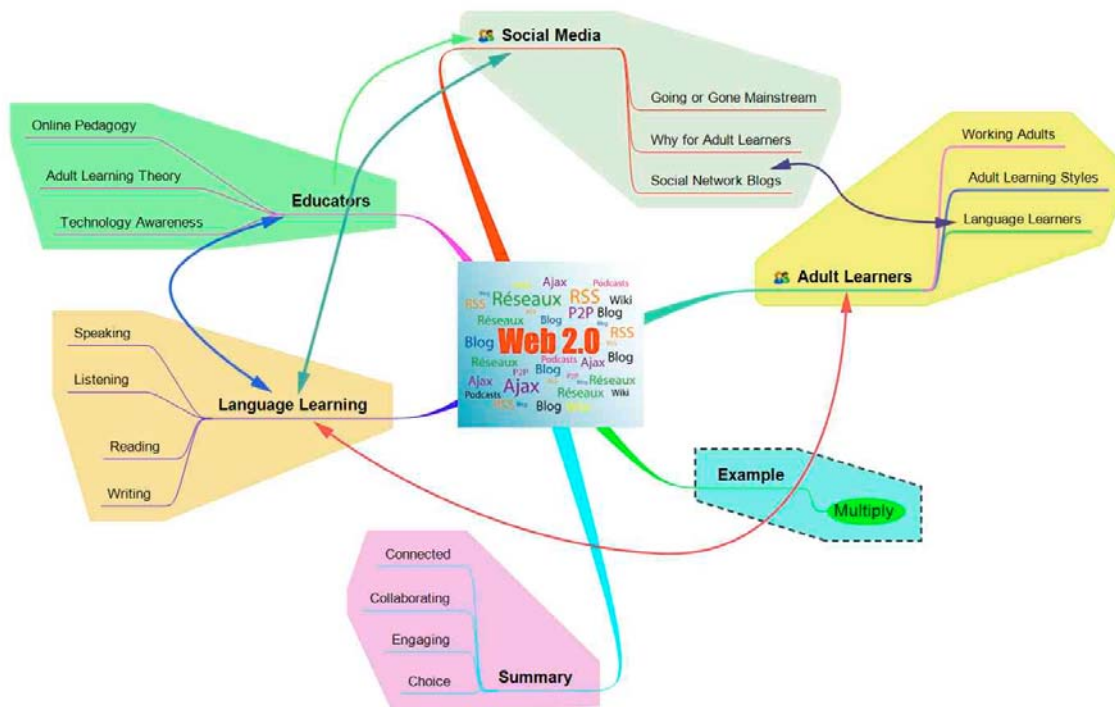
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27

Social Media for Adult Online Learners and Educators

Moira Hunter

Computers are incredibly fast, accurate, and stupid; humans are incredibly slow, inaccurate, and brilliant; together they are powerful beyond imagination. – Albert Einstein



Learning outcomes

After completing this chapter, you should be able to:

- Have deeper insight in the social implications of including social media software in e-learning with geographically distributed adult learners.
- Understand and apply principles of adult learning theory in planning for online learning with working adults.
- Identify primary considerations for planning online language learning.
- Select the most appropriate tools to ensure an engaging learning experience.
- Create a simple and safe online environment.

Introduction

“Email preceded the Internet ... blogs are ten years old and wikis have been around since 1995 ... If most of this stuff is twenty years old, why are we talking about it now? Because it’s not about the tools, it’s about the people. The reason that it matters now is that we are experiencing a seismic shift—it’s about who can be brought together with these tools”. – Ethan Zuckerman

Today, thanks to wide Internet and broadband adoption, educators can develop and distribute materials and resources, often co-created with their learners or developed entirely by the learners. Among the emerging technologies is a new generation of social software called ‘Web 2.0’, a term first coined by Tim O’Reilly (2005). These emerging technologies, or emerging humanity as Bryant (2007) states, use connectivism to enable social and personal learning (Siemens 2004, 2005) to enhance and promote lifelong learning.

Social media, in contrast to traditional media, uses “the wisdom of the crowds” (Suriowecki, 2005) to collect, create, and share information and it is particularly pertinent to the online adult learner. Social software is often available for free or a low cost, with no or little maintenance. The ease and speed in setting up an online supportive learning environment by independent, institutional, or corporate trainers lends itself to ‘just in time’ learning for one-to-one and small group learning.

Among the plethora of tools, with new programs appearing everyday, blogs and wikis are going mainstream in educational and corporate learning, often replacing the costly CMS and LMS. The choice of technology depends on the educator’s needs for a tool to

support any specific learning outcome with the pre-determined target audience and their learning needs. Blogs or wikis can replace an LMS in one context but perhaps not in another. The technology must fit the pedagogical needs and not the reverse. Educators need to develop a critical awareness of the tools available, and the skills needed to use them, before choosing a technology or technologies to support learning.



This article will focus on the blog, which to date, has been adopted widely by non-technical educators for its ease of use and maintenance as a publicly accessible web application. The target learners are geographically dispersed working adults, collaborating fully online in small groups to enhance their language skills and competencies.

Going or gone mainstream

“He that will not apply new remedies must expect new evils; for time is the greatest innovator”. – Francis Bacon

Blogs or the concept of blogging has been around for some time, with Sir Tim Berners Lee creating the first website in 1991, Dave Winer blogging in 1996, and John Barger coining the term ‘weblog’ in 1997. Since its first appearance, the blog or weblog has come a long way, not only being considered today as a creative medium to publish personal thoughts and observations, but as a means to fulfill other purposes for the users. It is now mainstream, used by many to replace Web pages, content management systems, and learning management systems.

Editable web spaces, free or at low cost, with no programming or design issues, are now enabling the edu-

cator to integrate technology into the learning experience without relying on the institution or company to decide to purchase, install and monitor systems. Blogs, together with wikis, are tools where student-directed learning can happen with students and educators sharing their learning responsibility. Blogs are relatively easy to use where the author can write the content, personalize the 'look and feel' of the blog and carry out constant updates with minimum hassle and knowledge of web-based applications.

The wiki coding was developed by Ward Cunningham in 1994 and he produced the first wiki in the following year. The word 'wiki' was inspired from "wiki-wiki", the Hawaiian word for quick. A wiki is a website which enables approved users to edit the content and lends itself perfectly to collaborative online learning, especially with geographically dispersed users. Another great advantage of wikis is the ability to revert back to previous versions of pages, as they are never lost but 'stored'. Wikis are therefore ideal for workplace and learning cultures which encourage collaborative work but may not be appropriate for all learning environments. Again, the educator or trainer should assess the learning context and the learners' needs first before choosing a technology or technologies to support the online learning.

The deployment of social media rich features in an online learning event implies not only a paradigm shift between the teacher and learner but also in the consequential control and usage of the features available within these social softwares.

As an educator, are you ready for the learners to take control and become co-teachers? Are you ready to be a co-learner in the learning process?

Why social media for adult learners?

"Blogging is using a new medium for what it is good for—connecting and interacting". – George Siemens

The 21st century is compelling adults to become lifelong learners as they change jobs, and even professions, more frequently. To keep abreast of their profession, and remain competitive, they choose to learn, have a clear

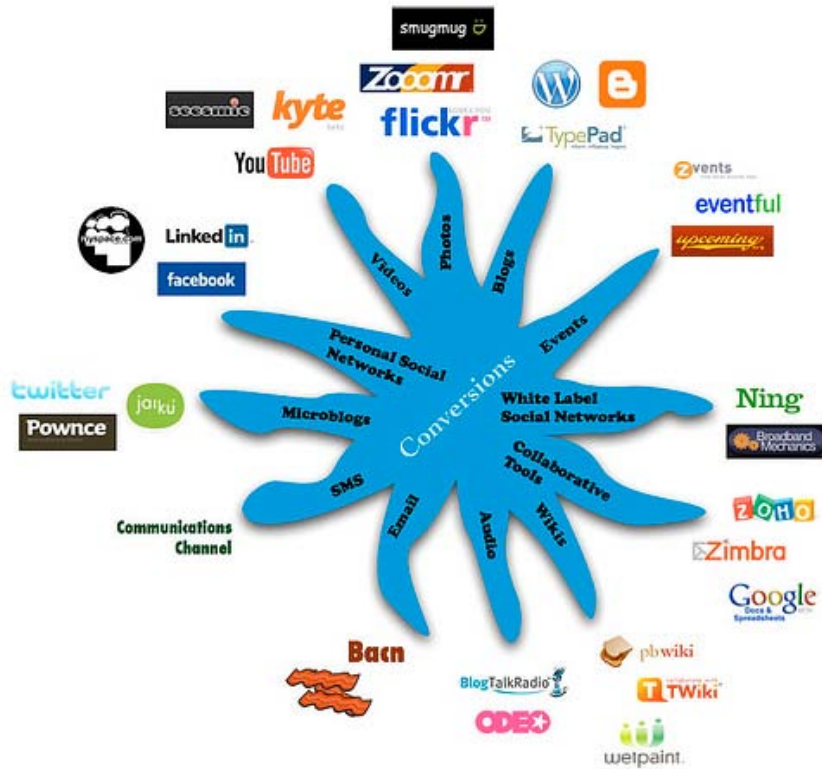
knowledge of what they want to learn and why they want to learn, and are highly motivated learners. Many adult learners often do not have the time or motivation to physically attend traditional classes. Learning online is a practical, speedy, and time-saving approach to satisfy their needs. They seek 'just-in-time' learning rather than 'just-in-case' learning to fulfill these needs.

Adult learners have different expectations, priorities, and time limitations, as well as fears regarding online learning from young adults and very young learners. Security, privacy, ease of technology, and finding the time to learn are factors to be considered in their professional and personal lives. The educator must not only cater to adult learning styles but must be able to choose an appropriate technology to support this online learning.

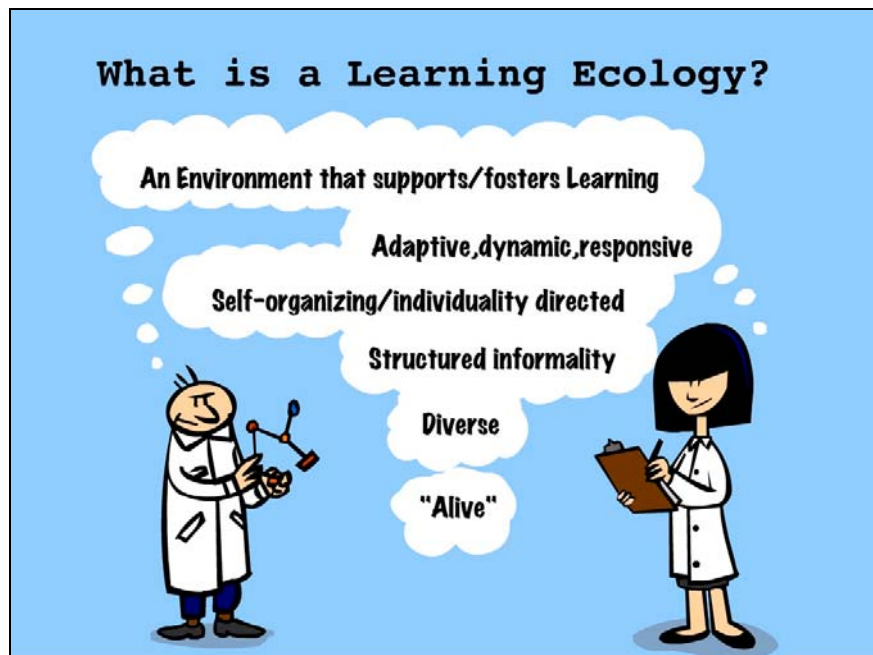
Emerging technologies are making this task easier for educators, but the plethora of new tools complicates the choice. In the mix of working adult learners who bring with them their own learning experiences and knowledge and their own expectations, any chosen technology must support a learner-centred approach, enabling a shared responsibility for learning and enabling the learner to develop their own network of learning.

Blogging, while a well-known concept, is not necessarily a familiar tool to working adult learners. By creating a private group within a social network blog, learners are placed in the centre of their own learning, without infringing on their privacy and without rendering their corporate information public. This privacy and security is particularly reassuring for newcomers to online learning, and enables learners to develop their own network of learning in their own time and at their own pace. Because a blog can be accessed at any time during the course, and after the course ends, this approach eliminates the problem of an abrupt end to a course, allowing distributed learners to continue to develop their own networks.

Asynchronous learning does not satisfy the learning styles of all learners, nor does it provide the necessary human contact, socializing, and real-time communication which purpose-led working adults require. The combination of asynchronous and synchronous tools offers kinesthetic, auditory, visual, and tactile support for learners. (See general overview, <http://otis.scotcit.ac.uk/onlinebook/otisT102.htm>.) E-learning that integrates social media offers flexibility, convenience, and sociability for the adult learner.



Robert Scoble (November 2007) and Darren Barfoot



George Siemens 2006

Adult language learners

“People are generally persuaded by the reasons which they themselves have discovered than by those which have come into the minds of others”.
– Pascal

English is today the common language of the professional world and it is no longer a luxury asset but a basic tool for the working adult, just as is word processing. Working professionals either choose language coaching or are instructed to do so by their employers. E-learning in the corporate world is gaining ground as being more cost effective for both the company and the adult learner than traditional classroom learning (Strother, 2002). It is also more convenient for the adult learner who may choose to do this in the work place or in the convenience of his or her home, or in the hotel, while commuting, or in the garden.

Adult learners have a wealth of real-life experiences, knowledge, and expectations. A theoretical familiarity with adult learning should be part of any online educator's preparation. Knowles, is regarded by many as a leader in the field on andragogy, the term now coined for adult learning theory (Hiemstra, 1990). Some assumptions about adult learners include:

- They need to know the purpose of their learning.
- The learning must be relevant to their real-life needs, both professional and personal.
- Learning is self-directed.
- Adult learners want their knowledge to be recognized and used.
- Personal or incentive-based motivation supports learning.

Adult learners are also individuals, with personal learning styles. Much work has been done on interpreting and catering to individual learning styles. As e-learning is not just about technology, but above all the human factors and the need to humanize online learning, a broad understanding of adult learning styles is essential for the online educator. Three factors identified by Birch (2002) which influence the success of online learning for the adult learner are management of the e-learning environment (self-directive competencies), interaction with the learning content (metacognitive competencies), and interaction with the virtual learning facilitators and learning peers (collaboration competencies). Long (2000) identifies the dimensions of motivation, metacognition, and self-regulation, which are supported by choice, competence, control, and confidence.

Online pedagogy: best practice and theories

“I am always ready to learn although I do not always like being taught”. – Winston Churchill

Online pedagogical best practices are currently the focus of much research, as the educational and corporate sectors adopt some form of e-learning, either fully online or hybrid. To date, and as a general basis in the design and delivery of online learning, many educators and trainers have made reference to the previous learning practice and works of Bloom, Chickering, and Gagne.

Bloom's Original Taxonomy	Anderson's Revised Taxonomy
Knowledge	Remembering
Comprehension	Understanding
Application	Applying
Analysis	Analyzing
Synthesis	Evaluating
Evaluation	Creating

Bloom's original taxonomy (1956), revised by Anderson (2001)

Many instructional designers refer to Gagne's (1992) categorization of learning into intellectual skills, cognitive strategies, verbal information, motor skills, and attitudes, and to his nine steps in e-learning:

- (1) gaining attention
- (2) stating the objective
- (3) stimulating recall of prior learning
- (4) presenting the stimulus
- (5) providing learning guidance
- (6) eliciting performance
- (7) providing feedback
- (8) assessing performance
- (9) enhancing retention and transfer to other contexts

Chickering's (1987) seven principles can be the basis of all forms of online learning. Good practice in undergraduate education:

- (1) encourages contact between students and faculty;
- (2) develops reciprocity and cooperation among students;
- (3) encourages active learning;
- (4) gives prompt feedback;
- (5) emphasizes time on task;
- (6) communicates high expectations; and
- (7) respects diverse talents and ways of learning.

“New technologies can communicate high expectations explicitly and efficiently. Significant real-life problems, conflicting perspectives, or paradoxical data sets can set powerful learning challenges that drive students to not only acquire information, but sharpen their cognitive skills of analysis, synthesis, application, and evaluation”. (Chickering & Ehrmann, 1996)

Social network blogs with the working adult learner

“We are all natural lifelong learners. All of us, no exceptions. Learning is a natural part of being human. We all learn what enables us to participate in the communities of practice of which we wish to be a part”. – Seven Principles of Learning; IRL

The harnessing of collective intelligence through the use and flexibility of social media leads to empowered learners in enhanced learning conditions in a sometimes disordered flow of active participative learning.

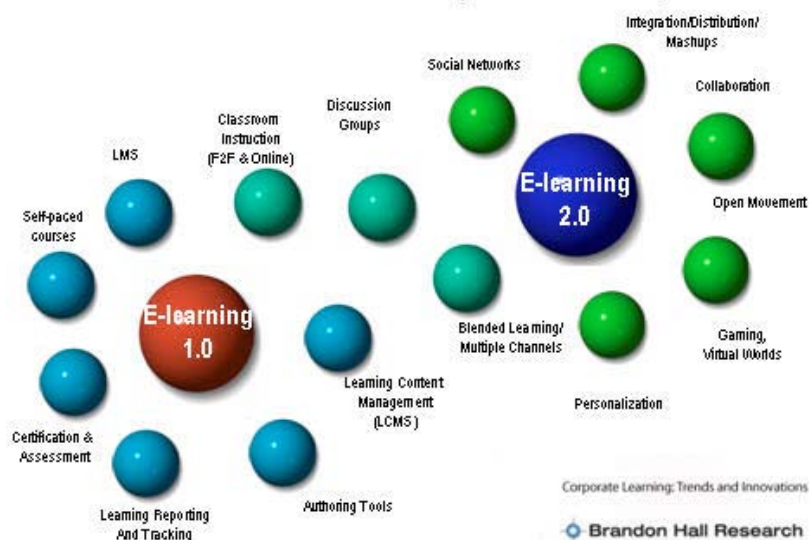
The increasing popularity of social media ‘by the crowds’ and rapid software development have led to significant financial investment in some programs and have enabled further rich features. Some blogs now include integrated forums for discussion, multimedia uploading features, audio and video response features to posts, and mobile connectivity. The ability to form single owner blogs, group blogs, and social networks are

part of these enhanced features. Bloggers can choose to keep their blogs private, accessible only to certain groups or selected individuals, or to be available to the public. Users have the choice. This sense of proprietary emphasizes community and collaboration in blog-based online learning.

Blogs are easy to use, allowing authors to edit their written messages even weeks later. Bloggers can write the content, personalize the look and feel of their individual blog, group blog, or page within a network, and carry out constant updates with minimum hassle or knowledge of web-based applications. Unlike a wiki which can allow universal editing rights to all users, blogs allow only their authorized authors to edit their own postings. For learning a language this is a particularly rich feature, allowing the learner to correct their own work after group or peer feedback, rather than depending on a teacher’s correction. This shift towards giving the learner control over the learning process enables the learner to express him- or herself in an authentic voice, facilitated, but not dominated, by a pre-determined syllabus. However, community-driven blogs lack some advantages of traditional LMSs such as class management, grade-tracking systems, attendance, and individual student activity reports, which academia normally requires.

Currently many social software programs are undergoing substantial improvements and technological additions in the quest to attract and engage the users. As users adhere to these technologies, the requirement for voice communication becomes more pertinent, especially for language learning.

Tools & Methods: Non-disruptive and Disruptive



A social network blog offers several possibilities for adult language learners. This technology offers the possibility to set up a blog within a network, without the learner being ‘overcome’ by the social networking in the initial stages. Many working adult learners want to find what they need in one place, and quickly. By setting up a group (private or public), learners can access all they need within one space rather than in many spaces. This is reassuring for adult learners who do not desire information overload, and in particular for those new to online learning. With time, reassurance, and increased confidence, they can create their own networks outside the learning network at their own discretion and for their own purposes. These networked multimedia computer technologies lend themselves to the active engagement of learners, empowering the learners in their own learning, leading to pro-active and self-directed learning, and the eventual creation of their own personal learning environment.

EXAMPLE: MULTIPLY



Among the multitude of social media technologies available today, one example of a social network blog is “Multiply” (<http://multiply.com>) which claims to be a social network with a difference. It is described as a social media aggregator with a privacy-centric multimedia sharing social networking service, enabling granular control. For some adult learners, the idea of social networking in Facebook (www.facebook.com), MySpace (www.myspace.com), and many others is daunting and not precisely what they want in purpose-led learning. Multiply is one among many technologies that attempts to provide many features within one space. By creating a private group within a network, the learners have a safe area to learn and can venture into the network when they are ready. Each user has a personal blog, in addition to and separate from the group blogs.

For language learners and educators, Multiply offers many features within one space, thereby eliminating unnecessary time and effort spent logging in to different spaces for access to different tools. A toolbar installed in the browser enables instant access to the blog and the ability to post content directly, and it has a new Message Alert button that updates automatically. The inbox shows all recent updates and can be customized using the custom filter according to user preferences. The Search button enables users to quickly search public

content on the Multiply social network. Within a Multiply blog site, documents can be uploaded as attachments to a post. Five files can be attached per blog post with a maximum 100 megabytes per post. This is beneficial to the learners who are uncomfortable reading from the screen, as they can download the document, change the font, review, then print it. Before finally saving and publishing a post, saving as a draft is optional and the blog has a preview and spell-check feature, together with a rich text editor and an HTML editor.



Videos can be uploaded without using a third party to host them, or imported from third-party hosts to the video category, or embedded directly within a post using the embedding code. Audio files can also be uploaded. Other features include the ability to upload photos and photo albums, enabling all users to share content. In addition to text replies, replies to posts can be made directly in the blog using the integrated audio or video features. For language coaching and instruction, this is extremely useful as learners can record, play back, and fine tune their own oral message before posting replies. The direct video recording feature is effective for language communication as it raises awareness of linguistic and paralinguistic information, and it is a very useful tool for rehearsing teleconferencing, presentations, and

interviews. This feature also assists auditory and visual learners as the information can be reviewed with particular attention to speech and pronunciation. Feedback can be provided aurally, visually, and using text. In addition to uploading or embedding recordings of guest speakers to the learning community, invitees can address the blog directly and respond to the learners by posting aural or video replies to questions or comments posted by the learners.

An integrated poll/survey feature further enhances interaction with the blog content. The Review box can be used for feedback and evaluations of films, literature, and images can be uploaded with the five-star rating system. The integrated calendar can be used for scheduling events, real-time meetings, course dates, and holidays, to name a few examples. Although this technology does not track usage and completion of activities, it does track visitors to individual blog posts and pages, which is of importance to a trainer wanting to know whether

assignments have been accessed, when, and by whom. The date and time is given for each visitor or group participant. The photo icon of each post personalizes the whole online environment for all users. The personal message board can be used by any member to send messages to selected Multiply users. Relevant website URLs can be collected separately on the Link Page, enabling users to collect and share resources.

When the email alert feature is activated, all group members are notified of new blog content by email, as illustrated above, and learners can respond directly while still viewing the email. Blog entries, together with photos, videos, and links, can be posted directly to the blog from any email-enabled device, using the cell phone, Blackberry, or any device with a web browser and Internet access. The Multiply Mobile has an interface specifically designed for small screen devices, and users can use nearly all the features in the mobile social networking version (<http://multiply.com/m>).





Figure 27.1

With Live Replies enabled technology, users can follow discussions in real time, similar to IM or a chat room. This means that groups can work on the blog content at the same time, as posts and edits appear instantaneously. To further enhance the language learning process among distributed learners, real-time meetings can be held using teleconferencing, or dual VoIP tools such as Skype for direct voice communication. Discussions, debates, conversations, presentations, and role-playing can be carried out, based upon the blog content or other content. On-the-fly changes can be made in live voice meetings, allowing participants to share documents on Skype or by posting directly to the blog for discussion and analysis, together with web surfing. These voice calls can be recorded and uploaded for later investigation and discussion, and eventual discourse analysis. The real-time textchat in the VoIP tool (Skype, Oovoo, Google Mail) chat area can be copy-pasted as a further record of the real-time input onto the blog. In such sessions, a trainer can write all the vocabulary or points of grammar that may come up in the real-time conversation. This enables the learners to keep a record, to access learning events for further work, and to enable those unable to attend to catch up.

The relational granularity within this program allows authors to make selective posts to individuals, groups, the network, or selected groups of contacts. Pair work and group work can be organized within a private group using this feature.

Multiply has an Ajax/Web 2.0-based interface. The look and feel of the blog environment can be adapted to the group and by the group at any time, depending on administrative rights given to the group users, and those with CSS knowledge can apply their skills easily within this technology to totally personalize it and add widgets. The network community itself is very responsive to re-

quests for help, and joining other public groups within the network is a simple click.

The tagging feature shown in Figure 27.1 enables users to organize their posts for easy recall by topic, incrementally building a collective knowledge base. Customizable tag boxes can be added to, deleted, and edited on each post at a later date. A customizable tag cloud can be displayed on the home page. A further feature is a Tagged Content Box for the preferred posts within the blog content. Social bookmarking is integrated into the software, enabling learners to bookmark content in the social network and in their group. This feature also enables the user to bookmark sites outside the social network, integrating the resource as a link within an automatic blog post to share within the group. Multiply user blogs and groups all have RSS feeds, to be used on an RSS reader. The free proprietary software offers unlimited storage space for each blog.

This is by no means a recommendation to use one specific social network blog, but a working example of real-life learning in the online environment, deploying freely available technologies to satisfy the learning purpose.



Summary

“The heart of Web 2.0 is the user ... The tools power it, but the people do it”. – Susan Mernit

Social media such as I have discussed in this chapter allow working adult learners to be connected, and encourage them to use all four language skills of reading, writing, listening and speaking.

The cluster of technologies in one support does not overload the learner in their immediate need to learn what they need to know to access their learning environment at any time, and anywhere.

The online environment engages the learners in discussion, collaboration, exploration, production, discovery, and creation.

Adult learners have the choice to create and develop their own personal learning environment.

Glossary

CMS. Content Management System

LMS. Learning Management System

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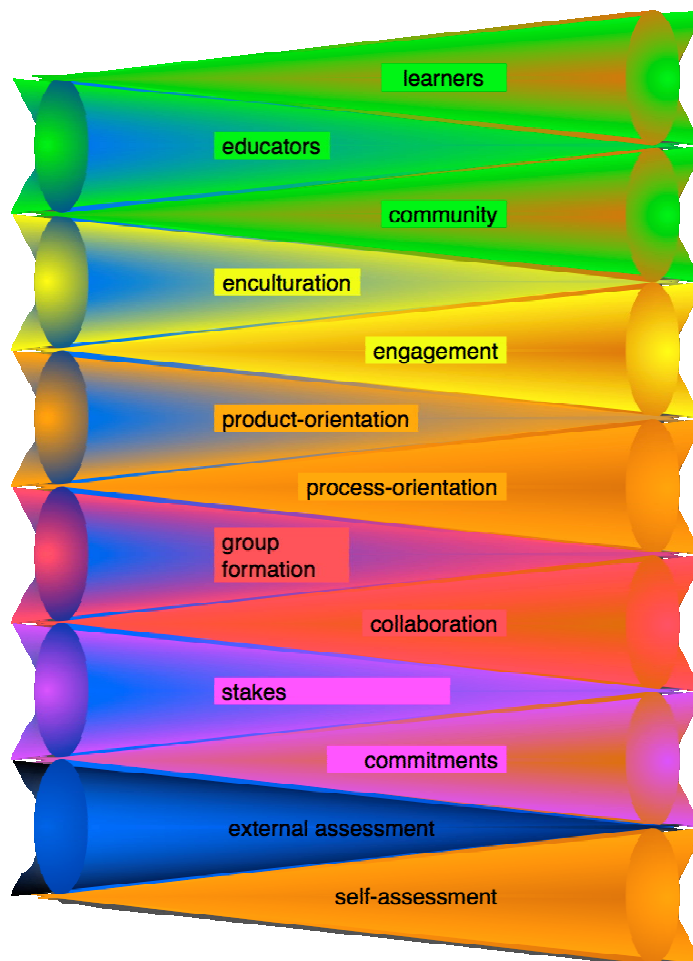
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28

Online Collaboration: An Overview

Paul A. Beaufait, Richard S. Lavin, and Joseph Tomei

Collaborative efforts are just as much about understanding conditions for collaboration in coordinating work, as ... [they are] a matter of collaboratively constructing knowledge.
– Guribye, Andreassen & Wasson (2003), p. 385



Learning outcomes

After completing this chapter, you should be able to:

- Understand what collaboration entails and how to foster and facilitate it.
- Understand the theoretical and practical issues surrounding collaborative and other kinds of collective endeavours.

Introduction

In this chapter we explore the notion of collaborative learning from theoretical and practical perspectives. The first step is to distinguish collaborative from cooperative learning, because much so-called collaborative learning, although collective and often cooperative, is not necessarily collaborative. By getting a clear understanding of what we may not be doing when attempting to foster collaboration, we can formulate clearer ideas of what else is possible and what is transferable to online learning and working environments. This chapter is rich in references that tie into learning theory and primary literature that interested readers may wish to explore. It concludes with stories and reflections representing online educational collaboration from learners' and educators' perspectives.

Point of departure

As cooperation and collaboration take on increasing importance in workplaces, societies, and the world as a whole, it is natural that, in order to prepare learners for this world, educators are also taking an interest. However, most schools do little to promote either self-directed, collective learning endeavours or the development of skills that students need to listen effectively to one another, addressing “complex issues and problems that require different kinds of expertise” from those that they currently may study or emulate in school (Bielaczyc & Collins, 1999, p. 272). With rapid development and expansion of technological infrastructures, possibilities for harnessing technology to enable collaboration are expanding. Yet, as we move to take advantage of these possibilities, we encounter new challenges and discover unexpected complexities in fostering collaborative endeavours online.

Here we offer an overview of collaborative learning, particularly in adult and higher education. We first define cooperation and collaboration, then explain why

they are desirable, and we outline what you need in order to achieve them, examining both issues specific to working with technology and those that are common to online and offline situations. Finally, we look at broader issues involving cultures of collaboration and possible future directions for collaborative learning. This overview will serve as background for the stories that follow.

Definitions and distinctions

“When a word becomes fashionable—as is the case with ‘collaboration’—it is often used abusively for more or less anything.” (Dillenbourg, 1999, p. 1)

Though there are no hard and fast definitions of collaboration and cooperation, generally we perceive them to differ in emphases along the following dimensions, with the more collaborative elements on the right (Table 28.1).

Table 28.1. *Dimensions of Collective Work*

Cooperation	Collaboration
products	processes
collocations	syntheses
division of labour	mutual responsibility
work environments	learning environments

Since it is easy to confound the terms cooperation and collaboration, or to use them virtually interchangeably due to their similar Latin origins meaning to work together, we would like to draw a working distinction between cooperative and collaborative learning endeavours from McInnerney and Roberts (2004), who hold that “the term collaborative should be used for those learning techniques that emphasize student-to-student interaction in the learning process, while the term cooperative should be used where students are required to work in small groups, usually under the guidance of the instructor” (p. 207). This distinction resonates in Finkelstein’s view of guidance: “Although the presence of a facilitator can guide collaborative activities, these interactions tend to be more egalitarian in nature and can happen at any time, in both structured and informal settings” (2006, p. 3).

Panitz recognizes similar processes in both cooperation and collaboration, such as learner grouping and tasking, and then the sharing and comparing of “procedures and outcomes” (Panitz, 1996, para. 7). However, for cooperation, Panitz asserts, those processes enable learners to achieve goals and create products that are

“usually content specific”, that teachers determine and control, while “collaborative learning is more student-centred” (Panitz, 1996, para. 4).

An important dimension of collective endeavours that Lavin and Tomei examine in *Wiki Technology for Online Education* (Chapter 25, Tools for Online Engagement and Communication) is the relative emphases placed on process and product. Product orientation characterizes cooperative endeavours, while process orientation reflects more collaborative ones.

Other distinctions to note between cooperative and collaborative activities concern the level of interdependence among learners, the nature of group roles—leadership in particular—and the complexity of interaction. For practical purposes, let us define interdependence as “a dynamic of being mutually responsible to and dependent on others” (Wikipedia, Interdependence).

Typically, the term collaborative applies when the level of interdependence among learners is higher and when group members’ roles overlap to a greater degree than in cooperation. Whereas Dirkx and Regina consider “level of interdependence” and “learner accountability” crucial (2004, p. 155), Graham and Misanchuk consider fostering interdependence and accountability as “key challenges” in structuring computer-mediated group activities. Further, they argue that interdependence needs to be higher for collaborating than for cooperating groups (2004, pp. 183–184).

Dillenbourg defines collaboration as convergence of “three concurrent processes, which are neither independent of each other, nor identical,” namely processes of communication, coordination, and problem-solving (2002, p. 22). Ingram and Hathorn view collaboration as “a more complex working together” than cooperation, particularly with regard to “the interactions and effectiveness for instruction and education” that collaboration entails (2004, p. 216). Their definition is consistent with the others, but adds criteria of equality, authenticity, and synthesis. Thus, for Ingram and Hathorn, collaboration requires “roughly equal participation, genuine interaction among the participants, and the synthesis of work into a unified whole” (p. 215). At its best, wiki work typifies that unification, as Lavin and Tomei explain in *Wiki Technology for Online Education* (Chapter 25, Tools for Online Engagement and Communication).

Graham and Misanchuk also distinguish learning groups from work groups as they examine “benefits and challenges of group work in online learning environments” (2004, pp. 181–182). Throughout this section, we will focus on learning groups that Graham and Misanchuk might characterize by: “flat leadership”, fuzzy roles, valuing learning over productivity, focusing on processes

rather than outcomes, and assuming group responsibilities as often to learn skills as to use them (p. 185).

Benefits of collaboration

“Among the most highly regarded of these skills can be counted the ability to work productively in teams, in both social and work settings, especially in situations where the various team members may have diverse backgrounds, experiences, and opinions. Indeed, it is in just such an environment that collaborative work can bring the greatest benefits.” (Roberts, 2005a, p. vi)

Collaboration sounds like a very desirable thing, but for educators to change what they do, we need to spell out the potential gains. Benefits of collaboration that scholars often mention include: amplification of learners’ intellectual capacity; meta-cognitive skills, that is, powers of thinking about thinking, including planning and evaluation of learning processes; plus social and job skills. We also imagine that as collaboration is made more integral to the process of education, we will see it used effectively in other domains. There is nothing that prevents these other areas from embracing collaboration and leapfrogging ahead of education, so we feel that many of these basic notions can be effectively employed in any online environment, whether educational, professional, or vocational.

According to Graham and Misanchuk (2004), theoretical benefits of learning through social interaction, or collaboration, derive from synergy within groups enhancing members’ thinking and organizational skills, promoting insights and explanations, and encouraging greater achievement. Similar benefits deriving from cooperation entail risk-taking and perseverance, retention of what is learned, meta-cognitive skill development, creativity, and transferability.

Roberts argues that learners stand to benefit as much from “collaborative learning within a computer-supported environment ... as within a classroom or lecture hall ... [because] fruitful and constructive discussion and dialogue can take place at any time” (Roberts, 2005b, p. 4). Likewise, Klemm concludes that face-to-face collaboration techniques transferred online can lead to “better student learning and achievement” (2005, p. 198).

Whether in the classroom or outside, exploiting links to prior knowledge can enhance the entire learning process and lead to the development of interpersonal intelligence in critical thinking communities. Chamot suggests that interactive teaching can raise learners’ awareness of

their prior knowledge and enable them to develop new knowledge that is “shared and constructed rather than transmitted one way from teacher to students”. Collaborative teaching allows students and teachers to work together to “discover, create and expand their understanding and skills”. The aim of such collaboration is to develop interpersonal intelligence, or “the ability to understand and respond effectively to others” (Chamot, 1995, p. 4).

In multi-cultural settings, this kind of interpersonal intelligence would encompass intercultural understanding and communication, with classrooms, virtual learning environments, and online work environments created for a specific purpose serving as exemplars of communities. Through discussion and analysis of participants’ thinking, leaders can raise meta-cognitive awareness, enabling them to choose appropriate strategies to enhance the efficiency of their learning. Taylor suggests that benefits also include “building self-esteem, reducing anxiety, encouraging understanding of diversity, fostering relationships, stimulating critical thinking, and developing skills needed in the workforce” (2005, p. 24).

Conditions for educational collaboration

While we focus on educational collaboration here, education is not restricted to the academy but is applicable to any situation where it is desirable for participants to improve in order to help a community grow. Thus, Haavind’s four key elements for online collaboration can be thought of as basic:

- (1) Socially bonded communities of learners
- (2) Collaborative activity designs
- (3) Explicit scaffolding or teaching of how to collaborate
- (4) Evaluation of collaborative participation (Haavind, 2006)

To engender collaboration for purposes of making or improving something, from an educator’s perspective, Currie suggests focusing on several key factors: intent to collaborate, characteristics of target populations, types of member interactions, time frames, and the existence or necessity of guidelines, rules, and governance (personal correspondence, March 10, 2006). This is very much in line with Dillenbourg’s (2002) analyses of computer-supported collaborative learning scripts in terms of: (1) what tasks learners must complete, (2) how groups form, (3) how groups distribute responsibilities,

(4) how learners (and groups) interact, and (5) when task work and interactions occur.

Raising what by now should be a familiar challenge to promises of online, anytime, anywhere, learning, Dillenbourg underscores the necessity and expense of tutelage:

“Regulating collaborative learning is a subtle art. The tutor has to provide prompts or cues without interfering with the social dynamics of the group. Light human tutoring is a necessary, but expensive resource for computer-supported collaborative learning.” (Dillenbourg, 2002, p. 2)

Chamot (1995) emphasizes the importance of a strong teacher presence, and this may be even more important with non-traditional students and in English as a Second (ESL) or Foreign (EFL) Language settings. Sorenson suggests that collaborative learning calls not for “decomposition of the learning content or tasks”, but rather for “supporting learners’ navigation through meta-communicative levels” (2004, p. 257). Thus collaboration should involve more than talking the talk of collaboration; it should entail talking the walk, that is, communicating about the hows and the whys of both processes and products of collaboration.

Interdependence, by definition, characterizes collaboration, but entails challenges and risks as well. Graham and Misanchuk (2004) explain: “The higher the level of interdependence between group members, the greater the communication overhead [time] required to complete the learning task.” They also suggest “individual learning can be compromised if there is limited interdependence in a learning group”. Although mature groups that they studied could ascertain “the level of interdependence with which ... [the groups themselves] were comfortable”, Graham and Misanchuk highlight cases in which “groups chose an efficiency focus over a learning focus” (pp. 193–194). In other words, those groups’ interactions were more business-like than educational, and arguably more cooperative than collaborative.

It is worth noting here that none of those definitions, conditions, or strategies for fostering collaboration focuses on technology per se. Subsequent sections point to possible additional benefits of using certain computer-based environments (for example, see Chapter 25, Tools for Online Engagement and Communication, on blogs and wikis), but such environments also have their own demands. Their very novelty means that we have yet to fully understand their true nature, and, as Sorenson (2004) suggests, this may mean that we have yet to reap their benefits to the full.

Issues and solutions

Fostering and facilitating collaboration is no cakewalk. Pedagogical and technical problems are part and parcel of collaboration, as are information management and communicative workload problems (Daradoumis and Xhafa, 2005).

GROUPING

Group social relationships form the core of collaborative endeavours, and, according to Shirky (2003), it is impossible to separate them completely from technological issues. However, since careful group formation, consolidation, and commitment building are clearly conducive to success in collaboration, let us consider those first and leave examination of tools for subsequent chapters.

Group formation

Issues associated with group formation become very important at the earliest stages of collaborative projects. One possible approach is the “radical model” that Roberts points out (2005b, p. 8; in Learner Assessment and Peer Evaluation Protocols). The radical model calls for random assignment of learners to groups but may be among less desirable alternatives when striving to engender anything like socially bonded communities of learners (Haavind, 2005). Taylor suggests that effective collaborative groups require “group composition of optimal heterogeneity” and that “difference of viewpoints is required to trigger interactions” (2005, p. 23).

As educators, we may find that group formation is better not left to chance. That is even truer if we agree that Daradoumis and Xhafa’s collaborative group formation methods are “dynamic collaborative processes” leading both to “better learning outcomes” for learners and to “professional development in a networked learning environment” for educators (2005, p. 221). Although devoting an extended period of time to group formation may be a luxury that not only adult and tertiary educators but also leaders in the workplace feel they cannot afford, it behooves us to examine one such process for means of learner engagement that could also work on the fly.

Daradoumis and Xhafa prescribe a four-phase, eight-day long process solely devoted to group formation, beginning with a two-day group analysis of a case study on collaborative group work, the purpose of which is to familiarize learners with whether and how groups collaborate effectively. The second phase (one day) consists of learners sharing information about themselves that they deem relevant to the tasks ahead, including: “per-

sonal data, expertise level, work pace, available working time, temporal coincidence, goals, ... [as well as their] attitudes towards collaborative learning, social aspects of collaboration, and previous experience in group work”. The final two phases of group formation take five more days: four for negotiation of actual group memberships, plus one for putting group membership proposals to tutors for their approval (2005, pp. 221–223). Though we question whether learners could share so much information about themselves, their goals, and their attitudes, in as little as one day, especially considering multiple time zones or locations around the world, with the exception of the case study analysis this whole process reflects similar yet satisfying group formation summarized in a later section in this chapter, Beyond the Mines of Bhorja.

This sort of group formation is an intensive hands-on process involving educators in “supervising, guiding, and motivating students through the whole process”, as well as in “organizing and restructuring” learners’ online environments, as necessary, in order to alleviate learners’ interaction workloads, and to facilitate identification of suitable group mates and location of groups in the process of formation. Not only educators, but also learners, should pay particular attention to the “degree of commitment” shown by one another during group formation (Daradoumis & Xhafa, 2005, p. 224), because commitment is a key indicator of success in collaboration.

Group consolidation

Once learners make commitments to join groups and get approval from course supervisors if necessary, the induction process should continue, because group formation alone is not enough. Group consolidation is of equal importance, because success depends on whether individuals continue to engage in group activities and deepen their relationships with one another. Daradoumis and Xhafa (2005) attribute many collaborative failures to lack of ongoing commitment by members to their groups and mutual purposes. To assure such commitment, groups need ongoing guidance, engendering trust and facilitating self-determination. Addressing all foreseeable challenges is no easy matter.

Striving to obtain and incorporate learner input from group goal-setting onwards is a challenging way for educators to extend the range of collaborative activities that they foster and facilitate. Gathering learner input early in an online course can create opportunities for learners to take initiative, to demonstrate or develop leadership skills, and to negotiate commitments and leverage engagement in more collaborative activities to

follow. One such activity could be determining when and how to engage in collaboration.

How much input should learners have when determining the rules of engagement? This is important because, according to Currie, the existence or necessity of guidelines, rules, and governance define collaborative groups (personal correspondence, March 10, 2006), regardless of whether these guidelines come from educators or learners.

Daradoumis and Xhafa propose that learners consolidate their group by coming up with their own “specific and flexible” guidelines for group interaction (2005, p. 226). They argue:

A clear identification of the [learning and social] goals and the responsibilities of each member will result in elaborating an adequate working methodology, good planning and timing, and fair and viable assignment and distribution of the constituent tasks to be performed. (Daradoumis & Xhafa, 2005, p. 227)

It is unfortunately true that the greater the number and complexity of collaborative activities you plan, the more chances there are for problems to arise at any point in the process from group formation to self and peer evaluation. Pedagogically, when group work and production are highly collaborative, individual evaluation is a problem. Technically, when “frequent, or even intensive, interactions for decision-making or conflict resolution” are necessary, asynchronous communication may not suffice. Moreover, collaborative activities are typically time-consuming. For example, Daradoumis and Xhafa (2005) allocate a period of a week for group consolidation alone, which is more time than educators on tight schedules may wish to invest towards fostering learner collaboration unless they are responsible for design and implementation of courses of study that bridge semesters or span years.

Perhaps more important, from learners’ perspectives, intensive collaboration may generate huge quantities of information. This information, if unmanaged, may lead to information overload and withdrawal from groups. If group members must manage this overload, information management activity may interfere with so-called “real work and learning” (Daradoumis & Xhafa, 2005, p. 228). Thus, concerns about speed of progress may precipitate educators to intervene by assigning groups and roles; setting assignments, tasks, and schedules; pre-authenticating resources; and controlling or prescribing rather than scaffolding evaluation processes.

Although adopting such time-saving tactics may satisfy educators’ and even learners’ desires to enhance productivity, it also can diminish opportunities for learner collaboration, and thus for learners to acquire skills and proficiency in planning, regulating, and assessing collaborative endeavours. Given administrators’ affinity for quantifiable learning outcomes and concerns about time schedules, it is all too easy for educators under time pressure to adopt a product-oriented approach. However, unless and until learners invest thoroughly in collaborative activities, engaging intensively and over extended periods of time (for example, see Bonnie’s Story below), they may fail to acquire the skills necessary to carry out collaboration with near-peers in educational or in future work environments.

In educational environments, all these points weigh towards the aim of educating the target population, but in the workplace other factors may override these considerations. Yet we would like to underscore the following four points from educational research into collaboration:

- (1) Allow as much time as possible for groups to share information that may not appear immediately relative to the task at hand.
- (2) Allow groups to develop their own guidelines for group interaction.
- (3) Beware of information overload, and realize that an important part of the collaborative process is managing the information produced.
- (4) Be prepared to deemphasize the product in favour of developing collaborative skills, so as to permit group members to invest thoroughly in collaborative activities.

Community building

“In a learning communities approach ... students become responsible for their own learning and the learning of others. Students also develop ways to assess their own progress and work with others to assess the community’s progress. In contrast, in most classrooms the teacher is the authority, determining what is studied and assessing the quality of the students’ work”. (Bielaczyc & Collins, 1999, p. 275)

Community building figures prominently in a later chapter but is worth briefly mentioning here. In order for a collaborative culture to flourish, there needs to be some sense of community, and a prerequisite for community is an atmosphere of comfort, sharing, and trust, as highlighted by Neal (2005b). However, it is no easy matter to create such an atmosphere, and it takes time.

For example, Riel, Rhodes, and Ellis (2005) find that although learning circles provide a suitable structure for peer review, it is not always easy to build a sufficient level of trust in the short time available in a typical course. For that reason, educators may opt for practical approaches, including technical training, rather than trying to foster and facilitate more complex collaborative structures.

The Concord Consortium model for quality online courses presents community-building activities as but one of nine key program elements. Proponents of this model assert that “learning through collaboration requires participants to take intellectual risks”, and that it is necessary to “nurture a community culture in which participants are supportive and honest”. This model presupposes that failures are okay, as long as they become learning experiences, and the model relies upon trained and experienced facilitators “to foster this sense of intellectual trust and safety” (Concord Consortium, 2002, pp. 1–2). One source of such training is PBS TeacherLine (<http://teacherline.pbs.org/teacherline/about.cfm>).

The Concord model for community building encourages educators to make “expectations about good group processes” explicit, and to use “inclusive and collective language that focuses on content” rather than individuals. Setting aside time for the participants to get to know each other is “an essential first step” (Concord Consortium, 2002, p. 2). Educators who follow this model also exploit a host of other “techniques for building and maintaining group cohesion”, including “anonymous polls, role-playing, use of smaller discussion groups with rotating roles, or weekly online meetings” (Concord Consortium, 2002, p. 2).

All of those suggestions imply recognition that learner communities manifest both educational and social dimensions. Those suggestions may serve to underpin what Bielaczyc & Collins call “community identity” development by fostering “a collective awareness of the expertise available among members of the community” (1999, p. 275). For more on community building, see Chapter 30, Supporting E-learning through Communities of Practice.

BLENDING

Blending venues, modes, and media presents learners with opportunities as well as challenges to experiment with various forms of interaction that they may find useful for collaborative endeavours. While White (2003) asserts that collaboration can occur online, she suggests expanding the concept of blending. So, when we advocate blending, we mean not only online and offline activities

(Harris, 1995), but also synchronous and asynchronous (time-delayed) interactions (Knowplace, 2006), using various means of computer-mediated communication and involving individual as well as collective endeavours (White, 2003), including self- and peer assessments.

Both assessment and blending are issues that emerge in a later section in this chapter, Learners’ Stories of Online Collaboration. We also explore assessment in Assessment Schemes for Adult Learners (below).

For instance, Harris (1995) advises subsuming collaborative activities to curricular goals, yet is against conducting such activities online when learners can participate more readily face-to-face. Similarly, Dillenbourg points out that many scripts capable of promoting collaboration actually integrate individual and collective activities. Dillenbourg favours face-to-face work whenever feasible and advocates group formation defaults that accommodate match-ups by geographic proximity and availability to meet (2002, p. 13). He also highlights scheduling of critical activities during limited opportunities for busy adult learners to actually meet face-to-face (p. 16).

In telecommunication mode, Federer (2003a) finds that, though some learners are capable of immediate responsiveness, others need time to formulate and communicate their ideas. However, since intensive combinations of both synchronous and asynchronous communication within short time frames take their toll on both online educators and learners, Federer advocates combining data from both learner surveys and facilitators’ logs to find “optimum times ... for online vs. offline collaboration” (2003b).

According to Finkelstein, synchronous online settings “offer an immediacy that not only allows collaboration to begin instantaneously, but also diminishes the actual time spent on task” (2006, p. 4). For both online courses and work groups, Neal suggests starting with early, intensive, synchronous activities as a means to generate group energy and to create a social context for subsequent, time-delayed interactions (2005a). Such activities are consistent with recommendations for community building.

TOOLS

“Increasingly, course approaches (constructivist approaches) are adopting group work and collaboration on projects as assessed course activities, and students are largely stuck fumbling with sharing Word documents in a discussion forum, through IM, or through email. Obviously, distance students don’t have the luxury of being able to meet face to

face to work on projects together, and even if they can, sometimes it's not always the most efficient way of getting something done.” (Morgan, 2005)

Some kind of asynchronous interactive environment that allows social interaction is necessary to enable collaborative learning activities, but discussion boards, familiar tools for many online educators, frequently provide insufficient structure to engender collaborative discussions.

Dillenbourg argues that “an important ergonomic feature [of remote interactions] is the *degree of integration of task interactions and social interactions*” (2002, p. 17 [italics in original]), or the extent to which specific tools allow learners to communicate upon what we might call learning objects. Yet he points out drawbacks of such integration for learners who prefer to use familiar communication software such as chat, discussion boards, or email for various interactions.

However, as Moore and Marra assert, when contributions to discussion boards “lack focus or the board content becomes confusing, ... this critical component of an online course can both be an ineffective communication tool and actually impede learning” (2005, p. 191). They surmise that “empirical evidence to indicate that text-based communication used in computer conferencing can facilitate higher-order and critical thinking is only just emerging, and not entirely consistent in its results” (p. 193).

Some educators opt for increasingly structured approaches yet may not achieve the results they desire. For example, Dillenbourg suggests “a certain degree of coercion [scripted interaction] is required for efficiency reasons, but too much might be in contradiction with the very idea of collaborative learning and might decrease student motivation” (2002, p. 20).

Balancing rules, structures, scripts, protocols, or other means of coercion against group autonomy and interdependence is indeed a tricky feat. For example, Moore and Mara examine an “argumentation protocol ... designed to facilitate knowledge construction”, an arguably collaborative process that they demonstrate and exemplify in practice discussion. Yet, they conclude, “the argumentation protocol, as we implemented it, may have negatively affected students’ quantity and quality of participation” (2005, p. 207).

If more technological structures fail to consistently foster learner collaboration, perhaps creating cultures of collaborative development can. Many teacher educators, in fact, advocate starting by teaching teachers (and administrators) to collaborate in online projects by having them participate in online projects themselves (Crichton & LaBonte, 2003; Taylor, 2005).

Similarly, educators who want to get learners to use weblogs and wikis effectively need to use the same tools effectively themselves. (See Chapter 25, Tools for Online Engagement and Communication.) At this juncture, however, we shall give tools a reprieve, and next take a closer look at assessment schemes, to see whether they are likely to promote collaboration.

ASSESSMENT SCHEMES FOR ADULT LEARNERS

“What is assessed in a course or a program is what is valued; what is valued becomes the focus of activity. The link to learning is direct. Instructors signal what knowledge skills and behaviors they believe are most important by assessing them. Students quickly respond by focusing their learning accordingly”. (Swan, Shen & Hiltz, 2006, p. 45)

With respect to adult learners in particular, Huang offers six principles to guide both instructional designs and teaching practices:

- (1) *Authenticity*: Allowing learner participation in course design can help avoid pre-authentication and can ensure that courses are meaningful and authentic with respect to adults’ needs, working lives, and experiences.
- (2) *Learner-centeredness*: In order to develop “ownership of the learning process by learners”, the learners themselves need to become invested in the process from the planning stage onward.
- (3) *Facilitation*: Although provisions for autonomy are essential for adult learners in a constructivist model, designers and instructors still need to facilitate and support [both] autonomous and collaborative learner development.
- (4) *Interaction*: Interactions with tools, peers, materials, and instructors can serve as motivation for adult learners, and also as springboards for critical reflection.
- (5) *Collaboration*: Collaborative endeavours that involve sharing, reflection, negotiation, and synthesis of knowledge are conducive to adult learning.
- (6) *Critical thinking*: Adult learners need to use “higher order thinking skills ... to determine the authenticity and quality of information”, processes, and tools at their disposal. (Huang, 2002, pp. 32–34)

To those principles let us add that adults ought to evaluate the “discussion-oriented, authentic, project-based, inquiry-focused, and collaborative” learning processes in which they participate (Huang, 2002, p. 35), in

order to determine how effective those processes are in helping themselves to achieve their own educational, social, and future goals.

However, it appears to be rather rare for collaborative ideals to carry over into assessment practices. For example, Roberts points out that, even in so-called radical models of collaboration, assessment is often the last holdover from the new paradigm, and he speaks of “a fairly traditional model of assessment, since the grade awarded is based on the standard paradigm of attempting to assess the individual’s own efforts, even within the context of an online collaborative learning environment” (2005b, p. 8).

While Haavind (2006) construes scaffolding and evaluation of participation as fundamental to collaborative learning endeavours, learners’ expectations and educators’ proclivities may disincline towards collaborative evaluation processes. For example, learners may respond quickly to external rewards, marks, or grades that educators offer as incentives for collective learning behaviours. However, where incentives or coercion come into play, they may induce cooperation rather than collaboration, which ultimately depends upon learners’ self-motivation and mutual responsibility for joint learning outcomes.

At their best, technological tools may enable us to assess learning processes and outcomes that we have been unable to assess before, provide more immediate diagnoses and feedback on difficulties learners encounter, and even adapt content presentation accordingly. However, there are still problems of skills that elude technological assessments, including unresolved validity issues, technical glitches, or system failures, as well as formative and social shortcomings to such assessments (Carnegie Mellon, 2002; Advantages and disadvantages of using advanced technology for assessment). Even in what you could call cutting-edge introductions to uses of social software and activities for collaborative learning purposes (Cameron & Anderson, 2006), assessment criteria range from “none” for orientation to tools and environment, to familiar and formulaic measures, generally based on quality and quantity of written products or online postings.

In fields that are specifically concerned with such interaction, such as education, there is less pressure to have such collaborative processes produce concrete results, with processes rather than products being the keys. Additionally, the inability of decision makers in other fields to appropriately assign credit in a way that reflects the collaborative process makes collaboration a much more difficult affair to promote. An episode of the beloved US television series *M*A*S*H* serves to illustrate

this problem. When Hawkeye develops a new surgical technique that is worthy of publication, the fact that this technique arose only because of the intense collaborative environment in which he worked led the other doctors to be envious of the acknowledgment he received for his paper. The solution, that of having the paper published with the MASH 4077th unit as the author, while a Hollywood resolution that fits the time constraints of series television suggests that collaborative work can encourage examination of values and ideas. So exposing students in other fields, such as the sciences, to collaborative learning not only creates opportunities to advance different forms of problem-solving, but also enables the examination of received wisdom.

Often assessment seems contrived and controlled by instructors rather than learners, for summative rather than formative purposes. Modes of assessment that Graham and Misanchuk observed cover the gamut from individual to peer group and from process to product. However, in none of the examples that they mention do they refer to collaboration in the evaluation process (2004, p. 194); it appears as if the synergy of social cognition gets lost in the shuffle of assessment technologies. So for the future, Dede envisions arguably more suitable “peer-developed and peer-rated forms of assessment” (2005, Implications for Higher Education’s Strategic Investments).

“Our assessment practices have to keep in step with our understanding of human cognition, and new technologies are one set of tools that can help us to meet this challenge.” (Carnegie Mellon, 2002)

A broader view: educational collaboration in context

Many of the various problems and issues that arise in collaborative models of learning and teaching have comparatively straightforward solutions, such as modifying tool choices and experimenting with ways of forming groups. In the background, however, always lurk more general issues concerned with educational models and enculturation to more collaborative modes of learning. We address such issues briefly in this section.

STAKEHOLDERS AND COMMITMENTS

Administrators’, educators’, and learners’ stakes in, and commitments to, distance education and collaborative learning are critical. Not long ago, a large proportion of

administrators may have had little or no experience with, or knowledge of, learning or teaching online; and thus they may have failed to grasp the importance of logistical and technical support both for educators and learners. Administrators may still overestimate the number of students who can comfortably be accommodated in courses, and may grossly underestimate demands on libraries and technical support (Johnson, 2003, para. 2).

Educators, in turn, may underestimate necessary investments, and may jump into technology-based teaching “without fully realizing the high degree of individual student involvement that will be required, or the radical shift in the role of the faculty”, perhaps because many of their peers “have already made that leap of faith into a new modality, and are approaching it with vigor and enthusiasm” (Johnson, 2003, para. 3). Developing close relationships with technical support personnel (Noakes, 2003) suits only those whose institutions have such personnel. Thus, educators contemplating adoption or adaptation of technology to foster learner collaboration should not only scan their institutional environments for available support or relief mechanisms (Bates, 2000, Ch. 2: Leadership, Vision, and Planning), but also realistically assess the time commitments that both they and learners are willing to make.

Time commitments and constraints are of critical importance to online learners in particular, for, as Johnson reminds us, “Learners usually come to online courses due to limits in time or geography, not necessarily because they want to be heard as individuals or work in teams” (2003, para. 4). Likewise, Guribye, Andreassen, and Wasson point out that “Collaborative learning can impose a severe workload on the collaborating actors” (2003, p. 385). In response, Vanides argues that, though “popular expectations about e-learning” may be problematic, particularly with respect to ease and convenience, “deep learning takes deep commitment” from both educators and learners. So he recommends not making group assignments without the will to “invest the effort to make it work ... [by] setting clear expectations, rules of engagement, spending time facilitating and helping students with social negotiation, and rewarding teamwork” (Vanides, 2003).

ENCULTURATION

When we use technology to develop learning environments, we “code in our cultural biases, our beliefs, and values” (White, 2006, para. 3). So we need to consider not only whether the institutional and organizational cultures in which we work reflect practices and values of collaboration, but also whether our own habits of col-

laboration are reflected in the collaborative environments that we are striving to create and in the collaborative processes that we aim to foster and facilitate. As Daradoumis and Xhafa put it: “A culture of collaboration must be based on relationships characterized by trust, motivation, encouragement, mutual support, and openness” (2005, p. 223).

Peer-facilitated enculturation (Olt, Gack, & Cole, 1993), in discussion-based communities for example, may derive from legitimate peripheral participation, or social apprenticeship in collaborative learning communities where contributing, writing, responding, and reflecting are behaviours that accommodating peers scaffold (step-by-step, tier-by-tier), in order to give other learners, and to encourage co-readership and peer responses by not making exceedingly lengthy or multifaceted contributions (Bender, 2003, p. 9). Nevertheless, Bender recognizes the difficulty of instructors providing necessary scaffolding for entire classes, “not only because of class size, but because of the diversity of students” (p. 9). So, in learning communities where diversity is taken as a virtue, it may be necessary for the learners themselves to push the envelope of sociality in order to make their online learning environments more personable and conducive to sustainable and satisfying collaborative learning experiences.

However, how likely is it that run-of-the-mill learners are capable of, or willing to, nurture their peers, if their instructors and communities fail to manifest nurturing and apprenticeship practices at large? Online educators can assess their own tendencies to nurture learners, but perhaps creating a culture of collaboration requires broader, deeper, and longer-term commitments than many educators and learners are willing to make. As we mentioned earlier in discussion in this chapter of assessment schemes for adult learners, in learning contexts that are notably competitive, or where any culture of collaboration runs too shallow to fathom, perhaps offering incentives to induce cooperative learner behaviours would be a small step forward.

It may be necessary to start with teacher training and the ways in which teachers interact with each other in their professional lives, because, as Murphey and Asaoka (2005) argue, fractal models of teacher collaboration predispose student collaboration. That is, if educators collaborate and reflect with one another, as well as with the learners that they profess to educate, the learners themselves stand to benefit from both role models and apprenticeship.

Furthermore, if the notion of collaboration seems intriguing, then offering incentives as part of the process by incorporating it into grading and marking is some-

thing to try. The recent trend of reality-competition television shows such as *Top Chef* and *Top Design* often have the competitors work in teams, with one person from the losing team subject to elimination. While this is too Darwinian for our own classrooms, it is a useful exercise to have students realize that their learning does not take place in a vacuum but depends on the contributions of other peers.

Pratt and Collins offer an inventory of educator perspectives, one of which, apprenticeship, seems perfectly harmonious with efforts to enculturate students to collaborative endeavours: “Effective teaching is a process of enculturating students into a set of social norms and ways of working” (Pratt and Collins, n.d.). The increasing prominence of collaborative endeavours in professional training and development contexts may do much to bring us nearer to the bright future for education that we envisage.

The future of collaborative learning

We have little doubt that developments in technologies and in both our understandings of, and practical measures for, building online communities will figure prominently in collaborative learning futures. Cameron and Anderson (2006), for example, present a suite of preparatory activities for distance learners to familiarize them with technology—social software in particular—and to introduce them to a distributed learner community. Learners’ deliberate, preliminary accomplishment of many of those technological tasks may satisfy Roberts’ (2005a) call for preparatory work to make sure that students are already computer-savvy collaborators before they begin collaborative online communities. Visionary arguments suggest that innovation in collective learning calls for diverse communities comprising members with ranges of expertise, congruent goals, meta-cognitive (learning to learn) foci, and various means of communication to satisfy their own needs. Moreover, visionaries suggest that participation in diverse, distributed learning communities will “infuse education throughout students’ lives, orchestrating the contributions of many knowledge sources embedded in real-world settings outside of schooling” (Dede, 2005, *Neomillennial Learning Styles Based on Mediated Immersion*).

For the future of collaboration, Dede hopes that current means of collaboration that are “dependent on shared physical presence or cumbersome virtual mecha-

nisms” will be replaced with elegant and possibly more economical solutions in which “middleware, interoperability, open content, and open source enable seamless information sharing, collaborative virtual manipulation of tools and media, shared authoring and design, [and] collective critiquing” (Dede, 2005, *Implications for Higher Education’s Strategic Investments*).

So perhaps whatever decisions we make as educators with regard to collaboration should be as remote as possible from tool dependent and as comprehensive as possible of what is both available and of value to learners over ever-broadening and diversifying educational networks. Chapter 26, *Techno Expression*, comprises broad visions of such networked learning.

Stories, strategies, tools, and tactics to come

The next section of this chapter retells stories of online collaboration to underscore impacts that educators’ technological choices and teaching strategies can have on learners, to reflect upon learner-centred outcomes, and to suss out lessons to learn from experience—if not models to guide us. After reading those stories, readers may like to explore tools and tactics of learner engagement catalogued in Chapter 25, *Tools for Online Engagement and Communication*.

Learners’ stories of online collaboration

In this section are three stories from learners about online collaboration in university undergraduate and post-graduate courses. All three stories derive from a SCoPE seminar on collaboration (Beaufait, 2006). Narrators retell their stories for this collection and post-hoc respondents reflect on each.

These three stories bridge a millennium, span a decade of online education, and perhaps show it at or near its best. Sylvia’s story is a recollection of project-based learning over 10 years ago in an undergraduate course at university. Beyond the Mines of Bhororia is a recollection of a post-graduate certificate course about three years ago. Bonnie’s story relates experience in problem-solving and project-based learning during an online graduate course in 2005.

SYLVIA'S STORY

One of my first online courses was also my first exposure to successful learner collaboration in a university-level course. The instructor used a “jigsaw” model to organize a research and learning management software design project as follows:

- Phase I (4 weeks) was a general orientation to issues and an introduction to the software product we would be evaluating.
- Phase II (5 weeks) involved group investigation into the design of technology.
- Phase III (4 weeks) involved a team design project incorporating the interdisciplinary perspectives researched during Phase II.

During Phase I we engaged in a debate activity that gave us an opportunity to become familiar with the beta software, and also to sink our teeth into some design issues. For Phase II we randomly formed five groups, each with the responsibility of researching and developing expertise in one of the assigned design perspectives and to prepare a summary of findings.

- (1) Human-computer interactions design
- (2) Educational software design
- (3) Group communication and computer conferencing design
- (4) Collaboration and groupware design
- (5) Hypermedia systems and tools design

With such a short time frame to complete this phase, it was essential that the instructor scaffold our work by providing the main topic areas, a selection of core readings, and a recommended format for organizing the report and presenting our work at the end of Phase II.

We were then divided randomly into five new groups using the Jigsaw model. Each new design group consisted of an “expert” from each of the former research groups. Using this model, each learner had something unique to contribute to the group based on their earlier research. The final outcome was a group design plan for refining the learning management system software we were using in the course.

We came back together as a whole class to share and discuss our final design projects with developers from the software company. Functioning as software design teams, we were required to creatively and succinctly articulate our designs and theoretical support for our decisions and defend our work through open questioning by other class members and visitors.

One aspect that made this a powerful, collaborative learning experience was the situated course design. We were assessing the effectiveness of the learning management software as a communication medium for accomplishing our own collaborative work. In addition to drawing on individual areas of design expertise, we reflected on the experience of using the virtual space to accomplish our design tasks. As such, it was an authentic task of using educational technologies in an educational setting.

Scheduled team meetings with the instructor provided a focal point, requiring us to articulate our progress as a group. The structure of these meetings modelled authentic interdisciplinary design team environments. Also, throughout the project we were encouraged to use the learning management system as much as possible. This served two purposes:

- (1) We experienced first-hand the affordances and limitations of the communication technology under review, adding to the authentic nature of the task.
- (2) The process of group work was made explicit to assist class members in reflecting on their educational experiences in using the technology. In other words, we were able to use examples from immediate experiences to illustrate shortcomings of the software under review.

Another essential component was that we were clear of what we were working towards. There was a great deal of flexibility in how we chose to go about our work, but we could appreciate how each phase informed the next. We became aware of our own background knowledge, learning needs, and interests. The sequence of full class to small groups to full class to small groups to full class allowed for sharing, checking of our work and progress, then we went back to the smaller groups to focus on the next phase.

I remember what really struck me at the time was how important the instructor's role was in guiding the process, how supportive she was, but also how little we saw of her throughout the course! The jigsaw collaborative model was a perfect fit for a research and design project. (Sylvia Currie, personal correspondence, June 21, 2006)

A reflection on Sylvia's story

Sylvia's story highlights some important points about the use of technology. First, note Sylvia's point about the instructor providing a scaffold for student learning, which she suggests is due to the short time frame. However, it is important to underline that the time frame is short not only because of the demands of the class, but because the class was conducted online.

We see the instructor providing focal points in time (“scheduled team meetings”) in order to keep students

working towards a goal. It is at this point that we see two potential problems. The first is what happens when an unmotivated student or students participate. The second related point is how we demonstrate that the teacher is active. Sylvia is perceptive enough to recognize the teacher's participation through the framework that the teacher set up, but other students (and administrators) may not be as perceptive.

Another important point about the use of technology can be seen in Sylvia's observation that the task the students were set is authentic. In this sense, the technology is not used for recreating the classroom (a common problem with many schemes that are simply content delivery) but for setting up a task that replicates something that might or will be done in the real world.

The final point is that the technology, rather than making each student a clone with similar knowledge and experiences, calls on students to access their individual knowledge and interests and bring these to the table in order to inform other team members. Thus, teachers wanting to use technology successfully probably have to have greater awareness of the strengths and weaknesses of students that they are teaching with technology than without, and this stands the commonly expressed fear of technology replacing people with robots on its head.

Another reflection on Sylvia's story

Sylvia is very clear on what she got from the course and why, and there is very little that I can add to what she said. I shall just mention the points that remain foremost in my mind as a teacher immediately after reading the story.

The first is the important role of teachers' judgment on key aspects of course design. In an ideal world, some of us might wish to leave more decisions to the students, such as exactly what groups need to be formed, but the teacher in Sylvia's story had evidently decided that he or she was fully justified in prescribing certain steps in order to get to the desired endpoint on time.

The second is the nature of the endpoint that was chosen in this case. Having a meeting with representatives of the software company scheduled, knowing that guests would be invited, and therefore knowing that being able to articulate one's thoughts and design proposals beyond the confines of the class was expected, was clearly a very focusing and motivating factor for students. There are clearly some risks in this strategy, because an unsuccessful group would have been enough to create a somewhat embarrassing situation in front of a wide audience, and, more importantly, it might have been difficult to point to any clear outcomes of the course, since everything was framed in the context of the

final goal. This points again to the importance of the teacher's judgment.

In addition to the teacher's judgment, another thing that is clearly required of the teacher is skill in guiding the process, as well as considerable time spent planning the course. Sylvia doesn't make it clear what level of student this course was for, but at least it seems likely that it wasn't a freshman course. We expect that for a freshman course one would be a little more modest in one's goals. This would be even more true of pre-tertiary education.

Additional comments from Sylvia

Years later while reflecting on this experience I realize how it influenced my ideas about assessment of learning. There was never an expectation that certain content "be covered" or that all students should be leaving the course with the same new knowledge. The nature of true collaborative work is that there is considerable variability in what is learned. It is important to take advantage of the diversity of [learners'] skills and knowledge and appreciate how each learner contributes to the advancement of the group. Assessment strategies that are based on the assumption that everyone is learning the same thing obviously don't fit. Also grading practices that look at individual work, rather than group processes and accomplishments are difficult to implement. (Sylvia Currie, personal correspondence, August 18, 2006)

ANOTHER STORY: BEYOND THE MINES OF BHORIA

It was a constructivist-collaborative course-build. The instructional plan combined three sections of the same course. Students could introduce themselves by producing courseware supported Web pages. There was one big forum for introducing yourself, get-ta-know-ya, hi-how-have-you-been, what're-ya-up-to messages. Though a peek at an instructor's view might reveal literally hundreds of unread student messages, they constituted a massive tableau from and through which students could establish identities, draw together, and form obligatory groups for ensuing project work.

Alongside ran a set of course readings, topic-specific discussions, and jigsaw analyses of core concepts. Focused and stimulating discussions with guest contributors prominent in the field rounded out the suite of interactivity.

A course schedule, plus group mates' diverse experiences, practical needs, and individual interests drove group work on to a plan, a written proposal, and an elaborate framework for a multi-faceted online instructional program. Except to say that our group of four had compatible

personalities, despite diverse socio-cultural backgrounds, let me go into no further details on that point here.

As a student, not only did I realize that the course instructors had collaborated on building and updating the course, it also was evident that they collaborated among themselves as well as with students on group formation. Being in one section didn't restrict student-to-student interactions with those in another. In fact, all my group mates were from other sections, and another instructor supervised and supported us in our group activities.

It was, all in all, a warm, fuzzy, collaborative production zone, until it was time for peer groupwork assessment. Final group reviews and tweaking of our jointly planned and substantiated product had gone like clockwork: Incremental file-naming, one-author-at-a-time editing, annotation protocols, change-tracking, precise references, and peer-to-peer suggestions got approved, bettered, and confirmed—pass after pass, following the sun around the globe. One by one, we signed off on what was left, proud to have done the best we could under the circumstances, and went to bed ...

The final group assignment was done, and collaboration was over. Our next task was to assess ourselves, and each of our group mates, individually, using an evaluation framework that course developers and instructors had prepared in advance. There was neither negotiation of criteria, nor feedback on results. We submitted individual forms to our individual instructors, and that was supposed to be that. However, one student in our group of four sent complimentary copies to everyone in the group. That assessment closed with an open question: "Why isn't this assessment collaborative?" but no discussion ensued.

A reflection on Beyond the Mines

This story is a useful counterpoint to other stories of great successes with online project-based work. While this too sounds successful, one is left with a feeling of great possibilities left untouched. Of course, this relates to the last area where teachers retain power, which is in assessment. Teachers, at the end of the day, have to turn in rolls with grades, and doing so is an act of responsibility impinging on our efforts to expand our classroom, even as technology stretches it beyond recognition.

All teachers treasure moments when a student returns to thank a teacher for some lesson that was put to use, and I have often, when doing something that stems from a teacher's guidance, wondered what he or she would think. As the technology puts students together to teach each other, it suggests that we are going to have to create channels to keep teachers in touch with their students.

Another reflection on Beyond the Mines

Even in a purportedly "radical model" of asynchronous, computer-supported collaborative learning, as we pointed out in the section on Assessment Schemes above, Roberts finds that educators often continue to base course grades on learners' individual efforts (2005, p. 8). We see such limitations even in Beyond the Mines of Bhoria.

On a brighter note, in a synchronous computer-mediated collaboration (chat) study, yet still in line with Haavind's (2006) and Roberts' (2005) calls for evaluation protocols, Paulus suggests that sterling peer evaluations can indicate equality of participation, even though learners' reflections may reveal more cooperative and less collaborative interaction strategies such as division of labour. For example, follow-up on the small chat group that Paulus studied revealed that learners "chose to cooperate through individual contribution to the task, rather than collaborate through sustained dialogue about the concepts to be learned" (Paulus, 2005, p. 119). I think the Mines story shows what educators can do more to foster and facilitate formative peer evaluations.

Confessions of a former post-graduate mine-worker

It has been years since my first, and hopefully last, adult educational experiences involving largely pre-constructed technological learning environments, built utilizing what instructional designers called modules and shells. On one hand, those learning experiences enabled simultaneous reflection on two leading ed-tech platforms at the time: Blackboard (Bb, hence Bhoria) and WebCT; and rounded out instructional experience using Moodle, an alternative, open-source platform. They also revealed a host of variables in quality of instruction and extent (or limitations) of cooperation and collaboration in online learning environments. On the other, although I continue to adopt and adapt computer-mediated communication strategies whenever they seem conducive to enhancing blended learning opportunities, my stomach still churns in memory of canned instruction often dependent upon educational decisions of remote designers and disengaged instructors. Nevertheless, hope revives as I remember the considerate and engaging peers and educators among whom collaboration was possible despite instructional designs, technological shortcomings, and other staff and student commitments. (anonymous, September 14, 2007)

BONNIE'S STORY

In an online graduate class in New Media last summer, I was assigned to a group of four, and we were to produce a learning module both discussing a particular issue of New Media as well as a New Media artifact. The instructors of

the class grouped us according to our experience, expertise, and interests. We were a mixed group of high school teachers and adult educators with differing technical expertise, from almost zero to highly sophisticated. We also had a very strong personality in the group, someone who could be quite opinionated but also very, very funny.

In my mind thinking about this project, I divide the group's work over the six weeks into two distinct periods: There were the first two weeks when we discussed at length about the project and how we would work on it, and the last four weeks when we worked on the project itself. The group functioned differently at the two different stages of the task: talking about the work versus working on the work itself.

For the first period we used an asynchronous forum and tried to use a wiki. Because the wiki added another channel of communication, we did not use it so much and focused our discussion in the forum space. However, the discussion dragged on and on. No conclusions or decisions seemed imminent. It seemed we were all reluctant to take charge and make a decision. Perhaps it was because none of us wanted to counter the strong personality, who seemed to have quite strong attachments to certain ideas.

Finally we met in a synchronous chat via WebCT's integrated chat function and managed to make all the very important decisions quite rapidly. Ironically, the strong personality was very amenable to the ideas of others and very happy to accept other ways of doing things.

Once we began work on the project in the second period, our communication with each other became very frequent and very effective, using both asynchronous and synchronous channels. Once we actually had something tangible to work on and to communicate about, we began to really gel as a group, so much that our synchronous chats often digressed wildly into other topics.

We also had various open forums for discussing different aspects of the project, emailed one another, and used wikis as repositories for ongoing text writing. We were now a multi-channel group and it did not seem onerous because we had so much to discuss. Once we reached the end of the project, I had very good feelings about our group and our project was fabulous.

In retrospect, if we had had defined roles at the beginning (or role interdependence), for example a project manager, a web designer, a subject matter expert, etc., our decision-making at the beginning might have been smoother. I think that we were four very socially and culturally different people and we encountered problems with just 'discussing with our group'. If that had been the end of the group's purpose, I think we not would have felt our group had been very successful.

However, once we began work on the project itself, we attained high positive interdependence in terms of goals and sub-tasks because each of us was responsible for a portion that others depended on. Having the tangible product itself seemed to grease the flow of communication. Because we had to create some thing, working on a very real, very tangible artifact facilitated our communication, helped us, and quite frankly, forced us to overcome our difficulties, all without our being conscious of it.

Our goal was completion of the product, not just the communication itself. Because of that I think that the communication issues became just another problem to solve rather than turning into a potential drama. I think that one of the best reasons for product/project-based collaborative learning is that in order to be successful, groups put into practice all the important aspects of cooperation without having to be fully conscious of it, or being didactically taught it. (Bonnie Johnston, personal correspondence, May 26, 2006)

A reflection on Bonnie's story

Bonnie's story raises an interesting problem. What if her group had not been able to meet synchronously? Would they have been able to sort out the problems? Or would they have given up and been convinced that the technology itself was the source of the problems? Bonnie's remedy, of having assigned roles for members of the team, while solving her team's problem, might have been unnecessarily restrictive for another team or could have pushed a non-participating or non-performing member of the team off to the side.

Bonnie is correct that one of the best reasons for project-based learning is that it is based on aspects of cooperation of which students may not be fully conscious. However, this also suggests that teachers must be fully versed on all aspects of project-based learning in order to troubleshoot learning processes. Complicating this is the fact that classrooms can become cross-cultural. So what happens when there is disagreement about what actually is cooperation?

Another reflection on Bonnie's story

Bonnie's story reinforces my thinking that teaching about collaboration should be kept to a minimum, except in very specific circumstances. As she says, how to use tools is a problem of sorts, but it needn't be such a major one, and if the motivation (usually creating some kind of product) exists, there is no reason why problems of this sort can't be solved.

The fact that Bonnie's group used a range of tools suggests first that synchronous and asynchronous tools both have important roles to play, with the former per-

haps being crucial in groups where delivery of a product is very time-sensitive. This story may also indicate support for the idea that different asynchronous tools work in different ways and are difficult to mold to non-archetypal uses. But where that difficulty leads us is a matter of interpretation.

One interpretation would go something along these lines: A forum is necessary to discuss specific issues in both threaded and archived form; email is important for very time-sensitive discussion-type communications (and perhaps where two members have an interpersonal problem with another member); a wiki is necessary for the actual creation of the product. Another interpretation is that, because the participants appear not to have been given orientation in the use of tools, they muddled through somehow, without any tool-related drama, but without really mastering any of the tools and possibly suffering inefficiencies, and by extension also possibly turning in a product that was not quite as good as it could have been.

Such orientation itself is problematic, first because there is no clear consensus on how to use each tool, and second because it might reduce the possibilities for group-generated discoveries regarding the tools. However, the group might have benefited from instruction about the possibility of starting discussion in the wiki itself. This could avoid the problem of the wiki being seen as redundant in the first phase and, consequently, members being less fluent in its use when the second phase started. It might also have alleviated the relative sterility Bonnie experienced in “just discussing with our group”, because a wiki could facilitate the later incorporation of things initially offered as pure opinions, but actually included as seeds of a product.

One obvious question is whether they needed, or benefited from, multiple wikis and forums. Another tool-related question regards the use of really simple syndication (RSS), which can provide convenient regular updates of recent messages and changes: I wonder whether it might have been possible to reduce the number of channels, with possible efficiency gains, if RSS had been incorporated.

After these negative-sounding comments on tools, it may be appropriate here to reiterate: As Bonnie said, the members of the group were able to negotiate problems as they arose without any catastrophic consequences, and had the opportunity to experience first-hand a range of tools, while getting a sense for what works and what doesn’t work for each one.

Another point in Bonnie’s account is that it is very difficult to work together in a meaningful way without a clear goal. In a formal educational context, that usually

has to be a goal imposed by, or negotiated under the guidance of, a teacher. The first two weeks might have worked better if they had been turned into a task to get a broad grasp of a body of knowledge, while getting to know the other group members and negotiating how to approach the topic and tasks to follow. Thus there would have been something very substantive to discuss in the forum, and the discussion about process could occur in the background, if necessary. Even more radically, the group could have been tasked with reading as much as they could manage of a large body of knowledge and summarizing it on the wiki that they would subsequently use for actually doing the project.

Finally, although some members are described as being at “almost zero” in terms of technical expertise, in other respects, they are mature and sophisticated compared to the students that most teachers will meet in most contexts. Thus, any kind of problem mentioned by such students has the potential to be many times magnified in other contexts. This reinforces the point made above that goals need to be clarified, and tasks not clearly linked to those goals have a high risk of failure. Therefore, teachers may need to come up with various ways of making explicit these linkages, perhaps by assigning tasks like reading a body of literature.

Additional comments from Bonnie

Reflecting further on this collaborative experience, I keep coming back to the group’s interpersonal dynamic. The first phase of completing the project was seemingly spent worrying about how we would work and doing busy work on the project itself. However, I think we were also doing the more important work of feeling our way with one another, learning how each of us interacts, and exploring which tools worked best for our unique mix of characters. While on the surface the initial phase felt fruitless, it was in fact creating the bedrock of how our group would work together. (Bonnie Johnston, personal correspondence, August 29, 2006)

WHAT THESE LEARNERS’ STORIES REPRESENT

You could argue that those three stories are cream of the cream—not at all representative of learners that you might expect or hope to nurture or teach in ways of collaboration. You could accurately describe the learners whose stories we have shared as generally advanced, mature, motivated, and technologically sophisticated learners who continue to work, often collaboratively, with educational technology. However, with respect to online learner collaboration, what such learners are able to engage in, succeed at, and recollect, with so much

insight on learners' perspectives, still serves as a framework of inspiration for what we might expect of current and future online learners.

It is a cliché to invoke the notion of a wave of the future. However, as technological advances occur, we find ourselves with more and varied opportunities to interact with people unconstrained by time and space. To take full advantage of these advances, collaboration, in some form, is a necessity. Since a field like education potentially has the luxury of experimenting with collaboration for collaboration's sake, by examining what collaboration may look like in ideal circumstances with ample preparation time and little or no pressure to produce end-products, we feel that a close examination of research in that field suggests possibilities for other professionals to take up in their own fields and teaching endeavours.

Chapter summary

"Great discoveries and improvements invariably involve the cooperation of many minds. I may be given credit for having blazed the trail but when I look at the subsequent developments I feel the credit is due to others rather than to myself." (Alexander Graham Bell)

"Creativity arises out of the tension between spontaneity and limitations, the latter (like the river banks) forcing the spontaneity into the various forms which are essential to the work of art or poem." (Rollo May, 1975, p. 115)

We have presented background on circumstances and factors that ideal collaborative learning in an online environment might require, and we have indicated potential pitfalls of such collaboration. The first pitfall is definitional, and we follow researchers' attempts to draw distinctions between what is cooperative and what is collaborative.

Understanding that collaboration represents a deeper and richer notion than cooperation, we examined how diversity in the classroom naturally lends itself to collaborative learning, and we then looked at the roles of teachers, moving on to focus on the core of such learning, which is the group. This served as background for a variety of issues such as tools, assessment, and a range of other concerns that may influence the success or failure of collaborative endeavours. It is noteworthy that the learners' stories highlight assessment as an area where advances in collaborative learning next need to take

place. Perhaps this should not be surprising, given that learners' primary feedback from a course is assessment.

Although rote memorization may once have represented the be-all and end-all of learning, we have arrived at a more sophisticated notion that what needs to be evaluated is how learners use the knowledge they acquire. However, there is no consensus on how such evaluation should operate. In this sense, collaboration, as the Rollo May quote (above) suggests, can be regarded as a way not only to bring new material to the learner, but also to foster collaborative endeavours that may help us to reach a consensus on evaluation, a consensus that may provide seeds for ubiquitous, spontaneous, continuous, and collaborative learning.

Acknowledgments

We would like to thank Sylvia Currie and Bonnie Johnston for kindly contributing their stories to this section. We appreciate all the time and effort that they devoted to reflecting upon their experiences, while *Talking the Walk* (Beaufait, 2006) and writing and revising their stories afterwards. *Thank you, Sylvia and Bonnie, for sharing your stories.*

Glossary

Collaborative learning. Learning techniques that emphasize student-to-student interaction in the learning process (McInnerney and Roberts, 2004).

Cooperative learning. Learning techniques where students are required to work in small groups, usually under the guidance of the instructor (McInnerney and Roberts, 2004).

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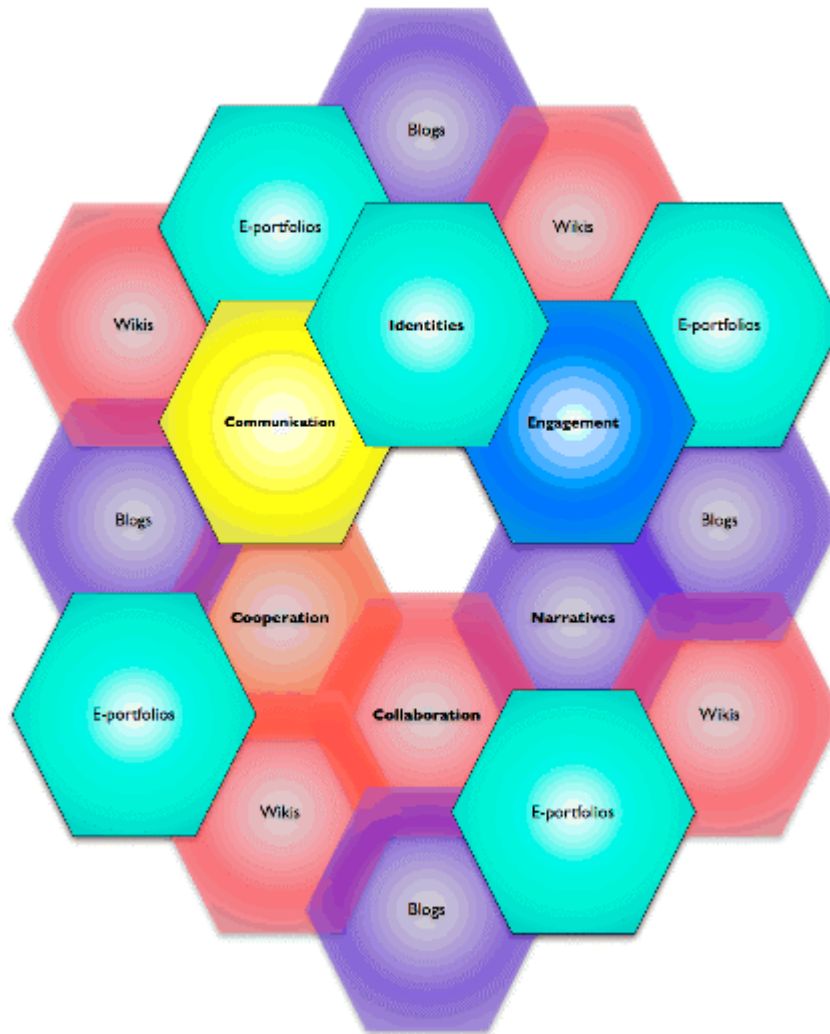
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29

Identity in Online Education

Joseph Tomei, Paul A. Beaufait, and Richard S. Lavin⁷⁰



⁷⁰ With contributions from Tod Anderson, Lynn Kirkland Harvey, Karen Barnstable, Kathryn Chang Barker

Learning outcomes

After completing this chapter, you should be able to:

- Understand the notion of learners' identities and how it underpins all online communication.
- Be aware of the issues related to online identities.
- Know how educators can support learners as they establish their identities in the context of online education.

Introduction

"If I could wake up in a different place, at a different time, could I wake up as a different person?"
– Chuck Palahniuk (1999, p. 33)

The notion that we are who we are is not necessarily true as we move into the online world. Given that educators have a measure of control over, and vested interests in, how they represent themselves online, Lynn Kirkland Harvey's wide-ranging discussion underlines the fact that learners' online identities, over which educators exert quite limited control, deserve special consideration. The importance of identity-related issues looms even larger when we embrace the notion that identity is the base from which learners' engagement with content, as well as communication with others, begins.

In the traditional classroom, a student's identity is almost completely bound up—physically, kinesthetically, and linguistically—with the individual as he or she enters the classroom. In the online classroom, learners enter with only their words and perhaps selected images and create identities from those. Students may not be conscious of the myriad choices available to them, so it is up to teachers to help learners establish their identities. This is true of adult and higher education students, and even more so of younger students, whose identities are much more fluid.

As a window into what parameters identity may take, we turn to Tod Anderson's summary of secondary student participation in online learning across British Columbia. Anderson provides a snapshot for technological understanding from a locale that might represent a best case scenario—or at least a fairly advanced one—in which he notes that the technologies in use have, to a large extent, been adopted from higher education, and that secondary schools face many of the same issues that tertiary and adult educators have been facing for several years.

It is worth bearing in mind that as the technologies that Anderson discusses trickle down through the educational system into younger people's hands, his snap-

shot is potentially a portrait of the future for elementary educators. This underscores the necessity for considering learners' identities from the very beginning of online work, rather than just as a concern of secondary and tertiary students.

As students establish their identities, they have to negotiate and engage with other students, and in online courses channels for negotiation and engagement are necessarily different from traditional classrooms. The power of online classrooms does not simply arise out of their time- and space-shifting potentials, but also from the potential of diverse sets of many-to-many relationships as students engage with each other. Many of the lessons we aim to teach students are not simply to do with mastering course content, but also involve understandings of issues involved in working with others and collaborating towards shared goals; online environments can help us realize these aims.

Finally, we examine identities through the lens of e-portfolios, which can be viewed as snapshots of learner identity at particular moments in time, created either to facilitate reflection or to allow evaluation by a teacher or consideration by an employer.

Online learners' identities

by Lynn Kirkland Harvey

"If you establish an identity, you build a monster—and that's right, you've got to live with it. Of course, you can enjoy it too". – George Shearing (Tomkins, 1976)

Current discussions about online learning reveal that learners may have a sense of disorientation, isolation, and disembodiment when they first begin an online course. Research also indicates that a sense of anonymity can create a safe place for learner discourse (Blake, 2000; Burbules, 2002; Smith, Ferguson & Caris, 2002). Issues of age, gender, race, socio-economic background, and culture no longer determine how one's comments will be received. Shy learners find their voices and experience the thrill of being validated by their classmates in public forums. Learners feel more inclined to challenge instructors and, as a result, become more empowered in their learning. The role of a teacher shifts from lecturer to motivator (Easton, 2003; Shale, 2003; Thorpe, 2001; Walker, 2003).

Nevertheless, attrition rates in online courses are significantly high, and studies suggest it is because students are not motivated (Easton, 2003; Hodges, 2004). It

is obvious that this presents a contradiction: How can we motivate learners if we are uncertain who they are and what they need?

If we ask learners to provide personal information to help us help them learn, will that undermine the value of their anonymity?

What role does the learners' sense of anonymity and a perceived alienation from a community in the virtual classroom play in their success in online learning?

ANONYMITY

Being anonymous is how most Internet users think of themselves and others when using the Internet for collecting information, viewing websites, and playing online games. However, is being anonymous the best way to describe the online learning experience? At its most basic, anonymity refers to not being recognized or known. But in an online classroom, as teachers, we know who the students are by name, and eventually by their contributions and grades.

Anonymity in the online classroom may be better described as having some level of disidentification. Hodges defines disidentification as “a split between a person's activities and their relations with participation, a rupture between what a person is actually doing, and how a person finds themselves located in the ‘community’” (as cited in Walker, 2003, p. 57). Learners perceive that, even with identifying names, they are still physically invisible and relatively unknown in the virtual classroom. This sense of anonymity in online learning has been found to have a positive influence on the learning experience (Blake, 2000; Burbules, 2002; Smith et al., 2002). Eliminating physical or auditory indicators of gender, age, ethnicity, disability, and physical attractiveness can influence interactions by reducing learner biases and preconceptions and increasing the focus on content.

In addition, learners can become empowered to determine the degree of their own self-disclosure. They can decide how much or how little to share about their personal selves, and they can construct the level of anonymity that best meets their own social and learning needs.

Anonymity also promotes more equality between students and instructors, divesting the teachers of some authority (Burbules, 2002; Easton, 2003; Shale, 2003; Singh & Pan, 2004; Smith et al., 2002; Walker, 2003). Students feel more confident in challenging their instructors and debating ideas. The environment becomes learner-centred, and the experiences and knowledge of all class members are reinforced and validated. Teacher-student and student-student relationships can be stronger online than in traditional classroom environments.

Despite the advantages of being anonymous, there is still a need to present a person's authentic self, such as appearance and behaviour, to others. People feel uncomfortable if they cannot ascribe gender, race, class, and language to another person (Kirkup, 2001). One of the most common questions asked in online chat rooms is about age, gender or sex, and location, or “a/s/l” (Subrahmanyam, Smahel & Greenfield, 2006). Many of my students often intentionally seek out the personal details of their classmates by asking where they live, what courses they are taking, their relationship status, and other personal and identifying information.

At its most creative, anonymity not only provides students with an opportunity to alter or suppress features of their identity or personality, it allows them freedom to construct a new identity. Burbules (2002) argues that these are not false or lesser identities but simply different versions of actual identities. He believes that, when engaged in online interactions, the aspects of our real embodied selves are not fully abandoned but are used in different and supplemental ways.

So how does a learner develop an online identity? Inherent in the virtual learning environment are three main influences that will help create a learner identity: textual identity, visual identity, and behavioural identity. From the convergence of these influences, one composite learner identity emerges.

TEXTUAL IDENTITY

Deemphasizing a physical identity can encourage the emergence of a more substantial writing identity (Blake, 2000). The quality of the student's writing can give us many clues. We can tell what they're thinking, what they understand, and what their biases are. We can also get a sense of their social and cultural backgrounds. Moreover, since textual identity is the primary academic identity, having students create more substantial writing identities provides springboards for more academic modes of discourse.

Academic identity

An academic identity gives us insight into the student's learning (Blake, 2000, p. 191). Students often feel more comfortable contributing to online discussions than they would in classroom discussions. When students realize that their thoughts will be exposed to others, often semi-permanently, it inspires a deeper level of discourse and more profound learning in this safe and somewhat anonymous classroom (Burbules, 2002; Smith et al., 2002; Walker, 2003).

Given that much of online learning is text-based and predicated on writing and language skills, students with language difficulties find that posting carefully edited perspectives can be more effective to their learning and to that of others than speaking in front of a class. Conversely, there is a problem with relying on a student's writing identity. When writing is the only mode used to demonstrate knowledge in online courses, poor writers may be given an academic identity that does not accurately represent their level of understanding or ability.

Smith et al. (2002) also found a person's consistency in writing and expressing ideas and attitudes helped instructors not only get a sense of the student's identity, but it was strong enough to help minimize the issue of online cheating (p. 66). In my courses, it is easy to spot a student's work when I compare their writing style in their postings with their more formal assignment submissions.

Social identity

Social identities are not completely anonymous in the online classroom, as they might be in other online activities. For example, students' names can indicate gender, race, or nationality (Blake, 2000).

Writers' word choices and modes of discourse, such as slang and humour, can also suggest social identities (Blake, 2000). As in face-to-face interactions where the receiver perceives an unintentional non-verbal message from the sender, in online communication the writer's personality is evident in their word, punctuation, and grammar choices.

VISUAL IDENTITY

If writing gives us some clues to a person's personality and identity, the same can be said about how writers portray their physical selves online. The issue of the visual representation of a learner's physical appearance in an online learning environment centres around three possibilities: whether or not to include a photograph, the choice of an image to represent the learner, or the construction of a new image.

Learners are often asked to post biographies or pictures of themselves as a way to create a social community in the virtual classroom. Most demonstrate that they are familiar with the technical process of uploading a picture to the website, and they appear to be keen to do so. In my seven years of teaching online with over 600 students, there have been only a handful of students who have not had an available digital photograph to use in their course. Even more surprising, only one student has refused to put up a picture. Given the value of being

or feeling anonymous, I would have expected more students to resist presenting their physical identities to the class.

One of the most perplexing decisions for learners may not be whether or not to include a picture, but how to choose one that best represents who they are. It is the choice that is significant. The picture that learners choose to share may say more about them than the actual photo (Kirkup, 2001; Hawisher, 2000). Do they choose a picture with their family (secure and traditional), or one cavorting with friends (fun and likable), or one engaging in a sport (outdoorsy and active)? I always am intrigued by the depth of detail that they share with us, such as the student who described his recovery from cancer and posted a picture of himself that showed his cancerous skin lesions.

It is also possible for learners to create an authentic online identity by constructing representations of themselves through altered photos, cartoons, avatars, and animations (Hawisher, 2000). The technology can be used to represent who the learners think they are, or who they'd like to be. This blurring of their physical and virtual selves into something creative might send a clearer message of their identity. One of my students was a police officer who was uncomfortable posting his picture, so he chose to post a picture of a highly identifiable character from the police series *NYPD Blue*. It was a powerful image of the police detective, Andy Sipowicz, standing in front of the precinct, with his arms folded, and his gaze straight at the camera. I got a tremendous sense of who this student was as a result of his choice of photo.

Burbules (2002) notes that a physical body is just one dimension of identity, and it should not be falsely prioritized as the most important. So what else is important? If some degree of personal anonymity and the ability to create a textual and visual identity have empowering and positive influences on learning, what else is needed?⁷¹

BEHAVIOURAL IDENTITY

Interacting as a member in a community is also pivotal to helping learners develop their online identity. A behavioural identity emerges as learners establish a sense of belonging, are motivated to learn and contribute, and achieve success in online learning. Even if it is via a computer screen, there is an inherent desire for human relationships where one can share identities, engage in discourse, and challenge values (Arbaugh, 2001; Kirkup, 2001; Wingard, 2004).

⁷¹ This issue also arises with blogs.

Authors on the subject of education and e-learning basically refer to two types of online communities: the social community and the learning community. The social community is created when learners and instructors develop functional personal relationships, and it is from this sense of connection and belonging that an effective learning environment can emerge (Blake, 2000; Easton, 2003; Meyer, 2003; Robbin, 2001).

Social communities

In a study of online students and what they consider as distressing when taking distance courses, Hara and Kling (2000) discovered that students do not always consider themselves to be isolated if the class bonds as a community. So, how does an effective social community get established when the members never see each other face-to-face and personal characteristics can be obscured and mitigated?

The development of a social community can begin the moment a learner logs into the course and is welcomed into the virtual environment. Learners often can't help but display their authentic and genuine personalities and beliefs online. I'm often surprised by how many learners will spontaneously post a generic welcome to the class as soon as they've logged in, demonstrating an outgoing and social personality.

In an attempt to include learners who are less social, ice-breaking activities work well. In my course, I ask the learners to create a homepage with a small biography and picture of themselves, to read through the homepages of other students, and then to post welcomes to two other students in the class. Through this activity, the course becomes humanizing, and we all have a better sense of everyone's backgrounds, interests, and levels of experience. It's interesting to me that students tend to welcome only those students who share a similar demographic dimension to themselves.

Yet, it is a paradox to have students post autobiographies and pictures to help establish a social community, because the disclosure may expose them beyond the safety of their anonymity. Perhaps it is of some benefit that I have no way of knowing if the information the students have chosen to share or the pictures they have selected are genuine, and it may not matter to the development of the social community if students are not exactly who they say they are (Burbules, 2002; Kirkup, 2001).

A successful social community requires regular contributions of all the class participants and the use of immediacy behaviours to establish a sense of camaraderie (Arbaugh, 2001; Meyer, 2003; Walker, 2003; Wingard, 2004). Immediacy "refers to the communication behaviours that reduce social and psychological distance be-

tween people; it includes both nonverbal and verbal behaviours" (Arbaugh, p. 43). This includes using conversational language in postings, using humour and personal experiences, and addressing each other by name. These contribute to the sense of being important and valued by another.

It is also interesting to note that in an online social community gender differences and gender-related assumptions still exist, as they do in regular face-to-face exchanges (Burbules, 2002; Kirkup, 2001; Meyer, 2003; Subrahmanyam et al., 2006). For example, males are more likely to post more questions, use concrete speech patterns, and assert their opinions online. Females are more likely to use polite terminology, empathize with others, and avoid disagreements online.

Once learners have established themselves in the social community, further behavioural identities emerge as they become motivated in the learning community.

Learning communities

Just as immediacy behaviours are important for establishing an online social community, motivating behaviours are important for the learners' success in the course (Easton, 2003; Hodges, 2004; Robbin, 2001). The learning community is created when learners can explore new concepts through communicating with others. The role of motivator often falls primarily on the instructor, but learners can contribute to positive and energizing class discussions and can motivate others to participate. Within this transactional and dynamic discourse, explicit learning can take place.

The behaviours that learners demonstrate during this process provide more clues to their identities. Do they work well in groups or prefer to work independently? Are they willing to help others, or do they stay in the background? Often it is the same few learners who confidently post their answers first and, similarly, another group of learners who always read all the other postings and post their comments last. Also, learners may feel more comfortable demonstrating aggressive behaviours in the online environment than in face-to-face encounters (Smith et al., 2002).

Learner behaviour is the last component of the identity composite. Even if the behaviour has been adapted for the online environment, it still represents a valid aspect of a learner's online identity.

SUMMARY

A learner in the virtual classroom follows a progression of initially feeling anonymous and experiencing disidentification, to developing an online identity. Through

membership in a social and learning community online, the learner's behavioural identity emerges. A learner's written discourse creates a textual identity that gives insight into his or her academic abilities and social background. Pictures or visual representations create a visual identity.

Once all these textual, visual, and behavioural cues are put together, like pieces in a puzzle, an online identity emerges. A learner's online identity isn't a brand-new identity, nor is it a false identity. It is simply a new version of an already existing identity, which has been tailor-made to maximize e-learning.

Secondary school participation in online learning environments

by Tod Anderson

As we delve into the exploration of what comprises a quality *online* learning environment, we quickly discover that we are exploring what makes up a quality *learning* environment.

OVERVIEW OF ONLINE LEARNING IN THE SECONDARY EDUCATIONAL SYSTEM

Between slaughtering aliens in Halo 2, downloading music to her iPod, updating her profile on mspace.com, and chatting with her friends online, a 17-year old grabs some information from the Web to enhance her essay on the role of Lady Macbeth in Shakespeare's well-known tragedy about unfettered ambition. She takes one last scan of the essay and then emails the file to her instructor. It will be up to a week before she hears a response from her teacher about her writing. She simply moves on to her poetry unit, letting her copy of *Macbeth* fall behind her desk and into the realm of dust bunnies and unclaimed pencils. She will revisit *Macbeth* once more when the email from her instructor comes and she quickly scrolls to the bottom of the file to see her final mark on the assignment. With a grin, or a frown, at the result, she closes the file and picks up her poetry anthology. *Macbeth* is behind her and she is left to prowl the textual maze of poetry.

While much research and effort has been devoted to the creation, implementation, and deployment of distributed, virtual, and online learning at the tertiary level, less time has been devoted to the secondary education system, though in teenage bedrooms and at kitchen ta-

bles across the country those same students have taken up the technology with a vengeance.

In an attempt to understand the impact on the school systems of increasing teen digital usage, we take a look at the Canadian secondary school system as an example of the range of methods available for delivering content for online learning, and the challenges of delivering a meaningful educational experience to students with a huge scope of needs, experiences, and motivation.

"Learning takes place not in an institution, but in social networks and communities." (Downes, 2006)

The real key to learning (whether online or not) is the students' level of interaction with the content, the instructor, and their peers. Creating the opportunity for this varied interaction in an online environment is the greatest challenge for designers and teachers of online courses for secondary school students.

My discussions with online secondary school teachers from across Canada have revealed that there are four main categories of online learning environments in use in secondary education:

- *Self-paced asynchronous*: Students work through the material at their own pace and at times and places of their choosing.
- *Paced asynchronous*: Students work through the material at a pace set by teachers, but at times and places chosen by students themselves.
- *Paced synchronous*: Students work through material at a pace and at a time set by their teachers. This most closely mirrors a classroom situation and may include live video feeds of teachers in classrooms delivering lessons.
- *A combination of both synchronous and asynchronous*: Students are required to meet online at set times, but can also work independently at times of their choosing.

Each one of these methods has strengths in regards to pedagogical approaches and learning. For instance, asynchronous communication (e.g., using online discussion boards) often provides venues in which students engage in more meaningful discussion, because they have a greater chance to reflect on their contributions and have an equal opportunity to voice their thoughts (Murphy, Drabier & Epps, 1998). Synchronous communication can often be less teacher-dominated than in a face-to-face environment, and it provides a social presence and sense of community for the students (Walker, 2006).

Online secondary school instructors and those working to put such systems in place must be familiar with the strengths and weaknesses of their styles of delivery in order to anticipate the best ways to support student learning and engagement. Table 29.1 summarizes the benefits and challenges of each category.

In general, synchronous courses allow for increased interaction, particularly among peers, but they also decrease the flexibility of courses being offered. Synchronous courses reduce the control students have in regard to choosing the time and place to study and also impose more traditional time limits on student responses. Thus, synchronous courses may not take advantage of the greater opportunities for student reflection afforded by asynchronous courses. Understanding these differences can help teachers and administrators appreciate the differing challenges of each.

CANADIAN EXAMPLES

As discussed previously, secondary online learning has many different methods of delivery. An important factor affecting choice of method of delivery is the provincial or territorial approach to online learning. Even a technologically advanced country such as Canada shows wide variations as each province and territory deals with online learning in a way that is unique to its population and educational philosophy. These approaches can be viewed on a spectrum. For example, we have a market-based approach in British Columbia, which has individual school districts developing their own distributed learning programs. These can then be used to attract students from outside the school's catchment area, and students are free to enroll in such institutions while concurrently enrolled in a brick-and-mortar school, while Nova Scotia and Alberta have adopted a more centralized approach.

Table 29.1. Benefits and challenges of online education

Categories	Benefits	Challenges	Engagement with		
			content	teachers	peers
Self-paced asynchronous	Student as independent learner has greatest control over time, place, and pace of studies.	The motivation needed is often lacking in adolescents. Delayed feedback from the instructor is often no longer relevant to the student. Students don't have immediate access to teacher or peers.	significant	fair	slight to non-existent
Paced asynchronous	Allows for more structure. Teacher dictates how much time should be spent in particular areas. Group work becomes possible. Student still controls time and place of studies. Teacher feedback often occurs more rapidly and thus may be more relevant.	Places restrictions on the pace of the program. Students who cannot keep up get left behind. Students must start the course at the same time. Students don't have immediate access to teacher or peers	significant	fair to significant	slight to fair
Paced synchronous	Allows immediate interaction with teacher and peers. Teacher plays a much larger role. Feedback can be immediate as well as delayed.	Student choice of time, place, and pace is limited. Technology often plays a larger role.	fair to significant	fair to significant	fair to significant
Paced combination of both synchronous and asynchronous	Provides structure and flexibility. Harnesses more direct communication (real-time audio, video, or texting), and indirect communication (discussion boards, email, wikis) with teacher and peers.	Places restrictions on the pace of the program. Students who cannot keep the pace get left behind. Varied technology needs. Students must start the course at the same time	fair to significant	fair to significant	fair to significant

BRITISH COLUMBIA IN FOCUS

Given that British Columbia has the most diversity and activity in terms of online learning, the province lends itself to closer observation. Online teachers in British Columbia overwhelmingly view teacher-to-student interaction, teacher feedback, troubleshooting, assessment, and questioning as all very important for student success, though they are split on the notion of whether peer-to-peer interaction is also important for success. We should note that this division stems from the type of learning environments in which students are working, where self-paced, asynchronous courses preclude peer-to-peer interaction due to the independent nature of the courses, even though most teachers value such interaction and try to create opportunities for it.

The other reason for this division is more philosophical. Some teachers believe that you can learn the subject matter without peer-to-peer interaction, or that independent students do not value peer-to-peer interaction, so do not include interaction as part of their courses. Diaz and Cartnal (1999) found that independent learners were inclined to be less collaborative and dependent within online groups. This makes it difficult to ensure that the quality of content and teacher interaction is at a level that provides an engaging learning experience.

The challenges of achieving active student participation in an online course are myriad, but survey respondents in British Columbia felt that time commitments and increases in teacher workload were the two greatest challenges they faced. These challenges tie into Smith, Clark, and Blomeyer's recommendation (2005) that professional development should be preparing "highly qualified" online teachers. This contradicts the notion that online teaching gives teachers more time and should be underlined when considering such programs.

CHALLENGES OF ADOLESCENT ONLINE LEARNERS

As noted earlier, research into adolescent online learners lags behind research into adult online learners. The research on adult learners may not be applicable to adolescents because the populations differ, especially in regards to at-risk learners, and when online education is not elective, but a choice of last resort. After dealing with issues involving at-risk learners, we present perspectives on the future of online learning.

At-risk learners

In the Canadian secondary school system, online learning still resembles a poor cousin of face-to-face education. For example, the funding for programs such as distributed learning is based on fractions of full-time

equivalencies (FTEs), which allows funding only as a portion of the face-to-face budgeting levels. Supplementary grants are available, but only under special circumstances (BC MOE, 2007). Thus, we find that the students at our door are often those for whom the traditional brick-and-mortar system is unsuccessful. Funk (2006) states that at-risk adult learners are more likely to take online courses, which seems to apply to secondary students as well.

Students who are unsuccessful in the traditional classroom are often the first students to look for alternative methods of education. As Donnelly (1987) writes, "Family problems, drug addictions, pregnancies and other problems prevent them from participating successfully in school. As they experience failure and fall behind their peers, school becomes a negative environment that reinforces their low self-esteem." If these problems end up channelling such at-risk students into online learning, it may serve to hide the true potentials involved. As Smith, Clark, and Blomeyer (2005) suggest, additional preparation or counseling of first-time online students for the express purpose of supporting the success of students should be built into student support systems.

The future of online learning

Currently, a great deal of research has gone into student motivation, and it seems likely that online students may need a higher degree of motivation than their traditional counterparts, as the distance from the instructor allows them greater freedom than in a traditional classroom setting. Tied in with motivation is the need for explicit instruction on time management, planning, and strategizing. As online students are freed from the schedule and strict time requirements of brick-and-mortar classrooms, it is naïve to assume that those frameworks will be magically replaced by frameworks created by the student, with no guidance from the instructor or teacher.

Predictive assessment is another area that should be considered, especially to make clear the potential deficiencies that online students may have. We tend to shy away from predictive assessment in the present face-to-face classroom to avoid creating self-fulfilling prophecies, yet these assessments may act as gate-keeping mechanisms to help ensure success or identify specific needs on the part of students.

CONCLUSION

While online learning in the secondary school system may still suffer from a general impression that it is a second-choice option, the increasing number of students choosing to study in this manner and the range of

options that exist across Canada indicate that online learning will continue as a viable alternative to brick-and-mortar schools. There is no single method to serve all students, but as we see more research being conducted, and best practices published, the quality of online learning will increase. We can hope that there will be a blending of traditional methods and online courses with the tools of online learning brought into the classroom to enrich the classroom environment, allowing students a much greater range of choice. In the next section, we examine the reification of that identity as it appears at the end of the education process through examining the concept of e-portfolios.

Introducing e-portfolios

by Karen Barnstable & Kathryn Chang Barker

An **e-portfolio**, in simplest terms, is an electronic portfolio of all learning: that is, knowledge, skills, and abilities acquired through formal, non-formal, informal, accidental, and incidental learning. E-portfolios can be used by individuals to demonstrate learning and personal achievement, by educators and employers to assess ability and employment suitability, and by agencies and businesses to show positive change and organizational achievement.

In broader terms, the phrase e-portfolio is used to encompass tools, products, and systems that can be used by individuals, educators, employers, and entire nations for the purposes of describing, assessing, recognizing, and using knowledge and skills acquired through all forms of learning with evidence that is digitally created, stored, and managed through practices that meet standards to assure transportability, usability, and security. At its simplest, an e-portfolio may resemble a personal homepage or an electronic resume and, at its most complex, it may become a person's digital identity.

PROCESS AND PRODUCT

The e-portfolio has been more formally defined as “a collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time on which the person or organization has reflected, and designed for presentation to one or more audiences for a particular rhetorical purpose” (National Learning Infrastructure Initiative, 2003). We shall focus on two central concepts in this definition, the digital archive and the purpose-driven presentation.

Until recently, e-portfolio tools focused largely on the presentation of information, with an archive of digital data that derived from the associated purpose of the presentation. In other words, the archive was created with the purpose in mind. However, new e-portfolio tools include digital environments for assembling and managing documents and all forms of media in a digital archive, as well as software applications for assembling and sorting portions of that archive for a specific purpose such as applying for a job or seeking course credit. In the future, the archives will come first, with e-portfolios created when and as needed.

At this point, there are several tools for producing e-portfolios, but few for receiving and processing them. That is to say, tools are made available to students, for example, to present their acquired learning to teachers for assessment and credit, but processing those e-portfolios can be very labour-intensive. Currently, e-portfolio systems are being developed for use by their recipients, with software applications that may be used by both creators and processors (typically standards-based e-portfolios) or software applications that can pull what a processor might require from any e-portfolio tool; for example, through use of word search or a marking rubric.

In summary, the e-portfolio is about both process and product. E-portfolio tools help creators to identify and reflect on the outcomes of learning experiences and to produce archives and presentations. One particularly appealing part of the e-portfolio is the use of multimedia, for example audio files that can demonstrate language or musical competence, video files for demonstrating skills, and social networking and blogging for establishing references.

APPLICATIONS AND USERS

Individuals may use e-portfolios to demonstrate their own lifelong learning and achievements. Sometimes individuals create e-portfolios more as process than product, focusing on reflective learning than showcasing themselves. In their digital archives, they may assemble all the formal, digital records that exist about them and their learning created by themselves and/or created by others, for example health providers and police departments.

Educators may use student e-portfolios to assess student learning, the quality of courses, and entire institutions. Trainers may use e-portfolios to assess prior learning, target training, and provide alternative credentials. And, like all others in the employment environment, educators may use their own e-portfolios for learning management and career advancement. This is

becoming increasingly relevant to higher education faculty, as threats to the concept of tenure accelerate.

Employers may use e-portfolios for recruitment and placement purposes, especially in knowledge-based environments. More importantly, they can better use the entire inventory of skills and knowledge in their workforce in a practice known as human capital assets management.

Entire nations may provide the opportunity for citizens to have a digital archive. This is a complex public policy area to be explored. Visionaries argue that, in a digital world, each person must be able to present himself or herself digitally. Cautionary arguments are that our unofficial digital identities already present opportunities for identity theft and other forms of fraud. From this perspective, there is a great deal of digital information out there for every person, and the personal archive becomes a place to assemble that information and take ownership of it. Typing your own name into a tool such as ZoomInfo (<http://www.ZoomInfo.com>) may reveal to what extent your digital identity can already be assembled from documents found online.

From yet another perspective, e-portfolio tools provide for transparency of credentials and work experience to enable recognition of foreign credentials and to promote labour mobility. There is vast utility to creating and using both a digital archive and a digital identity for all citizens, as an opportunity and not a requirement.

THE NEW MANAGEMENT OF LEARNING

In the past, we've formally managed learning by awarding and expecting credentials; this has been the function of the formal education system and various professional bodies. Employers use credentials as a proxy for acquired skills and knowledge, and have, until now, had few other efficient tools for assessing actual skills and knowledge that individuals represent. We now understand that people acquire skills and knowledge from formal, informal, and non-formal learning in the workplace and the community, from accidental and incidental learning in travel and human relations. However, until comparatively recently, we had no tools for managing that learning effectively and efficiently.

The digital archive is the place to record learning in a range of environments over a lifetime; the e-portfolio becomes a presentation drawn from the archive for a specific purpose. This gives recognition to all forms of learning and, more importantly, the opportunity to use all forms of learning for the good of the individual, community, enterprise, or nation. While a purported e-portfolio that contains only formal learning is a simple digital transcript, the e-portfolio can be an alternative

credential for those without formal credentials, such as early school leavers, and for those without recognized credentials, such as foreign-trained workers.

The process of creating both an archive and an e-portfolio is one of translating experiences to a set of skills and knowledge and providing supporting evidence. More explicitly, the process is one of collection, selection, reflection, projection, and presentation of learning. Without evidence of these processes, an e-portfolio is a simple digital resume.

PRINCIPLES OF E-PORTFOLIO SYSTEMS

Using e-portfolios, including digital archives and tools for end-users, requires attention to making them effective and efficient. The first time students are told they can't take their e-portfolios with them to the next level of education, or to the workplace, they will question the value of creating a second e-portfolio. The first time employers receive a mountainous stack of e-portfolio applications for one position, they may question the wisdom of the process.

To avoid problems of this sort, e-portfolio practitioners worldwide have agreed on the following principles for e-portfolio initiatives:

- *Ownership:* Digital archives and e-portfolios are developed and owned by the individual or organization creating them. The use of both or either, and any changes to them, are under the control of that owner. Both are confidential and access is controlled by the owner.
- *Scope:* The e-portfolio can maintain a complete inventory of skills and knowledge acquired by the individual through formal or non-formal learning. The e-portfolio development process includes thoughtfulness about learning represented in the portfolio.
- *Usability:* An e-portfolio system lists and describes skills and knowledge in a way that is recognized and respected by educators, employers, professional bodies, and others who receive and process e-portfolios. Where possible, the e-portfolio system links to established competency standards but also allows flexibility to accommodate unique or non-specific competencies.
- *Accuracy:* The content of the e-portfolio is current, accurate, and verifiable. Methods of validating learning are flexible, appropriate, and credible.
- *Accessibility:* To develop the e-portfolio, there are explicit instructions with examples, a universally recognized glossary of terms, and professional assistance if required. The e-portfolio is easy to access, use, and modify by the owner.

- *Format*: The e-portfolio and archive can incorporate a variety of media.
- *Transportability*: The e-portfolio is portable and interoperable in a technical sense.
- *Purpose*: The e-portfolio service is multi-purpose, customisable, and adaptable to various uses that include assessment by teachers, learning through personal reflection, planning, and individual or community asset mapping.
- *Extensibility*: The e-portfolio system is seamless, allowing the individual to create many versions, from primary through higher education and career training to the workplace and lifelong learning environments.
- *Security*: The e-portfolio system provides secure long-term storage, privacy, access, and ongoing support.

E-PORTFOLIOS IN FORMAL EDUCATION

An e-portfolio provides both evidence of a person's learning and of reflection on his or her own work. It is a record of learning, growth, and change; and it provides meaningful documentation of individual abilities. Examples of types of portfolios in formal educational settings include:

- *Developmental portfolio*: documents individual student improvement in a subject area over a school year and can be used for student evaluations and parent conferences.
- *Teacher planning portfolio*: uses an existing portfolio system, possibly commercial or online, to receive information about an incoming class of students.
- *Proficiency portfolio*: a means of determining graduation/completion eligibility, usually requires students to complete portfolios in certain areas of target proficiency.
- *Showcase portfolio*: documents a student's best work accomplished during an entire educational career; may include research papers, art work, and science experiments.
- *Employment skills portfolio*: used by employers to evaluate a prospective employee's work readiness skills.
- *College admission portfolio*: usually a showcase portfolio, used to determine eligibility for admission to college or university.

Portfolio assessment combines many innovations in the appropriate assessment of learning, including alternative assessment, authentic assessment, competency-based assessment, flexible assessment, and standards-based assessment:

- *Alternative assessment* refers to alternative means of enhancing educational assessment through techniques such as confidence measurement, analysis of self-awareness, and performance evaluation.
- *Authentic assessment* 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.
- *Competency-based assessment* is the assessment of competence against standards set for knowledge and skills in a particular area, typically used in vocational education and professional certification processes.
- *Flexible assessment* can include checklists, portfolios, performance tasks, product assessments, projects, and simulations; observation of the learner, questioning, oral or written tests and essays, projects undertaken in groups or individually, role playing, work samples, and computer-based assessment. Flexible assessment is intended to suit the learner's pace and style of learning and to assess the individual when he or she is ready.
- *Standards-based assessment* is intended to measure achievements against stated learning outcomes or objectives.

Combining elements of all the above, portfolio assessment involves using the products in a portfolio as the evidence of learning for assessment purposes. The advantages of a portfolio for assessment purposes are:

- Portfolios provide a wealth of information upon which to base instructional decisions.
- Portfolios are an effective means of communicating students' developmental status and progress.
- Portfolios can serve to motivate students and promote self-assessment and self-understanding.
- Portfolios contextualize assessment and provide a basis for challenging formal test results based on testing that is not authentic or reliable, as in the case of a single test score.

In terms of portfolio assessment, the single greatest concern has been validation or verification of the evidence presented. This has considerable implications for the development of learning records. A learning record, whether electronic or not, is of little use if the claims of skills and knowledge cannot be verified. Credentials are relatively easy to verify, and credentials have, in the past, served as a shorthand method of displaying skills and knowledge. However, if we are dealing with a learning record, we are not dealing with a final battery of tests, but with the gradual accumulation of knowledge. Thus,

the integrity of a learning record becomes a crucial issue. We need to consider exactly what evidence needs to be gathered and how we can validate that evidence reliably and in a way that is not so time-consuming as to be impractical.

What is the future of e-portfolio assessment? There is a trend towards technology-assisted assessment of learning at all levels of learning systems. Areas of interest to watch include:

- e-portfolios for formative assessment (a specific purpose);
- e-portfolios and reflective learning (assessment of one type of learning);
- e-portfolios as a transition tool (between grade levels);
- assessment of learning across subject matter “silos”;
- self-assessment of learning;
- assessment of lifelong learning.

GETTING STARTED ON AN E-PORTFOLIO

In this section, we offer some simple guidance to those wishing to assemble their own e-portfolio that summarizes, highlights, and validates:

- who you are as a person,
- what you know and can do, and
- what you hope to do.

It will be an evolving work as you add documents that demonstrate your most current skills or delete those that are no longer so relevant to who you are or what you can offer. With this in mind, you will want to follow a systematic process to help you identify what to include and how to present it. The CROS (collection, reflection, organization, and selection) system is a tried and tested system that has assisted many people with the development of their e-portfolio.

C—Collection

Search through your file folders, boxes, and computer documents for any evidence that says something about you and your skills. Keep an ongoing list of what you have FOUND. This will help you to keep track of what you have so that it is not forgotten later. Other lists you will need are TO FIND, TO REQUEST, and TO CREATE, used to incorporate items that you have temporarily mislaid, for example, that you will need to ask former employers to provide, and that you have lost permanently when moving house or through a disaster such as a computer crash.

R—Reflection

Reflecting on our learning and our lives in general has become one of the most emphasized processes in education. It allows us to gain a better sense of who we are, what we have done, what we know, and what our goals for the future are. It may also help us to see patterns in our lives and to evaluate professional and personal growth.

You may want to begin by reflecting on your skills in general, using questions such as those listed below. This will also generate ideas for any further iterations of the collection cycle:

- What three words describe me best?
- What are my five top skills?
- What are my short- and long-term goals?
- What are my greatest strengths?
- What are my major accomplishments?

To help you determine the usefulness of each item that you have collected for your e-portfolio, you may want to make use of reflective questions such as the following:

- What does this item mean to me?
- What does this item say about me?
- What specific skills / knowledge / attributes are reflected in this item?
- How does this item relate to my short- and long-term goals?
- In what ways does this item demonstrate my strengths?
- What is the importance of this item/activity in relation to my personal or professional growth?
- What barriers or challenges did I have to overcome to realize this achievement?
- What were the results of this activity/project?
- What did I learn from this?

O—Organization

The e-portfolio tool that you choose may determine the organizational system that you use for presenting your evidence. If you have a choice in the organizational framework, there are several approaches to consider.

Chronological: This is an effective way of demonstrating career progression by clearly showing years or time periods. Just like a chronological resume, it is easy to follow and shows career steps by positions, job titles, companies, or organizations that you have worked for. Evidence of skills used or developed in each time period can be displayed.

Thematic: The thematic approach is a more common one. Common categories used include:

- skills/competencies
- education and training
- professional development
- accomplishments
- projects
- community/volunteer
- leisure/hobbies/travel

The simple STAR (skills, training, accomplishments, references) format is a useful way to organize your documents if you don't have a lot of evidence to display.

S—Selection

The final step in deciding what to put into your e-portfolio involves selecting items that will be appropriate for your audience. Some questions to consider are:

- Who are the key people who will be viewing my e-portfolio?
- What exactly will they want to see?
- What is their familiarity with e-portfolios?
- Will they need assistance in navigating through this item of evidence or through the organizational format used?
- How might they evaluate my skills?
- What questions might they ask?

E-PORTFOLIO RESOURCES

We recommend the following sites as points of departure for educators and learners interested in further exploring the prospects, purposes, and possibilities of portfolios in education.

- Educause (<http://www.educause.edu/>)—North American group focused on learning technologies
- FuturEd eLibrary (<http://www.futured.com/>)—research company focused on learning innovations
- Learning Innovations Forum (<http://www.lifia.ca/>)—non-profit agency sponsoring e-portfolio forums
- ePortConsortium (<http://www.eportconsortium.org/>)—portfolio research at the higher education level

Summary

“Slave is an Ephebian word. In Om we have no word for slave,” said Vorbis.

“So I understand,” said the Tyrant. “I imagine that fish have no word for water.” (Prachett, 2000, p. 356)

Like a fish in water, we are so steeped in the notion of identity that we tend to take it for granted, and we feel that many online initiatives fail, or are not as successful as anticipated, precisely because of this oversight. Though we are seldom aware of the issue until it is brought to our attention, we feel that one of the primary challenges of online learning is the question of learners' identities; how educators working in online environments address this challenge may determine the success or failure of an initiative. We also feel that identities are malleable as well as extensible, so, when we endeavour to foster co-operation and collaboration, we must keep in mind how learners' (and educators') identities have been established and how they can be stretched and adapted in ways to best facilitate online learning. We think it is useful to consider online classrooms expanding not only space (as distant learners can be incorporated into the classroom) and time (as asynchronous CMC permits time shifting), but also in terms of how much more flexible our views of online learners' identities are, and how learners can consciously develop their identities in ways that facilitate learning. Harvey's discussion emphasizes how the online environment is akin to a universal solvent, forcing us to reconsider concepts and ideas, and it is important for online educators to be aware of this when creating and maintaining learning environments.

We then looked at the state of play in a Canadian province, British Columbia, to gain an understanding of issues of learner identity and participation, and how they operate in this setting with relatively advanced online educational offerings.

As a practical example, and a possible end point for educators, we considered e-portfolios, the construction of which involves making a learner's identity concrete not only for evaluation by educators, but also for learners to use to understand themselves and to make their way into the wider world. When viewed through the lens of learner identity, the organizational principles of e-portfolios take on an added significance. It is probably beyond the realm of possibility that the online teacher in lower elementary school classes would be able to teach while having a clear idea of what students will want or need to do 10 or more years in the future, but, by aligning the basic raw material of learner identity with the firmly practical notion of e-portfolio development, we hope to highlight the fact that the elementary educator is connected to final outcomes of online education in serious and meaningful ways.

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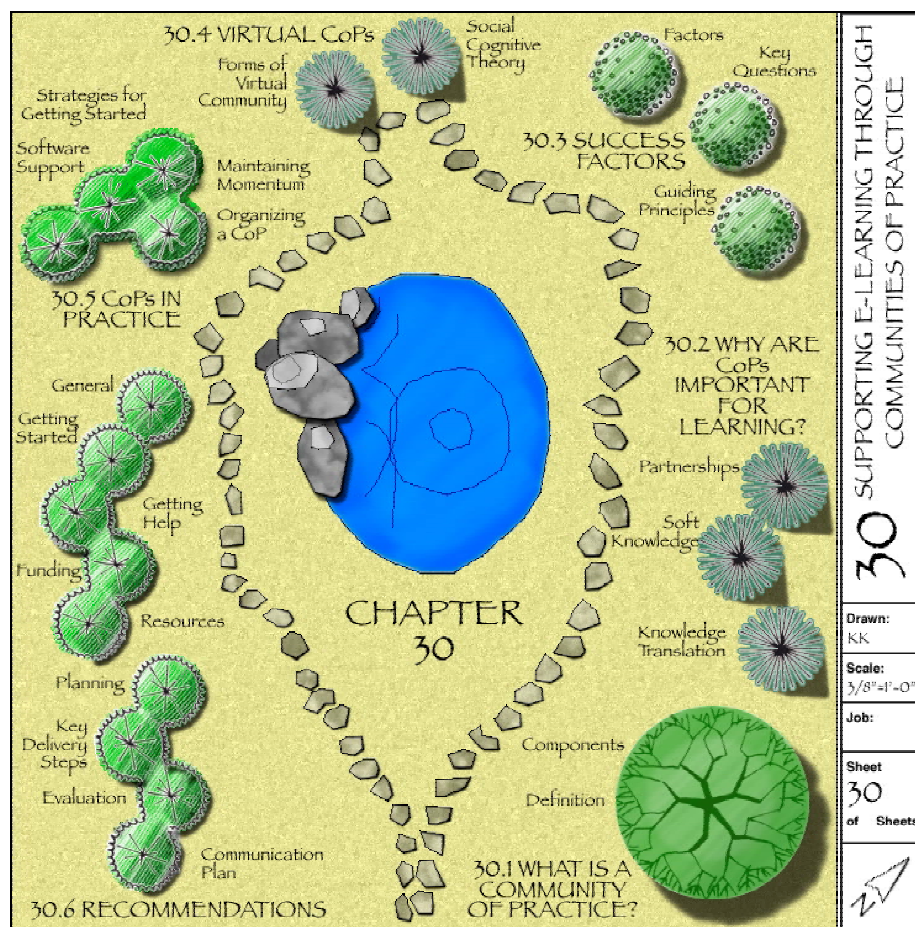
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30

Supporting E-learning through Communities of Practice

David Kaufman, Kevin Kelly, and Alice Ireland

A CoP is a persistent, sustaining social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history and experiences focused on a common practice and; or mutual enterprise. – Barab et al. (2002)



Learning outcomes

After completing this chapter, you should be able to:

- Describe the concept of *Community of Practice* (CoP).
- Explain why CoPs are important for e-learning practitioners.
- Identify the resources required to develop an online community.
- Synthesize concepts and aspects that comprise successful communities.
- Apply Wenger, McDermott & Snyder's (2002) seven principles of community design to design an online community project.

Introduction

E-learning now makes it feasible for groups to learn and work collaboratively in an online virtual group of knowledgeable, experienced, like-minded peers, regardless of physical locations. These types of groups, called communities of practice (CoPs), can be a powerful support for gathering new knowledge and for putting it into action. CoPs are being used to enhance the success of many businesses, not-for-profit, social action, and academic endeavours.

As instructors in college and university settings are being asked to focus on teaching and learning, we are witnessing the development of a new discipline, the *scholarship of teaching and learning* (SoTL). SoTL has among its goals the understanding and improvement of the teaching-learning process in classroom-based, online, and blended environments. It involves dialogue among instructors about their best practices, and this leads to the development of social communities in which new avenues in teaching and learning can be explored and shared. CoPs, both face-to-face and online, are powerful enablers of these dialogues.

To help you understand and implement CoPs in your context, this chapter presents a practical guide to developing and maintaining your own CoP. It also provides an overview of the conceptual foundations of CoPs. Case studies throughout the chapter describe the conception, growth, challenges, and triumphs of several CoPs in action.

What is a “community of practice”?

The term “community of practice” (CoP) was proposed by Lave & Wenger (1991) to capture the importance of activity in integrating individuals within a community and of community in legitimizing individual practices. Barab et al. (2002, p. 495) defined a CoP as “a persistent, sustaining social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history, and experiences focused on a common practice and/or mutual enterprise.”

Wenger (1998) proposed three key features of a CoP: (1) mutual engagement, (2) joint enterprise, and (3) a shared repertoire. Mutual engagement involves both work-related and sociocultural activities, achieved through interaction, shared tasks, and opportunities for peripheral participation. Joint enterprise refers to the need for the group to respond to its own, rather than an external, mandate. Finally, a shared repertoire involves the “routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions or concepts that the community has adopted in the course of its existence” (Wenger, 1998, p. 83).

So we can see that the concept of a CoP is complex and multidimensional, and as instructors make the shift from a teaching focus to a learning focus, CoPs provide an important avenue for e-learning practitioners to expand their repertoire. An online CoP can serve two key purposes: (1) it can provide a place for instructors to share their experiences and learn from one another; and (2) it can provide a place for students to interact with one another and the instructor, and to work in teams.

Example: An Online CoP for Teacher Education

“In 2005, the Faculty of Education at the University of Wollongong in Australia implemented the online community of practice called the BEST site: Beginning and Establishing Successful Teachers (<http://www.uow.edu.au/educ/students/best.html>). The site has been developed specifically for primary and early childhood teachers, although it is being further developed for other specialized cohorts, such as physical and health education teachers” (Herrington, Herrington, Kervin & Ferry, 2006, para. 18).

Case study: Simon Fraser University Co-operative Education Program

The Co-operative Education (Co-op) program (<http://scope.lidc.sfu.ca/>) at Simon Fraser University uses an online community that provides innovative and continued learning and reflection opportunities through technologies that enhance the Co-operative Education curriculum. Although its overall goal and intended value were specifically aimed at the delivery of co-op and career materials for students, co-op students were continually encouraged to create their own content so that the community became a resource “for students, by students.” The community has since opened to include other membership types such as alumni and co-op employers. To foster this growth, the community coordinator and community host ensure that the community’s body of knowledge expands to meet specific member needs and interests.

Why are CoPs important for learning?

CoPs have gained their prominence primarily as vehicles for *knowledge translation (KT)*. Focusing on moving research knowledge into practice, Canadian Institutes of Health Research (2004) defines knowledge translation as “the exchange, synthesis and ethically sound application of research findings within a complex set of interactions among researchers and knowledge users. In other words, knowledge translation can be seen as an acceleration of the knowledge cycle; an acceleration of the natural transformation of knowledge into use”. In business and not-for-profit settings, CoPs have gained prominence as support for problem-solving, as well as the articulation, management and communication of often tacit, experienced-based knowledge (Wenger et al., 2002; Wenger & Snyder, 2001). Speaking generally, KT involves an active exchange of information among various stakeholders, such as researchers, policy makers, administrators, private sector organizations and the general public.

Example: Developing a CoP around KT resources

The Mechanical Engineering Community of Practice (ME CoP), started along with the National Digital Learning Repository in Ireland. “This CoP includes all educators involved in any aspect of mechanical engineering teaching and learning at third level in Ireland. One of the aims of this community is to develop a li-

brary of quality digital resources that can be used in mechanical engineering education. This CoP also aims to provide pedagogical and technical advice on developing learning resources; organise delivery of information workshops and seminars; and organise conferences to further enhance teaching and learning practice in mechanical engineering education” (<http://www.ndlr.ie/mecheng/blog/>).

More recently, other terms have been proposed for essentially the same broad concept. These terms include *knowledge mobilization* (SSHRC, 2006), *knowledge utilization* (Caplan, 1978), *knowledge exchange* (Ofek & Sarvary, 2002), *knowledge management* (WHO, 2006), and *knowledge transfer* (CHSRF, 2003).

Some writers have distinguished “soft” from “hard” knowledge (Kimble et al., 2001). Soft knowledge can be gathered in a domain through sharing solutions to a particularly difficult problem, describing idiosyncrasies of particular tools, equipment, or processes, and recounting and reflecting on challenging events (i.e., recounting war stories). This refers to the implicit, or tacit, knowledge in a domain. CoPs are central to the creation and maintenance of soft knowledge.

Partnerships are at the heart of all KT activity (CIHR, 2004). Effective KT is dependent on meaningful exchanges among network members for the purpose of using the most timely and relevant evidence-based or experience-based information for practice or decision-making. CoPs are natural places for these partnerships and exchanges to start and grow. Relevant learning occurs when participants raise questions or perceive a need for new knowledge. Moreover, Internet technologies enable these discussions to occur in a timely manner among participants regardless of physical location and time zone, with discussions archived for review at a later date or by those who miss a discussion. Case studies throughout this chapter will illustrate CoP contributions to learning in action.

Case Study: BCcampus

BCcampus, a virtual CoP for e-learning educators, was founded in 2003 and illustrates many of the principles outlined in this chapter.

BCcampus is an online service connecting students and educators to programs and resources across all 26 public post-secondary institutions in British Columbia, Canada. BCcampus provides a single access point for students who want to take post-secondary courses and programs by distance. Through BCcampus students receive online support services, including course and program information, advising, admission, registration,

library, and course delivery services. BCcampus also supports educators across the public post-secondary sector. Through BCcampus educators receive development funds for creating online learning resources, access to a shareable online learning resources (SOL*R) repository, training, and dissemination of best practices and support for communities of interest.

Discussions in the BCcampus online communities have explored a diverse set of issues, including how to teach science labs online, how to invigilate online exams, the use of e-portfolios for adult basic education, copyright, and assistive technologies for the visually impaired, to name but a few. The community has found that live events featuring or profiling expertise of interest to members often cause a ripple of excitement and interest that can be built using pre-event activities and sustained using post-event activities.

BCcampus organizers have found that ongoing programming and planning are needed to sustain their online groups. Both formally organized and impromptu events take place in the online communities; activities have featured live coverage of educational conferences, advice on the pros and cons of various tools and technologies, aggregated blog feeds, job postings, calendaring of professional development events, technical help and how-to's, virtual conferences, podcasts, webcasts, use of virtual offices, and a myriad of others.

Combining text, images, audio, animations, and other rich media into these activities makes the use of the online community interesting and engaging. BCcampus members use star ratings, comments, and linking of content to other similar content as an essential means of highlighting items of particular interest or providing editorial comment.

This online community has not only served as a vehicle of knowledge mobilization, it has also served to identify and network practitioners with expertise, enhancing the reputation of members across the entire public post-secondary system.

Factors related to CoP success

What makes [communities of practice] successful is their ability to generate enough excitement, relevance and value to attract and engage members . . . nothing can substitute for this sense of aliveness. (Wenger, McDermott & Snyder, 2002, p. 50)

Lave & Wenger (1991) suggest that five factors determine the success of a CoP:

- (1) the existence and sharing by the community of a common goal;
- (2) the existence and use of knowledge to achieve that goal;
- (3) the nature and importance of relationships formed among community members;
- (4) the relationships between the community and those outside it; and
- (5) the relationship between the work of the community and the value of the activity.

Wenger (1998) later added the idea that achieving the shared goals of the community requires a shared repertoire of common resources, e.g., language, stories, and practices.

There are a number of key factors that influence the development, functioning and maintenance of CoPs (Lathlean & LeMay, 2001). The legitimacy of initial CoP membership is important. Commitment to the desired CoP goals, relevance to members, and enthusiasm about the CoP's potential to influence practice are also key. On the practical side, a strong infrastructure and resources are essential attributes. These include good information technology, useful library resources, databases, and human support. Of course, skill in accessing and appraising knowledge sources is important, as is skill in bridging this knowledge to practice. In order to provide these key factors, one or more strong, committed, and flexible leaders are needed, to help guide the natural evolution of the CoP. If professional learning is to flourish, it is critical that community members can learn from positive and negative experiences in a blame-free culture (Triggs & John, 2004).

Millen, Fontaine & Muller (2002) have outlined key questions to address in establishing a CoP, including:

- How will the community be formed and evolve?
- How and when will members join?
- What do members do and how will they interact?
- How will the CoP be supported by the members' organization(s)?
- What value will members and their organizations receive?

Wenger et al. (2002) suggest principles for cultivating CoPs:

- CoPs are dynamic entities and need to be designed for adaptability and scalability.
- They should combine the perspectives of both insider members and outsider participants, and all members should be valued regardless of their level of participation.

- Both public and private spaces are necessary and need to be related.
- Although familiarity is important, challenge and excitement are needed to keep the energy high.
- The CoP must provide value to its members, otherwise participation will be minimal or absent.
- Finally, the CoP needs to settle into a rhythm that works for its members.

Case Study: Small Cities Online Research Community

The Small Cities Online Research Community was and continues to be funded through a Social Science and Humanities Research Council (SSHRC) grant. The original \$20,000 SSHRC grant came from the Strategic Research Cluster Programme (SRC) and it was awarded in the fall of 2004. The purpose of the grant was to facilitate the creation of a research cluster.

So far participation in the community has largely been top down; there is a lot of lurking, the term sometimes used for reading without participating. Its organizers realize that having a variety of activities in the community invites participation. With that in mind they have seeded discussions, produced webcasts, offered polls, and produced other events to encourage more active participation. The Small City site allows for daily/weekly/monthly email notices of content updates and more recently a RSS feed has been added to help push communication about these activities out so that those interested in participation are made aware and can choose to participate. All these are ways in which facilitators are fostering participation. Today their major

challenge is making community members aware both of the availability of these tools and how to use them.

Online communities must provide their members with value. The Small Cities community provides members with value in the form of easy access to research articles, notices of upcoming events, and communication with colleagues at a distance. They believe that they need to make their members aware, through education, of this value and the possibilities of the community platform.

Virtual (online) communities of practice

Virtual (online) communities play a socialization role just as “real” communities do (Henri & Pudelko, 2003). The theoretical foundation of virtual communities is based on social cognitive theory (Bandura, 1986). This theory makes several assumptions, including: (1) all life experience is a social experience in various communities; (2) learning can be considered as a social process, and is a process of identity construction; and (3) negotiation of meaning is at the base of any individual and collective learning.

Henri & Pudelko (2003) propose three components of the social context of activity in virtual communities: (1) the goal of the community, (2) the methods of initial group creation, and (3) the temporal evolution of both the goals and the methods of the group. Figure 30.1 illustrates these ideas and identifies four principal types of communities:

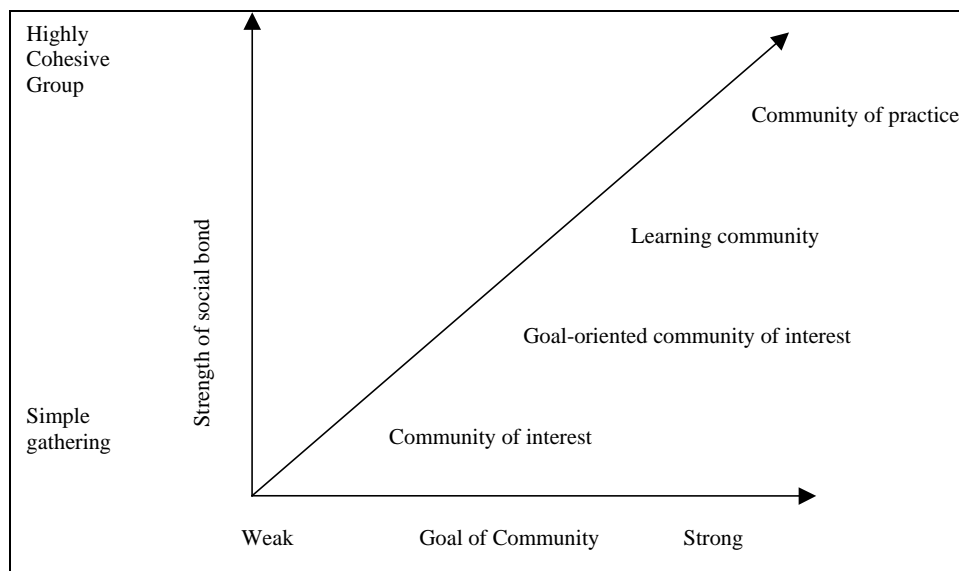


Figure 30.1. Forms of virtual communities according to their context of emergence (adapted from Henri & Pudelko, 2003, p. 476)

Table 30.1. Principal descriptors of the four types of virtual communities (adapted from Henri & Pudelko, 2003, p. 485)

	Community of interest	Goal-oriented community	Learning community	Community of practice
Purpose	Gathering around a common topic of interest	Created to carry out a specific task	Pedagogical activity proposed by the instructor	Stems from an existing, real community of practice
Activity	Information exchange	Sharing of diverse perspectives and production of objects commissioned by the mandate	Participation in discussions of collective topics	Professional practice development through sharing knowledge among members
Learning	Knowledge construction for individual use	Knowledge construction from diverse knowledge systems towards collective use	Knowledge construction by carrying out socially situated activities	Appropriation of new practices and development of involvement

As described here, a full CoP requires a highly cohesive group with a clear goal. A successful virtual CoP generally arises from an existing, face-to-face CoP in which professional practice is developed through sharing knowledge among members. Through this interaction, new practices may be developed and identification with the community can occur.

Table 30.1 outlines the three dimensions that characterize the community types illustrated in Figure 30.1. This shows that many types of virtual communities can exist, but not all are true CoPs.

Virtual CoPs are a recent phenomenon and studies on their effectiveness to enhance learning have not yet been done. Parboosingh (2002) advocates conducting evaluation studies that focus on how the CoP takes advantage of the technology, rather than how the technology affects the CoP.

Case Study: The SCoPE Virtual CoP (Simon Fraser University)

SCoPE, hosted by the Learning and Instructional Development Centre (LIDC) (www.lidc.sfu.ca/scope) at Simon Fraser University in Burnaby, British Columbia, Canada, is an online community for individuals who share an interest in education research and practice. The community participation in SCoPE extends beyond the university to provide opportunities for dialogue across disciplines, geographical borders, professions, levels of expertise, and education sectors.

The core activity for SCoPE is scheduled, topic-based seminars moderated by volunteers in the community. They have scheduled one seminar per month, usually three weeks in length, and have avoided overlap in the schedule. A regular format helps to build anticipation each month, encourages members to revisit the community, and also invites participation from new members who are interested in the topic.

MicroSCoPE, an online monthly update on community and member activities, is distributed to members.

This newsletter includes upcoming events, a recap of past events, and information about SCoPE members' activities and achievements, such as conference presentations and awards. Any questions about the community tools that affect participation are noted and included in MicroSCoPE as well. Following each MicroSCoPE issue, there is an increase in activity on the site. However, inasmuch as a monthly newsletter contributes to a community rhythm, a SCoPE community blog (in the works) would provide more timely updates. A blog does not reach the same audience as a community newsletter, so organizers are investigating ways to produce and manage both.

CoPs in practice

If you are considering implementing a virtual CoP, the theoretical background and case studies presented so far should give you some knowledge of what it could accomplish and how it might function. However, getting from start to full operation involves skillful design and ongoing management to ensure success. In this section we outline guidelines and tips to help you begin and facilitate a CoP in your learning context.

GETTING STARTED

A community of practice can form around a common problem or topic, but generally someone has to set up a structure for the community to succeed. Kim (2000) breaks the process of building community into nine strategies revolving around:

- **purpose:** clearly define the community you are building, why you are building it (i.e., what needs it will meet for its owners and for its members), and who its members will be;
- **places:** where you will bring people together. For online communities, places can include mailing lists, discussion

topics, chat rooms, multiplayer games, virtual worlds, a website, or some combination of these spaces;

- **profiles:** ways to introduce members to each other, develop and maintain their identities, and build trust and relationships;
- **roles:** member roles such as newcomer, old-timer, and leader, each of which may have unique interaction and contribution needs within the community;
- **leadership:** those who take on roles to animate and organize the community. Kim's examples of their tasks include greeting newcomers, coordinating events, managing programs, maintaining the infrastructure, and keeping activities lively and civil;
- **etiquette:** behavioural standards or social boundaries that are explicitly stated and agreed on by the community;
- **events:** planned and facilitated events that bring people together and help to define the community and move it forward;
- **rituals:** welcomes to new members, celebrations and other observances to help members feel at home and create an online culture;
- **subgroups:** member-run small groups with common interests, to help create a sense of intimacy and common purpose.

More simply, CoP participation becomes a function of roles and rules. Everyone has something to contribute, whether coordinators, novices, local experts, experts from outside the organization, or something in between. However, there must be some structure related to how the contributions are made. In the online education sphere, we also have to remember the expert-novice paradigm, where “experts” forget what it is like to learn particular information or skills. Often fellow novices have better explanations or advice regarding how to solve a problem, because they themselves just figured out how it works. Including people from outside the organization can inject new ideas into the group and can also help prevent “groupthink.”

SOFTWARE SUPPORT

Face-to-face communities can hold physical meetings and events, but how is a virtual community supposed to interact? Technology plays a pivotal role in enabling online communities of practice to grow, to share knowledge and ideas, and to allow members to support each other as people. Choosing which technology to use for these purposes is not an easy task. If you start with a list of your desired activities and resources, you can often find help from technical support staff and Internet sites that review online tools.

Case Study: Technology Decisions for SCoPE

The process of choosing a suitable platform for the SCoPE community facilitated by Simon Fraser University was unexpectedly complex. Although organizers had decided that their most important criteria were ease of use, flexibility, ability to customize, and good communication tools, their preliminary research did not yield any existing community platforms that met their needs.

The technical support staff at SFU's Learning & Instructional Development Centre (LIDC) considered several different solutions, starting with building an in-house solution, then moving to the open source community platforms Sakai and TikiWiki, and finally settling on Moodle (www.moodle.org). Moodle stood out as satisfying most of our user requirements. Moodle took (literally) eight minutes to install, and following initial installation has required very little maintenance by the LIDC technical support staff. Although Moodle was developed as a course management system, branding and customizing its interface and language was straightforward, and making the changes that made SCoPE feel like an online community rather than a course space were easy. The community coordinator has the access privileges necessary to deal with day-to-day operations.

What's the lesson? Select tools that match your specific community requirements and context. There is no single ideal community platform, so plan for a good foundation to build as new uses and needs emerge. This example demonstrates that a cost-effective tool does exist that could be used by an instructor, with minimal support from technical experts.

If your community does not have a technical support staff, do not worry. Since your community is interacting over distance, there is no need to host the community site yourself. Just as some face-to-face communities find a public or private space to meet, you and your online community can use public or private web-based spaces for communication, activities, and more. For example, the SCoPE project hosts its own installation of the Moodle learning management system, but different companies can host Moodle for you for a range of fees, depending on how sophisticated you want to get. The following case study discusses another hosted solution.

Case Study: Technology Decisions for BCcampus

As a new organization in 2003, BCcampus was, and remains, a small organization relying on outside partnerships for provision of services (see the BCcampus Case Study above). Providing an online community was really only feasible via an application service provider (ASP)

solution where hardware, software, and technical support resources were provided by a host provider.

LearningTimes (based in New York) was chosen as the host provider because of BCcampus staff's first hand experience in helping launch their LearningTimes.org site and confidence in the underlying technical solution on which their online community services are provided. BCcampus research revealed LearningTimes to be uniquely positioned as an online community provider for the education market and a leader and innovator in the use of online community for education. The online community technology provided by LearningTimes is a customized version of Ramius' CommunityZero platform. This technology is very robust and provides support for a mix of asynchronous and synchronous capabilities, including: text discussion forums, file posting, contributions area, calendar, live meeting rooms, automatic email updates, integrated instant messenger, photo gallery, polls and surveys, announcements, group email broadcasts, basic chat room, related content, search, admin controls, and more.

With LearningTimes' help, the first community in the BCcampus network of online communities was configured, branded, and launched within a few short weeks.

ORGANIZING YOUR CoP

We can think of a CoP in terms of a model of participants and interactions that can guide its implementation. Diagrams of CoP models take a number of shapes, including pyramids, concentric circles and interconnected nodes. To illustrate one possible approach in an education context, we will look at a learning-community model and extend it to a full CoP for researchers, teachers, and students working in a classroom or distance education setting.

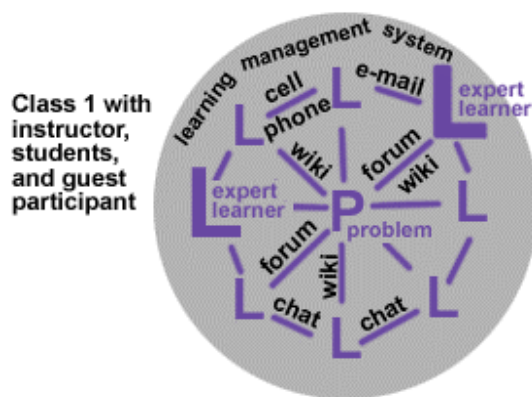


Figure 30.2. Learning community model.

Tom Carroll (2000) suggests a no-boundary model for a classroom-centred learning community consisting of students, teachers, and other resource experts. In this scheme, activity is centred around the problem itself. Teachers become expert learners who actively participate in the learning rather than just guide students from the side. If we apply these concepts to creating an online learning community, we can construct a detailed model (Figure 30.2) that shows not only the interconnections between the learners and expert learners, but also some of the tools that a learning community might use. Wikis, forums, chat, email, and even cell phones and text messaging can be used. The circle in the diagram is not meant to show an impermeable boundary, but a collaborative space for interaction. In this scenario, a guest participant from another university or organization has access to the learning management system (LMS) space for the course that is attempting to solve a common problem, "P."

We can extend this model to a full CoP using Wenger & Snyder's (2001) suggestion of an "overall network structure" with "several layers of participation" centred around the community creators. While their work had an industry focus, there are elements that also apply to learning communities, including layers for charter members, stakeholders, and peripheral community participants, such as the Co-op alumni and Co-op employers. In education, stakeholders might include research grant funding agencies (e.g., CURA), department chairs, college deans, or program assessment coordinators. Peripheral community participants might include support staff and faculty from units, such as the technical support staff at SFU's LIDC who support SCoPE. Charter members might be the first cohorts of students who joined the learning community, and now they continue to participate even though they have moved to other classes or have graduated from an institution like BCcampus.

Since neither model completely meets our purposes, we can refine our own, original model for communities of practice for online teaching and learning (Figure 3). Wenger & Snyder drew boundaries around the core community members, but Carroll makes a good argument to avoid boundaries. On the other hand, Carroll focuses on just one problem, "P," while it is more likely that a learning community would focus on a set of problems. Hence, our drawing below depicts several problems for the community to solve within the same topic area, possibly using the concept of subgroups described by Kim (2000). Learners in different subgroups might only address one problem, as depicted here, but some learners are attracted to more than one problem in

the overall set. Expert learners are sometimes invited by other expert learners to collaborate. In our model, the instructor works with peer instructors as well as expert learners in a professional organization. Again, the circles in the drawing do not denote boundaries, but environments used for learning community interactions. For coursework, it might be an LMS like Moodle or WebCT, but for a professional organization it might be a different online space with similar tools, such as LearningTimes.

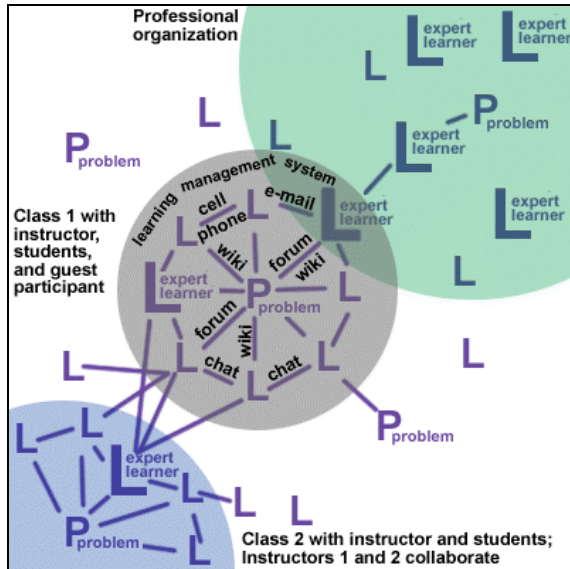


Figure 30.3. An Online Community of Practice for Instructors

As expert learners working in the online environment, we must make it our job to structure both the inquiry and the collaboration around one or more problems related to our course content. Learners can present their findings to other learners, so the set of problems can be distributed among the group. This is similar to the “jigsaw” cooperative learning strategy in which students in small groups specialize in a portion of the total material, collaborate with students in other small groups who have been assigned the same portion, and then teach the rest of their own group.

The next step is to select tools within the community environment (e.g., Moodle, LearningTimes) that would permit this type of collaborative sharing. It is important to start with tools that you are comfortable using yourself, since you are part of the learning community. Remember that the community can use a variety of tools, though, that might not need your direct interaction. In both Figures 30.2 and 30.3, students use email, cell phones, chat, and other tools to communicate and share with each other. They can use wikis, blogs, and forums

to record any thoughts about how to solve the problem, where everyone can see it and respond.

The last steps involve facilitating comprehensive interactions, making sure that no one is excluded due to issues of access or the digital divide, engaging external expert learners and learners alike to participate, pushing the learning community to learn as a group rather than as individuals in the same space, and sharing knowledge and experience with people and groups outside the learning community.

Case Study: Organizing the Small Cities Online Research Community

The LearningTimes platform provides a range of options for public and private designation. One option is to set the community security so that it allows previewing, where visitors are allowed to preview (but not post to) the community before joining. Small Cities community organizers decided instead to create a public, dynamic website, which is currently under development as part of a five-year Community University Research Alliance Grant, called Mapping Quality of Life and the Culture of Small Cities, or “Mapping CURA” for short. This public website will be fed from the databases of Small Cities. So, instead of “preview” mode, they have set the community to “restricted” mode, which allows people who have been invited to join by existing members to participate immediately. However, those who have not been invited must first be approved by the founder or an administrator before gaining access. Their policy is to allow anyone to join who is interested, but they are only granted membership to the general member group.

As well, the LearningTimes platform supports the creation of both public and private spaces among its members. An unlimited number of groups can be established, with each having their own private area for file sharing, discussion, polling, or whatever other activities they wish to pursue. Currently, Small Cities has 17 different groups, each with different privileges.

As of September 2006, the community had 140 members of whom 55 were members of the Mapping CURA group. The LearningTimes platform allows them to easily add groups to the community and to restrict access to areas of the community through group privileges. For example, the major tools (Contributions, Calendar, Articles, Discussions, Databases) each have a folder for Mapping CURA that only members of Mapping CURA can see and access. There are other groups that also have their own areas set aside for their unique group interest. The creation of these subgroups is an important means for allowing the community to evolve naturally, rather

than forcing it to conform to a static, predefined structure. As interests are identified with the growth of the community, the evolving design permitted by the LearningTimes platform allows members to quickly access and participate in matters of their direct interest.

For example, a conference was held in Kamloops, British Columbia, called “Artist Statement Workshop”. One of the requirements of the workshop was to submit presentations ahead of time, which could only be viewed by workshop participants. This was to facilitate meaningful discussion at the conference. The LearningTimes platform enabled creation of a group with appropriate folders that only those participating in the workshop could see and access.

As the community grows, new groups can be easily added with a range of different privileges. This enables private space within public space, much as one can do in the physical world.

MAINTAINING MOMENTUM

Creating a community is only the beginning. To maintain a CoP over time, everyone must keep an eye on common goals or shared themes. Community leaders need to keep the participants’ focus on both short-term and long-term objectives and also need to re-energize the community, when needed, through new postings and events. The entire community also bears responsibility for watching particular dynamics that affect any momentum or growth that a CoP has developed. Foremost among these issues are how people feel about the community, how much time they devote to community activity, and how the community was designed for evolution.

People who participate in a CoP must feel that the community is engaging, responsive, and useful in meeting their needs. The participants must also respect and trust each other and others’ contributions. Otherwise, they are likely to leave the community, never to return.

Members’ time demands can weaken a CoP by restricting their participation. It becomes difficult to deepen knowledge and expertise in an area, as Wenger defines community of practice activity, if members are not interacting on an ongoing basis. Production schedules and academic calendars affect community momentum in different ways. People who are scrambling to meet tight deadlines do not always have time to participate in a community. Conversely, people who work nine-, ten-, or eleven-month contracts have less incentive to continue contributing to a community during the remaining part of the year. They may have to take another job during the down period to make ends meet, or

they may take advantage of the lull to take a vacation. This does not mean that your CoP must be so engaging that people participate from Internet cafes near Macchu Picchu, Peru. It does mean that a community may need to adjust its goals to accommodate common fast or slow periods.

As Kim (2000) and others have stated, each community should be built from the start with eventual change in mind. Factors that might precipitate changes include changes for the community members themselves, external events, value changes within the supporting agency, and changes in technology. Whether the community functions in educational or business-related circles, graduation, retirement, relocation, and similar life events may prompt community members to drop out for a while, or indefinitely. Equally important, we need to watch for resistance to a change that might otherwise drive the community forward.

Case Study: Maintaining the Co-op Program Community (Simon Fraser University)

A key element for creating a successful community of practice is to design for evolution. In this case, it is vital to implement design principles that allow for the Co-op Community’s own direction, personality, and enthusiasm to lead the way. The design is non-traditional in the sense that the community’s organization and structure were not predetermined, nor dictated by the developers. Rather than an out-of-the-box vendor solution or one-size-fits-all software product, many of the community’s features are custom-built, based on the needs indicated by the stakeholders.

To ensure the community remains vibrant, a full-time community coordinator and a community host (a Co-op student) work together to address the emergent needs of the members and to stimulate and encourage interaction. This largely involves open and ongoing communication as well as offering support for those Co-op staff members (i.e., Co-op coordinators) who frequently engage with Co-op students.

In this way, the community’s social support systems are designed to create room for growth and cultivation of the online space that allows members to play active roles in shaping its features.

Recommendations

To help you begin to create your own community of practice, here are useful recommendations taken from the preceding case studies.

GENERAL

- Select tools that match your specific community requirements and context. There is no single ideal community platform, so plan for a good foundation to build as new uses and needs emerge.
- Document observations in the community.
- Support movement between communities.
- Avoid heaping in lots of content. Rather, model how it can be done and encourage members to contribute.
- Begin working on your own research needs early on. What should you keep track of? What type of agreement do you need with your members to conduct research?
- Research new communication technologies and trends both outside and inside your community. Be creative and responsive in experimenting with tools to support community activities.

HOW DO I GET STARTED?

- Identify an existing gap or need for the target stakeholders (e.g., needs assessment of Co-op students).
- Establish an overall vision or value statement to meet the target stakeholders' needs.
- Actively involve the development team from the inception of the idea to create a community, including participation in brainstorming activities.
- Elicit input about specific needs / requirements / wishes from the stakeholders. Conduct surveys with the stakeholders pertaining to topics for the learning modules and the types of activities they would find useful in an online community.
- Involve stakeholders in planning, design, development, and implementation of the online community.
- Ensure that resources are in place for the project. (This is not an initiative done on the side of one's desk.)
- Build enthusiasm and excitement both internally and externally so that everyone feels they have contributed towards, believes in, and is committed.
- Maintain ongoing project evaluation.
- Monitor and analyze stakeholders' use patterns and satisfaction levels.
- Ensure resources are in place to implement future technical upgrades and development changes as the community grows.

WHO CAN HELP? (HUMAN RESOURCES)

- A development team with multiple perspectives and roles, i.e., Co-operative Education staff, discipline-specific Co-operative Education coordinators, learning designer, instructional designer, experience designer, programmers and systems administrators, intellectual property coordinator, editors, new media

designer, project managers, facilitators, and most importantly, students' (Co-op and work-study) involvement in planning, hosting, moderating, and providing input and feedback.

WHAT OTHER RESOURCES ARE NEEDED?

- An online community platform with content management and discussion capabilities
- Server and back-up

WHAT FUNDING IS NEEDED?

- Funding for the multitude of staff roles and expertise, i.e., a community coordinator, community host, marketing materials, and promotional events and prizes, as well as funds to ensure the continued development of existing and new features.

HOW DO I PLAN?

- Identify the overall scope for the online community and different phases as needed.
- Allocate extra time for testing, launching, and unforeseen events.
- Provide promotional items to departments, internally and externally.
- Secure support and buy-in from stakeholders (key for success).
- Ensure that orientations and training are part of the plan. Allot generous time for training.
- Identify milestones within the scope of the online community plan and celebrate accomplishments.
- Conduct a phased-launch approach whereby you advertise then launch the online community to one group of stakeholders at a time to assess their interactions and uses, etc.
- Dedicate a minimum of one full-time staff member/student to administer/monitor the online community.
- Expect that it will take time for the online community concept to take root, and even longer for stakeholders to engage with the online community. Ensure you indicate the direct value each stakeholder group may experience.

OUTLINE THE KEY STEPS IN THE DELIVERY OF THE ONLINE COMMUNITY

- Plan events and promotions (marketing plan).
- Ensure necessary resources are in place to support and maintain the online community.
- As much as possible, make the delivery of the online community appear seamless to the target group.

- Plan to collect feedback from the target group for modifications to the existing processes, features, content, functionality, and the environment (i.e., user interface).
- Ensure continued development and upgrades to the current features and continual updates to content.
- Obtain student (and relevant stakeholder) involvement at all levels: planning, implementation, and contributions.

HOW DO I ENSURE AN IMPACT ON LEARNING? (EVALUATION)

- Gather data from Co-op students while at university and after they have graduated.
- Embed reflective elements whereby students can record/showcase their learning outcomes (i.e., discussion forums, comment boxes, community profiles).
- Encourage a pull vs. push approach (enable self-directed learning) whereby stakeholders are required to think about how the information they are seeking influences them personally, rather than providing them with directive instructions. Allow for inquiry-based acquisition of content.

HOW DO I LET OTHERS KNOW? (COMMUNICATION PLAN)

- Attend conferences, events, departmental initiatives, etc.
- Host information sessions and informal presentations.
- Online promotions (email) are effective, as well as electronic newsletters.
- Ensure a marketing strategy/plan is in place, specifically designed to target individual groups.
- Incorporate the online community URL and relevant information within existing marketing materials (department-level and/or program level).
- Incorporate the various tools into your regular processes (i.e., online event registration, creation of profiles for new intakes, etc.).
- Publish your initiative and findings in academic journals and/or special-interest publications.

Summary

“We cannot seek achievement for ourselves and forget about progress and prosperity for our community ... Our ambitions must be broad enough to include the aspirations and needs of others, for their sakes and for our own”. – Cesar Chavez

In this chapter we have defined communities of practice, grounded the CoP concept in theoretical background, and offered guidelines and tips to help you get started on implementing your own CoP. Case studies describing several different CoPs illustrate the application of these ideas and incorporate many of the elements of successful communities of practice.

Acknowledgments

We gratefully acknowledge the invaluable contributions of the Sylvia Currie (SCoPE), Paul Stacey (BCcampus), Andrea Sator and John Grant (SFU Co-op Community) and Dan O'Reilly (Thompson Rivers University / Small Cities Online Research Community) through the case studies used in this chapter.

Glossary

Community of Practice (CoP). A persistent, sustaining social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history, and experiences focused on a common practice and/or mutual enterprise.

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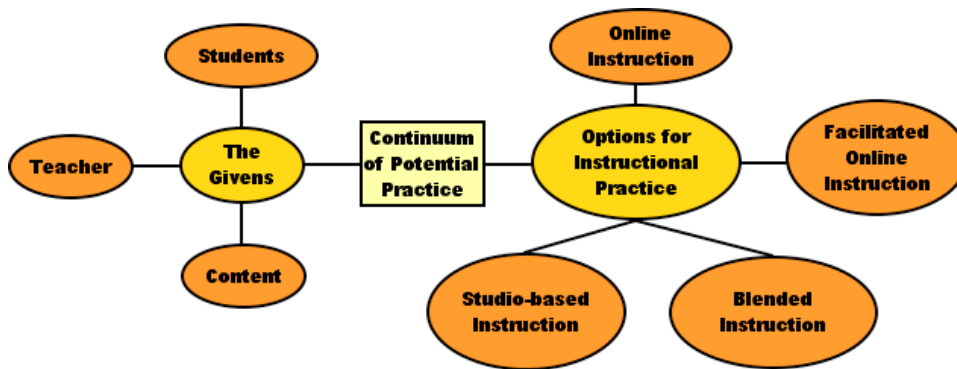
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31

Looking Forward: Stories of Practice

Susan Crichton and Elizabeth Childs

Even if you are on the right track, you will get run over if you just sit there. – Will Rogers



Learning outcomes

After completing this chapter, you should be able to:

- Connect content demands, student needs, and instructional strategies.
- Select instructional strategies along a continuum of potential practice.
- Envision a way in which the continuum of practice can inform your work.

Introduction

In this chapter, we distinguish between online and blended learning. The term “online” refers to teaching and learning done totally at a distance, mediated via electronic means (email, discussion boards, electronic conferencing, etc.), while blended learning includes a face-to-face component as well as distance learning, usually with one component supporting the other, depending on the emphasis.

In the K–12 or post-secondary educational environment, these learning options enable students to complete work that they would not otherwise be able to do. Initially, this audience included students with extended illnesses or disabilities who could complete course work that they were otherwise unable to do, or rural students who lacked access to courses required for post-secondary schooling. Increasingly, this audience has expanded to include students who are working towards their personal learning goals, and need access to courses content at their own pace.

In a corporate environment, training is often considered an incentive, something that is available only to the people who are already recognized as high performers. This view tends to deny underperformers the opportunity to reach their potential, although a commonly cited benefit to training in general is that it tends to lead to improved performance and satisfaction and a reduction of staff turnover. Corporate online/blended learning initiatives can make training available to everyone at anytime and in any location.

Historically, online and blended learning is rooted in distance and correspondence education from the mid-1800s (Smith & Crichton, 2003)—much of it pioneered in Canada and Australia. Given this long history, and the variety of settings in which blended and online learning are being used today, this chapter focuses on the realities of creating educational environments in the digital age, and the continuum upon which they can be achieved.

This chapter suggests that online and blended learning, as currently practised, fall along a continuum that ranges from easily recognized teacher-directed instruction (passive, correspondence-type materials) to learner-centred, constructivist strategies (active, student-negotiated, experiential projects). Educators, as never before, have a full toolbox of instructional strategies, methods, and media at their disposal. They only need awareness and opportunity to make rich and meaningful choices for their students.

The definitions below set the context for this chapter and serve as a starting point for building a common understanding of the components that create learning events and environments along the continuum.

Face-to-face learning

Face-to-face learning refers to traditional learning environments whereby the learners and facilitators are co-located for the same purpose and for a pre-determined period of time. Workshops, seminars, courses and conferences that have facilitators or instructors physically present in the same room at the same time with participants or students are examples of face-to-face delivery models.

Online learning

The term online refers to teaching and learning done totally at a distance, mediated through a range of electronic means (email, discussion boards, electronic conferencing, etc.). The Advisory Committee for Online Learning (2001) defines online learning as “what occurs when education and training are delivered and supported by networks such as the Internet or intranets” (p. 1). This definition of online learning highlights the flexible and dynamic nature of the online environment, a characteristic that makes it possible to engage in learning at anytime and from anyplace. Online learning can take a variety of forms. Each of these forms involves a combination of synchronous (real-time) and asynchronous components and includes the following:

- **Blended learning**—Blended learning includes a face-to-face component as well as an online component. In blended learning, the face-to-face can support the online or visa versa, depending on the emphasis placed on the two options.
- **Webcasts**—These refer to the transmission of live audio or video over the Internet. They are the Internet equivalent to traditional radio and TV broadcasting and can be used as stand-alone events that participants register for or as a component of an online course, conference, or session.
- **Podcasting**—This refers to the capture and storage of digital audio files that can then be played back over

the Internet. Increasingly, podcasts are being used as stand-alone events that participants register for or as a component of an online course or conference.

- **Discussion forums**—These are the mainstay of many online learning offerings. Discussion forums or groups refer to online, asynchronous, text-based areas, which can be password-protected or open to all, that provide an interactive discussion via keyboard (typing). For organization and readability, various discussion threads can be established for different topics. In the context of an online course, they are generally moderated by the course facilitator, and student participation is expected. In the context of an online event such as a webcast, discussion forums are generally used pre-webcast and/or post-webcast as a place for participants to further expand and elaborate on the context of the online event.
- **Instant messaging**—This is often referred to as a quick collaboration tool, as it allows two people (or more) to interact back and forth using the keyboard (most often in real time, but not always). In general, participants must be specifically asked or invited to join (i.e., MSN chat, Skype or ICQ).
- **Synchronous collaboration tools**—This refers to a suite of features useful for online meetings, delivered over the Internet via one point of access, and generally password-protected. These features generally include real-time audio discussion as well as document sharing, interactive whiteboard space, text chat, desktop sharing, and the ability to break into small groups for synchronous discussion. In addition, the entire meeting can be recorded for playback later via the recorded meeting link (i.e., Elluminate Live, iLINC). Synchronous collaboration tools are often used to host independent events that participants register for, as well as components of online courses or as online office spaces, etc.

Online courses

Many of the features discussed above are components of an online course and can be combined in a variety of ways, depending upon the needs of the audience, the specifics of the content and unique characteristics of the learning context.

Most often, online courses are delivered through a learning management system (LMS), which allows course materials and content to be stored and usability statistics to be collected. LMSs typically include collaboration tools such as discussion groups and synchronous sessions, all in a web-accessible, password-protected environment. It is also possible to create online courses that function external to an LMS should tracking not be a requirement.

While there are a variety of proprietary LMS tools on the market, open source/freeware LMSs are increasingly popular as an alternative to increased licensing costs.

Online communities

This refers to an online collaboration space for people working on a common topic or area(s). The functionality in an online community includes much of what is available in a learning management system but an online community may or may not be course dependent or assignment-driven. Generally, a stand-alone online community includes access to a range of asynchronous and synchronous functions through a single access point. The functions required in an online community include discussion groups, chat, user identification icon, synchronous tools for holding web meetings, file sharing, etc. There is general agreement among educators that an online community requires a facilitator to keep it vibrant, sustainable, and used by its community members.

The studio story

In 2004, I⁷² had the opportunity to design a graduate course in digital filmmaking. The decision was made to offer this course via distance delivery.⁷³ As this was a new distance course, it was critical that it leveraged the existing technology creatively and model sound instructional strategies. Previously, I had taught other online courses, using a variety of software (First Class, Nautikos, Web CT, Blackboard, Elluminate Live!), and, in each of those situations, I had modified my instruction to match the software. This time I decided to try a different approach. I determined the instructional strategy would be studio-based, assuming the software (Blackboard and Elluminate) could be adapted to support it.

The course, *Inquiry Into Digital Filmmaking*,⁷⁴ received very positive reviews from the students. The opening assignment, the creation of a short film, shared within the Blackboard discussion board via links to the students' web pages, served three purposes: (1) as an icebreaker—literally, for one of the students; (2) as a pattern for the completion of the other tasks within the course and a chance for students to see how studio-based instruction might look in a totally online environ-

⁷² Susan Crichton

⁷³ Graduate courses within the Faculty of Education at the University of Calgary are offered via campus and distance delivery (online learning). See www.ucalgary.ca/~gder

⁷⁴ Complete description and course outline are available (<http://www.ucalgary.ca/~crichtos/course.html>)

ment; and (3) as an opportunity for students to demonstrate their prior knowledge and skills with filmmaking.

The first purpose, an icebreaker, is critical for the development of positive learning environments (Dooley, Lindner & Dooley, 2005) and is consistent with Gagne’s Nine Events of Instruction (Gagne, 1977). It supports the development of a collaborative, supportive community of practice that promotes risk-taking and social interaction (Crichton, 1998, 1993). It also provides an opportunity for students to introduce themselves and begin an authentic discourse (Wenger, n.d.) around a relevant topic — the successful completion of the course. The first assignment, a one-minute video showing “My favourite place to get a warm drink” was designed to be fun and to provide a way to begin building a sense of who the participants are in the course — a commonly cited best practice for facilitating online (Salmon, 2001). A warm drink was chosen for its universality and neutrality, as students, a mix of urban and rural, and from a variety of educational backgrounds and levels of film-making experience, were located in Hong Kong, Northwest Territories, Alberta, and Ontario.

The second purpose, a pattern, helps students to determine the rhythm of the course and its expectations. In studio-based courses, activities consist of required and elective components, and evaluation takes the form of critiques (crits). Sharing and trust within a community are essential parts of a studio environment, so a collective understanding of acceptable behaviour for constructive criticism is important. Rubrics and/or checklists, circulated in advance and negotiated during the completion of the activity promote a positive “crit” process. Patterns, as suggested by Alexander et al. (1977), help to break down complex concepts or activities into their component parts, allowing experts and novices to participate at their own levels. In the case of the icebreaker activity, pitching a story, storyboarding the actual film segments, and providing access to a final version constitute the pattern for task completion for the remainder of the course.

The third purpose, an opportunity to demonstrate prior knowledge and skills, is consistent with sound principles of adult learning (Knowles, 1995). Adults bring rich and varied life experiences to their learning. Because of this, they are capable of latitudinal as well as longitudinal learning. This means that they can encounter a new concept, link it to a previous experience, modify their understanding, and incorporate it into something new. The literature (Knowles, Holton & Swanson, 1998; Richards, Dooley & Lindner, 2004) suggests that adults come to learning highly motivated, so drawing on their need to know, prior experience, and readiness to learn is essential. Well-designed icebreakers

can set that positive tone for the course, letting students experience the course expectations in a safe and supported initial activity.



Image 31.1

The following scenario is from one of the films from the icebreaker activity in the Inquiry into Digital Film-making course. James was from NWT. The opening sequence shows the thermometer outside his house reading minus 30°C. He fires up his Skidoo and heads out through a wooded area onto the frozen lake. He bores a hole in the ice, sets up his chair, casts his finishing line, and pulls out his small Thermos. As he pours his warm liquid into his cup, he says, “Here is where you and I enjoy a warm drink in Res Lake!”⁷⁵



Image 31.2

⁷⁵ The text describing the video is written as an ALT Tag (Dooley et al., 2005). ALT Tag’s offer descriptions of images, including the path to the actual image (e.g., “file path and name”) as well as a rich, short description for those with disabilities.

While other videos included cups of tea in snowy backyards, a Starbucks in Hong Kong, a kitchen in Toronto, and a cross-country ski trip in Banff, James broke the ice on many levels. Students watched videos and then engaged in conversation within the discussion forum, asking questions about the subjects of the film and sharing technical tips or tricks, details about locations, and other details. The short films also provided a first glimpse of the students—we actually saw each other and got a taste for one another’s lifestyles—something often missing in online learning.

Prior to sharing the videos, students were given some background on studio-based learning, a rubric for evaluating the films, and suggestions for how to participate in a critique of the work. Blackboard was used to organize the course, breaking the lecture content into weekly modules (course document section). The discussion board organized the 13 weeks of the course into discussion topics and hosted the film festivals for the students’ work. This allowed students to annotate to their QuickTime video links as well as organize the “crit” sessions around individual videos. Additional discussion areas were created for sharing technical tips, innovations and updates in hardware and software, and solutions to common problems. By designing the course around tasks and inviting students to solve problems collaboratively, a very strong community of practice (Wenger, n.d.) formed. Hosting a video course online presented numerous problems with file size, etc., but the studio aspect allowed students to customize assignments, experience things at their own pace and skill level and engage in rich conversations concerning tasks, problems, work, and social environment. Without a doubt, video, in a studio design environment, pushes the technology of the university server, as well as that of the instructor and the students, but the design creates the type of rich online social interaction and knowledge construction rarely found in the actual practice of many online courses.

Verbalizing the continuum

The video course described above is an example of designing from the perspective of a particular instructional strategy with the intention of supporting a specific learning experience. Attempting to build an online environment to support studio-based instruction was a risk for the instructor, and a leap of faith for the students, but it worked. It was a clear departure from the typical online course design of reading content and posting comments for discussion. It clearly changed the roles for

the students and the instructor, forcing both to negotiate tasks, engage in problem-solving, and participate in critiques. While studio-based design is certainly at one end of the continuum that we will discuss later in this chapter, it shares the three constants inherent in all teaching and learning interactions—the intersections of teachers, students, and content.

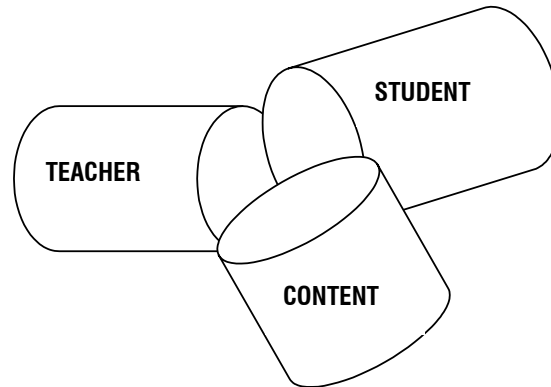


Figure 31.1. Three Constants in Teaching and Learning

We became aware of the importance of those intersections in our recent work in a Canadian International Development Agency (CIDA) project, Strengthening Capacity for Basic Education in Western China (SCBEWC). There we were called upon to introduce instructional design and develop a distance education system to train teachers in rural, remote regions. However, it wasn’t until one of us was invited to lecture graduate students at Beijing Normal University on the importance of instructional design in the West that we were forced to consider the issue ourselves and share it with others in a way that ensured the key essence was not lost in translation.

The graduate students at Beijing Normal University were persistent in their demands to understand why the design rather than simply the content of the instruction is important. Figure 31.1 helped scaffold their understanding and provoked an interesting discussion concerning the overlap among the three circles. The importance of social interaction that can be generated when the teachers and learners come together to explore, solve problems, and negotiate the content was also discussed. A plate was added for the three circles to sit on, and it was labelled instructional strategy, levels of learning, and types of media. This diagram helped the students understand that it is the role of the instructional designer to select the strategy that best suits the needs and goals (Vygotsky, 1986) of the three variables (teacher, student, and content).

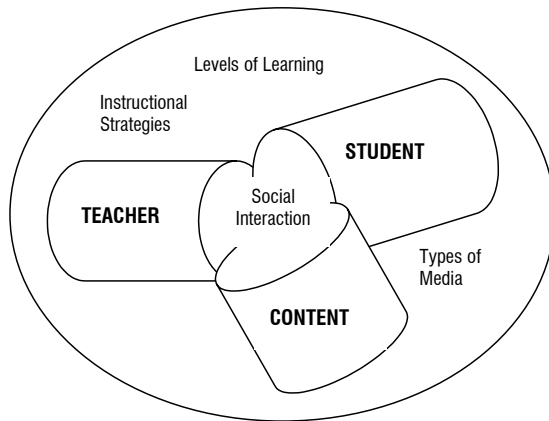


Figure 31.2. Intersection of Teacher, Student, and Content

Right there, in that simple drawing was the crystallization of the authors' thinking about social constructivism; work that draws on Dewey (1929), Piaget (2002), and Vygotsky (1986). Drawing from our experience, it was easy to share examples of a variety of educational contexts, ranging from training situations in which computer-marked drill and practice was the most appropriate approach to achieve simple certification requirements, to the development of complex simulations and scenarios to encourage higher-order thinking and problem-solving at the graduate level. Figures 1 and 2 allowed us to introduce Bloom's taxonomy⁷⁶ for levels of complexity of task design as well as Dale's Cone of Experience for appropriate media selection⁷⁷ as examples of instructional strategies and categories.⁷⁸

Between us, we hold a combined 30-plus years of experience in instructional design, content development, online teaching and consulting; therefore, the linkage between the components of the modified Figure 1, was fairly intuitive. However, it did take the presentation in Beijing to make them tangible. Eisner (1998) is correct when he says, "There is nothing slipperier than thought ..." suggesting that capturing thoughts on paper or blackboards helps to make the intangible (thoughts) tangible and therefore editable and discussable" (p. 27). We trust that sharing the figures presented in this chapter will cause you to engage in some activities that will make your thoughts tangible as well. We support Eisner's belief that it is not until people begin to capture their thinking in a sharable form (text, concept maps,

collegial conversations), that it becomes concrete enough to be actionable. Our work in China has forced us to explain things in a clear and concise manner, fit for translation, that we held intuitively, and it has encouraged us to think of the diverse instructional strategies we have seen in various courses, resources and training situations and situate them along a continuum of practice. It has been through that process of sharing our individual knowledge that we have been able to solidify our thinking and enlarge our own community of practice.

THE CONTINUUM STORY

Both of us have taught instructional design at the graduate level and in workshops. We have developed content for corporate training as well as K–12 courseware. However, our work in China has forced us to synthesize how we present the importance of instructional design to others. Typically, in that work we are introducing the concept of design as a means to an end rather than a process in itself, and more often than not, doing so through a translator, with limited time allotted to the task at hand.

As we work with our Chinese colleagues to develop a system of distance education for 10 million teachers, and eventually 200 million students (China has the largest public education system in the world), the development of a continuum of practice has been helpful. To illustrate a range of increments along that continuum, we developed a table of significant approaches, matched with appropriate software, media, and instruction. Of course, any table such as Figure 31.2 generalizes important concepts and subjects those generalizations to criticism of either omission or over simplification. However our work suggests Figure 31.3 provides a helpful starting place for those considering alternative or innovative approaches to teaching and learning, especially for those new to online teaching and learning.

Stories from the continuum

The lovely thing about a continuum is that items on it are linked to represent a continuous series of possibilities that blend into each other gradually and seamlessly. Unfortunately, the physical presentation of Figure 31.3 suggests otherwise, with the rows and columns appearing fixed; the individual cells, independent and rigid.

When we reduce Figure 31.3 to its simplest form, you can begin to see the impact that the components from Figure 31.1 have on the various options. The educator, learner, and content components appear on the left side of the simplified continuum in Figure 31.4.

⁷⁶ <http://chiron.valdosta.edu/whuitt/col/cogsysts/bloom.html>

⁷⁷ <http://teacherworld.com/potdale.html>

⁷⁸ We recognize that the use of either Bloom and Dale can prompt thoughtful debate, but they provide an initial framework for preliminary discussions with novice instructional designers.

Continuum Type	Online Instruction	Facilitated Online Instruction	Blended Instruction	Studio-based Instruction
Role of teacher / student	Teacher-prepared content Teacher-directed instruction Teacher has minimal or no direct involvement with students Need for students to participate online	Teacher-prepared content Teacher-directed instruction Interaction between teacher and students Need for both to participate face-to-face and online	Teacher-prepared content Teacher-directed instruction Increased interaction among teacher and students Opportunity for student-negotiated tasks Need for both to participate face-to-face and online	Teacher-prepared learning environment and initial problems / task Student-centred approach Active interaction between students / teachers Changed role for teacher and students
Online Approach	Asynchronous teaching / learning Learning controlled by time—fixed start / stop times	Synchronous teaching / learning options Asynchronous options Collaborative options Learning controlled by teacher	Synchronous teaching / learning Increased opportunities for asynchronous learning Opportunity for face-to-face collaboration Learning controlled by teacher	Asynchronous learning with synchronous support Collaboration Online gallery with forum for crits Learning negotiated by teacher / student
Example of software	Content managed in learning management system (LMS) such as Blackboard, D2L, Moodle, WebCT; assessment via computer-marked quizzes	Content in LMS, support via email or synchronous software (e.g., Elluminate Live, MSN Messenger); online discussions	Online discussions, LMS, synchronous conferencing Physical classroom/lab environment	Collaborative software (e.g., CMAP, shared whiteboards); simulations, VR, LMS, synchronous conferencing
Instructional strategy	Lecture / information transfer	Lecture, discussion	Lecture, discussion, task negotiation	Lecture, discussion, task negotiation, problem-solving
Evaluation	Testing / computer marked (true or false, multiple choice, short answer)	Formal testing / teacher marked	Formal testing / teacher marked, potential for alternative, more open-ended assessment (essay, project, etc.)	Authentic assessment using checklists / rubrics for project assessment
Link to Bloom's Taxonomy	Knowledge level	Knowledge level Comprehension level	Knowledge level Comprehension level Application level Analysis level	Potential for all levels, including the higher-order thinking tasks of synthesis and evaluation
Role of Media ⁷⁹	Text to read Audio files (podcasts to hear) Images to watch	Text to read Audio files (podcasts to hear) Images to watch Exhibits to explore Simulations to engage with	Text to read Audio files (podcasts to hear) Images to watch Exhibits to explore Simulations to engage with Demonstrations to discuss	Potential for all media to be used Use media to dramatize personal experiences Use media as a starting point for personalized learning and individual demonstration of understanding Create own media

Figure 31.3. Continuum of Instructional Practice Typically Found in Online and Blended Learning

⁷⁹ See Dale's Cone of Experience for additional information on the relationship of media for to teaching and learning—<http://teacherworld.com/potdale.html>

	Online Instruction	Facilitated Instruction	Blended Instruction	Studio-based Instruction
Teacher	No / minimal interaction with student	Helps (facilitates) students with content	Brings students together (face-to-face) / facilitates online	Creates problems / task to be solved / completed
Learner	Engages with content	Engages with content with support from teacher	Engages with content with support from teacher with opportunities to collaborate with other students	Solves problems / completes tasks with guidance from teacher / other students
Content	Teacher developed	Teacher developed	Teacher developed / option for student negotiation	Teacher initiated / student negotiated
	Asynchronous	Synchronous / Asynchronous	Synchronous / Asynchronous	Asynchronous / Synchronous

Figure 31.4. Link between Figures 31.1 and 31.2

So, how can an awareness of Figure 31.4 affect teaching and learning opportunities in either online or blended contexts? In the introduction we stated that educators, as never before, have a full toolbox of instructional strategies, methods and media at their disposal. They only need awareness and opportunity to make rich and meaningful choices for their students. Teachers must recognize that software and hardware that support online learning need not dictate instruction. The needs and goals of the teachers, students and the demands of the content must do that, trusting that the technology will be flexible enough to support it.

If students need certification on a specific training issue, synchronous online instruction may be adequate, while students requiring more complex, higher-order thinking activities might need a blended learning experience. The onus is on the teacher / institution to match the learning outcomes to the instructional opportunities suggested in Figures 31.3 and 31.4, if the promise and potential of rich education environments are to be fully realized.

Online and blended learning create opportunities for remote, rural, and less-mobile learners, as well as for those in urban settings with access to both physical campuses and online options. By thinking about both the instructional strategy and the role of media, students can benefit from extraordinary multimedia-enhanced, customized learning experiences. Teachers begin to realize that they can actually offer learning content that previously would have been impossible in traditional, face-to-face classrooms.

In traditional classrooms, teachers confront the reality of a totally synchronous environment. Bells ring, class periods start and stop; instruction is reduced to chunks of time—typically less than 60 minutes. In the world of adult education and training, the reality of time and the reliance on the synchronous environment is no

less apparent. The distractions may be slightly different as cell phones, laptops, and personal digital assistants (PDAs) compete with the training for the learners' attention, but the chunking of instruction is constant. Main and supporting content areas are layered around the mid-morning and afternoon breaks and sandwiched between is the ever-protected lunch break.

In both settings, as the content becomes more complex, students begin to break from the pack with some ready to move ahead and others falling behind. Tests typically occur at regular intervals, and mastery of content becomes lost in the need to cover the curriculum within a prescribed semester or school year or the workshop content before the session ends. Consequently, we see a range of grades or course completions and dropouts rather than a consistent mastery of core concepts by all students. With facilitated or blended instruction comes the potential for more flexible, asynchronous learning. Time demands change as the teacher or facilitator assists and mentors, rather than directing the instruction. The role of the content becomes important, as the student engages with it while the teacher/facilitator supports the process.

So what might the learning options presented in Figures 31.3 and 31.4 look like in actual practice? We have experienced all four options, as well as modifications and variations along the continuum, noting that rarely does learning opportunity rest solely in one type or another. In the next section we will share examples. Each of the examples was a course-based learning experience that resulted in formal evaluation and a final grade or certification. This is an important distinction, as many online training and professional development activities that use blended or fully online delivery models do not evaluate.

A story of online instruction

An example of the online course continuum type is a project for the Naval Officers Training Centre in Victoria, British Columbia, Canada. Working with their development team, our task was to create an online course for Naval Reservists to prepare them for the hands-on portion of their training. The target audience was university age, and the expectation was that they would complete the online course over the school year.

The course content itself was predetermined, but the way in which it was structured and combined with multimedia assets was up to the project design team. Due to budget constraints and the adoption of a phased approach to incorporating online learning into the Reservists suite of course offerings, online facilitation was confined in this pilot phase to ensuring access and troubleshooting technical issues. The assessment was based on a standard multiple-choice examination conducted face-to-face at Reservists locations nationally. It was essential that participants complete the course and pass the examination to participate in hands-on training. So while this example was not conducted inside a post-secondary institution, it did include a formal evaluation aspect in which grades were assigned.

Given these parameters, the design team needed to address any potential motivational issues that could affect the learning. They also designed media elements to support the learning. The resulting courseware was a mix of instructional strategies enhanced with multimedia components such as opportunities to check progress and learning, short video clips of on-ship procedures, audio files of past course participants and instructors, scenarios and case studies depicted via video or still images, matching games, etc.

The resulting courseware provided the students with flexible access to multimedia-enhanced content in an organized, predetermined manner and allowed the teacher to use the limited face-to-face time for other content considerations.

A story of facilitated instruction

EDER 673—Introduction to Instructional Design—was designed in response to my experiences as an instructor teaching an audio version of the same course. The course participants were all part of a M.Ed. program and came from a wide range of backgrounds including post-secondary, K–12 and corporate education with an average age of 40. As teachers/trainers, many already thought of themselves as instructional designers and had a difficult

time relating to the language and practices of the instructional design field. However, as they progressed through the course, all found that, in practice, they were using the same techniques and approaches as those featured in the course, just under another title.

Upon reflection, and influenced by Donald Schon's book *The Reflective Practitioner* (1983), I realized one of the problems with the structure of the audio course was lack of acknowledgment of teachers' experience as designers. I was trying to present a different view of instructional design, not their first view. For this reason, the online course of EDER 673 focused on the exploration of curriculum ideologies, the development of their own personal views of teaching and learning, an analysis of different texts and the incorporation of some of these ideas into each student's personal instructional design model. Given this approach, it was my hope that the students would not dismiss instructional design theory, just as the instructor was not dismissing their experience as teachers and designers of their own instruction.

The online version of EDER 673 was designed around the following assumptions:

- The “meat” of the course lies in the online discussions and related activities. As a result, there were very few content pages to scroll through, but rather pointers to articles and activities to do for each week's discussion forum.
- This design approach was based on my experience that it is through reading, reflecting and conversing with others that one gains a better sense of the complexities of instructional design (ID). From there, participants really need a space and place to share ideas with others and to contemplate how the course concepts might work in their unique setting.
- An ID course has to be application-focused. There is a certain amount of how-to that comes with learning the language and process of ID, but at some point folks need to get their hands dirty and use the tools of ID in their own unique settings.
- Learning ID should be fun. I have been working and teaching online for eight years and, if there is one thing that technology has reinforced, it is the need to have patience and a sense of humour!

Based on these assumptions and the constraints of the online environment, LMS structure and organizational requirements, I then began to structure the course and in essence the learning space for the participants—predetermined, in keeping with Figure 31.2. I knew that when dealing with messy and complicated concepts it is necessary to be able to see how they relate to the larger picture,

as well as to real-life situations in a variety of settings. For this reason, I chose to use an adventure metaphor to represent the introductory travels through the field of ID and its associated methods and techniques. As with all adventures, there is no linear path to success. In instructional design there is no systematic method for applying one technique at one time and then moving forward. The reality is that we use all of the techniques and models in a complex, ever-changing environment.

ONLINE COURSE STRUCTURE

The online version of EDER 673 was designed around units to be completed each week in order to give people time off on the weekends for reading, contemplating and reflecting. In order to be able to participate in the online activities and discussion required for each, the participants had to complete the readings prior to beginning of the week's unit.

In the course documents section of the LMS, the unit for each week built on:

- a preamble introducing the topic and its relevance
- a backgrounder explaining the rationale behind the readings selections
- a variety of activities to be completed as part of participating in the discussion forum for the week

In order to keep the discussion forums manageable, they were set up so that there was one discussion forum per week of the course. Participants were responsible for participating in 10 of the 13 discussion groups. Forums for each assignment were also set up so that questions relating to the assignments could be dealt with in their respective forum, where all participants could learn from the dialogue.

The course also included scheduled, synchronous online discussions using Elluminate technology at three times during the course. These discussions provided an opportunity to touch base and see how all are doing, clarify assignment requirements and host guest speakers in various topic areas relevant to the course content. These sessions were all recorded and archived for review in case participants were unable to join in at the scheduled day and time.

My role, after the course had been designed and posted to the LMS, was that of facilitator. I was actively involved in the discussions while at the same time creating space for participants to discuss and sort through their developing understandings of ID—a tricky balance. I tended to be more heavily involved in leading the discussions during the first few weeks of the course and then gradually moved into a participatory role as I attempted to build and foster a discussion space and culture that valued all contributions as we developed our shared understandings

of the content and topics. My turnaround time for assignments was one week. For discussion postings or emails, it was 48 hours at the latest, but more often was within the same day. Virtual office hours were twice a week—although rarely used—and the synchronous sessions were well attended, as I tried to get guest speakers that were in keeping with both the topic area as well as the undercurrent of discussion at that time.

The course centred around two assignments prepared in three phases each: 1) the creation of an instructional blueprint for a piece of instruction, and 2) the development of an original instructional design model based on the characteristics and constraints of participants' work environments.

Course feedback has been consistently positive over the past eight offerings. A common comment is that students really appreciate the overall structure of the course and the flow of the weeks. The final assignment, developing their own model of instructional design, gets rave reviews each time. One participant in particular used her final assignment to outline her approach to instructional design in an interview within her school district, and she was the successful candidate for the position of Assistant Principal—Online Learning. For me, the take away from this experience was that in this case, with this audience and the content being covered, a facilitated instruction approach was effective.

A story of blended instruction

Typically described as an instructional strategy that incorporates the best of face-to-face learning and online content and discussion groups, blended instruction often meets with mixed success. A key challenge to designing blended learning strategies is to sort out what content is best suited to which format—online or face-to-face. If that decision is not well considered at the design level, the workload for both the teacher and students may seem overwhelming, and the learning experience may be inconsistent with the curricular goals.

In blended learning, typically the face-to-face component is supported by supplementary online content. This is usually contained within an LMS, often with asynchronous discussion groups and synchronous sessions, and it may take the form of blogs, podcasts and multimedia simulations. Conversely, a blended course might exist primarily online, with a few face-to-face meetings for more experiential learning opportunities such as labs, visits to specific sites, or face-to-face orientation sessions so students can meet each other and the instructor.

In winter of 2004 I had the opportunity to design a campus-based course for pre-service teachers. It was entitled *Distributed Learning: Teaching and Learning Online*. The desire to build and teach this course came directly from my personal experience as a K–12 online educator, as well as my research into the practices of K–12 online teachers. I felt the course had to model excellent practice and leverage emerging technologies, as it would introduce blended and online learning to pre-service teachers.

The course, an elective, met on Friday mornings for three hours, and it was assumed that students would work an additional three hours per week independently. Further, all similar electives within the program,⁸⁰ required students to complete an inquiry paper based on action research.

Before the semester started, I met with the students and determined that none of them had taken an online course before. The majority had very limited technology skills and were actually enrolled in the course to gain them. Therefore, I started the design of the course by considering the amount of time available (13 weeks) and listing the learning experiences that I wanted the students to have; I then organized the content to fit those constraints. I sorted the content into experiences that I felt were best shared, either face-to-face during the Friday sessions or online during the expected independent study time. Further, I modified the inquiry paper to include the development of a student-negotiated learning object.⁸¹ I planned for the final face-to-face class to be a celebration of learning where the students could share their learning objects and talk about their successes and challenges. Therefore, I was left with 11 sessions to present content, develop technology skills, and model more student-centred approaches to learning.

Assuming the first session and the last were orientation, introduction and celebration, respectively, I dis-

tributed specific content to each of the other 11 sessions, covering topics such as roles and responsibilities for online educators, content development, issues of pedagogy and assessment, characteristics of asynchronous and synchronous learning, global issues—digital divide, employment opportunities, and universal design. Parallelizing each topic were weekly online content structured within the LMS and opportunities for students to practise moderating the discussion forum. The face-to-face sessions became workshop opportunities, with matching software complementing the various topics. For example, the week on content development was supported by concept mapping using Inspiration software for storyboarding and an introductory, hands-on session in digital filmmaking.

The most critical design decision on my part was where on the continuum (Figure 31.3) I should start. As our program is inquiry-based, I felt it would have been inappropriate to start with online instruction only. Further, because there was an existing face-to-face expectation, the facilitated online instruction model would not work either. The choice rested with a blended approach or a studio-based approach, and I chose blended, designing the face-to-face sessions as a studio-based model in terms of the hands-on learning and open critiques of the products and process.

This course has been offered each year since its introduction in 2004,⁸² and students have been hired directly from the course for jobs in online teaching for the local school board. Each year, the course content has changed as new technology emerges. In the last offering, I included podcasting, wikis, and blogs, and I am still exploring options for the upcoming course. The course has exceeded my expectations, and the evaluations have been excellent.

During the first offering, a graduate student (Shervey, 2005) researched this course for her thesis. The study was positive and reaffirming, as it revealed that the students' perceptions of promise and potential of online learning changed as they experienced them firsthand.

Blended learning worked well for the *Distributed Learning* course. For example, it allowed me to share asynchronous technologies during the sessions on asynchronous and synchronous learning. Rather than attend class, I encouraged the students to connect from home during the Friday class, letting them experience what it felt like to be learning along from home. One of the

⁸⁰ The teacher preparation program at the University of Calgary consists of four semesters over two years. In the fourth semester, students can select an elective along with the three required courses. The blended course described in this paper was an elective option. For details about the general program, please see <http://www.educ.ucalgary.ca/dtp/index.html>

⁸¹ The goal of the learning object (LO) project was to encourage students to think about a curriculum concept they had struggled to teach during their in-depth practicum. The LO was to be a multimedia tool that presented the content asynchronously. I knew they would need all the skills presented in the face-to-face workshops to complete their LOs, but I didn't state that explicitly.

⁸² In two of three offerings the students nominated me for a Teaching Excellence award. I mention this only as the rationale for each nomination was the innovative course design and the excellent modelling of blended learning.

most successful sessions was the discussion of employment. I invited colleagues who work in various online professions to join the discussion forum. I created a forum topic for each of them, introducing them to the course and explaining to the students how I knew them or had worked with them, thereby personalizing these potentially anonymous guests. Each guest then posted a description of their work and invited the students to ask questions. And question they did, asking everything from who are you, to how much do you make, and are you lonely sitting at home.

Over the three offerings of this course, I have done little to change the structure or my instructional strategies, which appear to be working well, but the design is flexible enough to allow me to change the content as new things emerge. I cannot imagine offering this course in anything other than a blended approach, as I have learned that our face-to-face time is as important as our online time.

A story of studio-based instruction

The story of studio-based instruction (SBI) was introduced at the beginning of this chapter.⁸³ In this section, we'll place that story within the framework provided by Figure 31.3. SBI requires teachers to think differently about course structures. In other online graduate courses, I had simply taken the number of weeks available, subtracted two for start-up and conclusion, and plotted the topics to be covered over the remaining 11 weeks of a 13-week semester. In my previous online courses, I situated three activities, each increasingly complex, over the 13 weeks, and planned two synchronous class meetings for students to share their second and third assignments. Content, in the form of text lectures, was placed in the course document area, and a discussion forum was created to correspond with each lecture. Students were expected to read the content, post comments, and negotiate the assignments. I designed a format for the content lectures, so students could expect to see the same pattern presented each week. This approach received excellent reviews. The format included sections for my presentation of content, student tasks, suggested resources, and a to-do list. However, I also received criticism because the course was so tightly de-

signed, and the activities were so varied that students felt they had covered the content broadly but not deeply.

Criticism from my previous courses, about breadth rather than depth, informed my decision to try SBI. While I still had the 13-week semester as a constraint, I decided that Inquiry Into Digital Filmmaking—EDER 675.15 was not going to be a sampler of filmmaking techniques; rather, it would be an inquiry into the potential of digital filmmaking in research techniques, content development, DVD production, and digital literacy. At the graduate level, the course could not be a how-to workshop for filmmaking, so students needed the opportunity to either (1) demonstrate their existing skills and prior knowledge through digital filmmaking, or (2) gain those skills quickly enough to begin to use them in the course. As digital filmmaking and editing were relatively new, I also did not want to penalize students who did not have regular access to editing software or digital video cameras. Therefore, I needed to create a variety of tasks such as creation of simple films, development of DVDs or completion of research papers on related topics.

Mindful of the need to design a learning environment that supported a rich understanding of the potential of film, while allowing students to gain a deeper experience, I turned to SBI, breaking the course into three required components. The first component was designed according to adult learning principles. It asked students to provide evidence of 30 hours of concentrated inquiry into the knowledge and skills of basic filmmaking, asking them to either attend a workshop on digital filmmaking,⁸⁴ or work through the textbook *The Director in the Classroom*, or explain how their previous experience was equivalent to the 30 hours of inquiry into digital filmmaking. To demonstrate their understanding of Component 1, students had to share their one-minute video described in the ice-breaker activity in the Studio Story section of this chapter. It was suggested that students complete Component 1 within the first four weeks of the semester.

Component 2 consisted of four modules of which students were to select two. A few students negotiated for the two to be merged into one larger component, and some students chose to work collaboratively. Details of the modules are available online.

⁸³ An interesting description of studio-based learning can be found at <http://schoolstudio.engr.wisc.edu/studiobasedlearning.html>

⁸⁴ British Columbia filmmaker, Nikos Theodosakis, developed a workshop and textbook entitled *The Director in the Classroom*. He offers a constructivist approach to introducing digital filmmaking in the K–12 classroom (<http://www.thedirectorintheclassroom.com>)

Component 3 required students to participate in the online discussion forum in Blackboard throughout the semester. Because the students would be working asynchronously on their projects for the various components, I felt the discussion forum would create a space for the development of a community where we could come together and discuss the various modules. This would allow students who were not doing a particular module to begin to understand what it was generally about and engage in conversation related to it. Discussion forums introduced topics the first week and then elaborated on them in the second. The final week was an online film festival, with invited guests offering their criticism and suggestions.

Essential to SBI was the notion of a class critique, or crit. The crit provides an opportunity for sharing, feedback, constructive criticism, and interaction. Crits help build community and social interaction, and the concept of the crit, as well as roles and responsibilities, was clearly laid out before the first one occurred at the end of Component 1.

My role was to design the learning environment, including the content for the modules and the tasks for each of the three components, and to support subsequent learning. Immediately, students had to take an active role, negotiating their learning and deciding which modules to complete. Many found this challenging, as it was beyond their previous experiences with online learning. Only two students had ever taken a studio-based course before. These two students quickly became class leaders. SBI learning allowed the students to work independently and asynchronously. I supported them via regular email, and they connected with their classmates through the forum during the week. I arranged for two synchronous, *lluminate Live!* sessions, one early in the semester to clarify course expectations, and one later in the semester to share final assignments for Component 2.

The course design was an absolute success. Course evaluations were glowing. Students were appreciative of the chance to experience an instructional module different from more typical facilitated or blended instruction. As well, the content of both the written work and the digital videos was excellent. The course did require technical support, as those students working in the Windows environment struggled to edit their videos and export their final products to QuickTime format. The Macintosh users had a much easier time using proprietary software available only for that platform. Fortunately, bandwidth was not a concern, and the three students who created DVDs as part of their Component

2 option had to mail actual DVDs of their work, as the file sizes were too large regardless of their locations.

I would offer this course again, using the SBI approach. However, I did learn two major lessons. The first was that students found it hard to adjust to the radical changes in course design inherent in SBI. They were initially reluctant to be proactive and negotiate tasks. In subsequent discussions about the course, a number of the students suggested that their initial concerns were exacerbated by being online and not having the initial trust that they could make the course work for them. Further, they stated that they were not sure if they could communicate openly and freely with an instructor they didn't know, suggesting they would have known better if we had met face-to-face first. Therefore, it will be incumbent on me to consider an additional ice-breaker, in advance of Component 1, to begin the process of community building in the hopes of supporting greater risk-taking sooner in the limited time available.

The second lesson I learned was the need to stay with a proven pattern for content presentation. Instead of using the format I had developed for text lectures, I shifted to a series of hyperlinked web files. That format confused the students, did not create a pattern for content expectations across the modules, and added an unnecessary level of complexity. Consequently, I will need to revise the content portion of the synchronous modules to address this shortcoming. The greatest irony in this is that one of my colleagues used my hyperlinked Web file format in a course that one of my filmmaking students had taken, and the student suggested I might want to try my colleague's format as it was so effective!

Studio-based instruction is at one end of our continuum, as it is the greatest departure from the original correspondence-based distance education. It requires active learning on the part of the students, and it forces teachers into the role of facilitators. It requires innovation and flexibility on the part of educators, as well as a rich understanding of media and software to support an authentic crit process. Further, because the curriculum is negotiated, and therefore student-centred, self-paced, and individualized, it requires a great deal of subject-matter expertise from course facilitators. There are no answer keys or computer-marked quizzes in this format!

Summary

One of the greatest lessons we have learned over our many years of teaching and learning in and about online and blended contexts is that educators have a range of choices concerning their instructional strategies. While

the three constant factors presented in Figure 31.1 (teachers, learners and content) remain, and should influence teachers' choices, the degree and purpose of social interaction changes, depending upon the design of the instruction. Consequently, it becomes the job of educators to select instructional strategies and media to support them, and then make the technology itself disappear so that learning can occur. As seen in the four stories illustrating our continuum, the teacher must push back on the technology and not be dictated by it. Online and blended learning is not about technology; it is about learning. The technology must become transparent and ubiquitous to learners, and part of the role of educators and course designers is to ensure that occurs.

Having students and teachers alike reading lectures or listening to yet another podcast or video clip can no longer be considered a new or provocative way to teach as we begin the 21st century. We have more tools and technologies at our disposal than ever before, but we are still limited in how we conceive using these tools in our practice.

As educators, wrestling with myriad digital technologies, we must remember that our students have computers on their desktops that are many times more powerful than those that initially put astronauts on the moon. Therefore, are we really going to ask them do the ordinary things when they are poised for and capable of the extraordinary? Will online learning continue to be a poorer option to classroom learning, or are we prepared offer richer learning opportunities than are available in the majority of traditional classrooms? Is our nervousness about technology stifling our creativity? Until we understand our options, and begin to make informed decisions about instructional strategies and the media that might support them, we fear the promise and potential of learning online will continue to be lost.

We realize that it is our task to make the technology disappear for the learners and allow it to become an ordinary part of the teaching and learning environment. When we consider the rich learning opportunities created in the studio-based example shared in this chapter, we realize what is possible. What we don't know is what will be possible in the future. However, we do know that all that is limiting us is our willingness to push the limits.

CLOSING QUESTIONS TO PONDER

What can you accept as indicators of success for the various instructional strategies suggested in Figures 31.2 and 31.3?

As multimedia is added to courses, how does the teacher ensure the content is not lost in the process? How can the media and technological frameworks be made to disappear and only support the learning?

Assuming the continuum of practice is an effective way to discuss online options, what might we expect the next extensions of the continuum to look like?

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Contributors

Dr. Mohamed Ally, Professor, Athabasca University, Athabasca, Alberta, Canada

Tod Anderson, Correlieu Secondary, Quesnel, British Columbia, Canada

Ken Banks, Founder, kiwanja.net, Cambridge (UK) and Stanford University Fellow (US)

Dr. Kathryn Chang Barker, Director of E-learning, e-TQM College, Dubai, United Arab Emirates

Karen Barnstable, Program Coordinator, University of British Columbia, Okanagan, Kelowna, British Columbia, Canada

Paul A. Beaufait, Associate Professor, Faculty of Administrative Studies, Prefectural University of Kumamoto, Kumamoto, Japan

Shawn Berney, Owner/Operator Reality Adventures Guiding Network

Dr. Madhumita Bhattacharya, Associate Professor at Athabasca University, Athabasca, Alberta, Canada.

Natasha Boskic, Educational Technology Manager, Faculty of Education, The University of British Columbia, Vancouver, British Columbia, Canada

David Brear, Computer Studies Teacher, Centennial High School, SD#43, Coquitlam, British Columbia, Canada

Dr. Elizabeth Childs, etraffic solutions inc. executive consultant and publisher

Dr. Ruth Cox, ePortfolio Faculty-in-Residence, Academic Technology, and Lecturer, Health Education Department, San Francisco State University, San Francisco, California, USA

Dr. Susan Crichton, Associate Professor of Educational Technology, Faculty of Education, University of Calgary, Calgary, Alberta, Canada

Sylvia Currie, SCoPE Community Coordinator, Simon Fraser University, and Education Technology Facilitator, Nicola Valley Institute of Technology, British Columbia, Canada

Dr. Patricia Delich, e-learning consultant

Peter Fenrich, Project Leader/Instructional Multimedia Designer, British Columbia Institute of Technology Technology Centre, Burnaby, British Columbia, Canada

Finola Finlay, Associate Director, British Columbia Council on Admissions and Transfer, Vancouver, British Columbia, Canada

John Grant, Online Learning Community Coordinator, Simon Fraser University, Burnaby, British Columbia, Canada

Nathan Hapke, Undergraduate Research Assistant, University of British Columbia, Vancouver, British Columbia, Canada

Maggie Hartnett, Doctoral Student, Massey University, Palmerston North, New Zealand

Lynn Kirkland Harvey, Department Head Communications, University College of the Fraser Valley, Abbotsford, British Columbia, Canada

Julia Hengstler, Educational Technologist, Faculty of Education, Malaspina University College, Nanaimo, British Columbia, Canada

Sandy Hirtz, Consultant, T2 Education Online, British Columbia, Canada

Julien Hofman, Department of Commercial Law, University of Cape Town, South Africa

Moiria Hunter, MED, founder of Real-E-Learning Consultants; E-learning consultant, language coach and ELT Lecturer

Dr. Alice Ireland, Executive Director for the Pan-Canadian, SSHRC-funded INE Collaborative Research Initiative (2003–2008) Simulation and Advanced Gaming Environments (SAGE) for Learning, Burnaby, British Columbia, Canada

June Kaminski, RN, MSN, PhD(c)

Dr. David Kaufman, Professor in the Faculty of Education, Simon Fraser University, and Director of SFU's Learning and Instructional Development Centre, Burnaby, British Columbia, Canada

Kevin Kelly, Online Teaching and Learning Coordinator, Academic Technology, and Lecturer, Instructional Technology Department, San Francisco State University, California, USA

Dr. K. L. Kumar, Head, Department of Industrial Design and Technology, Faculty of Engineering and Technology, University of Botswana

Dr. Randy LaBonte, Direct Learning Consultant, Ministry of Education, Victoria, British Columbia, Canada

Niki Lambropoulos, Centre for Interactive Systems Engineering, London South Bank University, UK

Richard S. Lavin, Faculty of Environmental and Symbiotic Sciences, Prefectural University of Kumamoto, Kumamoto, Japan

Dan McGuire, Digital Licensing Specialist, Simon Fraser University, Burnaby, British Columbia, Canada

Dr. Don McIntosh, President Trimeritus eLearning Solutions Inc., Faculty member, University of Phoenix, Burnaby, British Columbia, Canada

Dan O'Reilly, Assistant Professor, Thompson Rivers University, Kamloops, British Columbia, Canada

David Porter, Executive Director, BCcampus, Vancouver, British Columbia, Canada

Dr. Charles Quist-Adade, Faculty, Department of Sociology, Kwantlen University College

Andrea Sator, Bridging Online Program Coordinator and Training Online Course Facilitator in Co-operative Education, Simon Fraser University, Burnaby, British Columbia, Canada

Paul Stacey, Director of Development, BCcampus, Vancouver, British Columbia, Canada

Kirsten Starcher, Educational Technology Developer, External Programs and Learning Technologies, Faculty of Education, University of British Columbia, Vancouver, British Columbia, Canada

Joseph Tomei, Department of Foreign Languages, Kumamoto Gakuen University, Kumamoto, Japan

Mr. Paul G. West, Director, Knowledge Management and Information Technology, Commonwealth of Learning, Vancouver, British Columbia, Canada