

EDUCATION FOR AN INFORMATION AGE
Teaching In The Computerized Classroom, 6th edition

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Chapter 9: Tools for Online Learning

Chapter Nine

Tools for Online Learning

We shall not cease from exploration.
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.

T.S. Eliot "Little Gidding"

It is good to have an end to journey towards
but it is the journey that matters in the end.

Ursula LeGuin "The Left Hand of Darkness"

LEARNING OUTCOMES

Computers are in today's schools. Whether in a lab, cart, or classroom, whether as a desktop, laptop, or even handheld, most teachers and students have some access to computers at school.

For many teachers, however, regular access to those computers is spotty at best. Labs can be overbooked or nonexistent and computers can be outdated or out-of-order. Teachers with just one student computer struggle to create meaningful learning experiences with that machine. Still others are lucky enough to have the latest technology in abundance, yet lack the training to use that technology successfully in the curriculum.

Internet access is often ubiquitous in the classroom as well; 92% of America's public schools had Internet access in 2001 (Solomon). However, the *presence* of Internet access rarely ensures the *reliability* and *usability* of that access. Students checking email, playing online games, or downloading music can drastically cut connection speeds. Poor network infrastructure and content filter problems further complicate matters.

Moreover, most Internet usage in schools is relegated to a simple search using a search engine such as Yahoo or Google, for example. Two problems exist when search engines form the foundation of online learning. First, sifting through the millions and millions of Web sites out there for just a few, age-appropriate, educationally-sound sites can be a challenge, especially with 20 or 30 students playing search engine roulette all at once. Second, once an acceptable site is found, the student often does little more than cut-and-paste text and graphics from that page to his/her report. Such searches often end up being time-consuming and mind numbing.

Not surprisingly, only a third of America's teachers say that they actively integrate the Internet into the classroom activities (Harris, 2002). Despite these challenges to using the Internet in the classroom, online learning can be an effective and valuable way to enhance the learning environment. Connection with the real world in real time, chances to collaborate with others worldwide, access to primary source documents, and opportunities to expand knowledge beyond

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Chapter 9: Tools for Online Learning

the classroom walls are just a few of the ways teaching with the ‘Net can improve learning (Solomon).

How does today’s K-12 teacher reconcile the benefits of online learning with the challenges to accessing and using the Internet on a regular basis? Effective integration of the Internet into the curriculum starts with an understanding and usage of Online Learning Tools, those Web sites and web-based activities that intentionally focus and facilitate K-12 learning. This chapter highlights these tools and provides the pre-service and in-service teacher with the information needed to use these resources in today’s classroom.

Topics covered in this chapter include:

- Introduction
 - Surfing the ‘Net
 - Effective Internet Use
- Characteristics of Quality Online Learning Tools
- Examples of Free Online Learning Tools
- Learning Outcomes of Online Learning Tools
 - Skill Reinforcement
 - Human Interaction
- Online Assessment
- Web Research and Resources for Technology Using Teachers
 - Interactive Outlines
 - WebQuests
 - Virtual Field Trips
 - Tracks
 - Learning Tools for Students
- Knowledge Construction
- Impact on the Learning Process
- Tips for Teaching with Online Learning Tools
 - Adaptations to Your Classroom Management Style
 - Tips for Making Effective Use of the Internet with Young Children
- Conclusion

INTRODUCTION

Surfing the ‘Net

We call it “surfing the ‘Net.” We type in a keyword or two into Yahoo. Up come millions or perhaps just thousands of sites on our topic. If we’re smart, we do an advanced search or use Boolean operators like “and” or “+” to refine our search. Still we get numerous sites, often far too many to evaluate given the time we have.

What about our students? The critical eye we have developed over years as education professionals ourselves has not yet matured in many of our students, particularly those in K-6.

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Chapter 9: Tools for Online Learning

They get sidetracked, dazzled by intriguing domain names or animated banners. The teacher's in the computer lab to do research on the Great Wall in China and the students are lost in search engine no-man's land.

The Internet can be nothing more than the world's largest library that has suddenly been hit with the first indoors tornado on record. Like a room filled with millions of sheets of book pages, lots of valuable information abounds, but it is in no particular order and appears to connect to nothing else. Not a very effective way to use valuable class time, right? Yet, almost 70% of the teachers recently surveyed said that researching information was the only way they used the Internet in their classes (Harris).

Even if you can teach your students a critical and efficient way to surf the Internet, what will you ask them to do with the information they receive? Are they merely picking up the random book pages and handing them to you typed neatly in 12 point, Times New Roman? Or, are you asking them to use that knowledge as a stepping-stone for a project, or new idea, or new application?

The Internet absorbs so much of our time and our attention that we often end up using it as a fact repository for traditional reports in class. After a while, this leads to student frustration, while limiting their thinking. As a result, we use it infrequently, with half of the teachers in one survey reporting that they use the Internet less than 30 minutes a day in their teaching (Harris).

A further deterrent to using the Internet in class is its ill fit with the younger grades. Many educators advise against using the Internet, especially without close guidance, in grades K-3. The comprehension level of many text-based sites, combined with the challenges of differentiating ads from content, make the young Web user easily distracted and confused.

Blindly surfing the 'Net without a net, if you'll pardon the pun, is a risky business in most K-12 classes.

Effective Internet Use

Lucky for us, other educators have developed just the assistance we need on the Internet. They are called *Online Learning Tools*.

Online Learning tools are any sites, software, or activities that intentionally focus on, and facilitate, K-12 learning on the Internet.

Ever heard of WebQuests? Filamentality? Quia? FunBrain? These are but a few of the better-known Online Learning Tools. There are hundreds more out there, many free for the K-12 educator. Throughout this chapter, we will highlight a few stars, but what if a site is not listed? What identifies a particular online activity or program as being an Online Learning Tool, simply entertainment, or worse?

Characteristics of Quality Online Learning Tools

Look back at the definition for Online Learning Tools in bold above. Notice the word "intentionally" in the definition. Activities such as Bernie Dodge's WebQuest, or fee-based sites such as www.quia.com have as their purpose the education of K-12 students. A site, activity, or

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Chapter 9: Tools for Online Learning

software program must *intentionally* seek to enhance the learning process to qualify as an Online Learning Tool.

Another characteristic is *adaptability* to differing age levels, grades, and abilities. An Online Learning Tool should be malleable enough to allow most teachers to use it to facilitate learning with most students. Obviously, what works for a child in kindergarten is usually not appropriate for a senior in high school, but an effective Online Learning Tool does try to span a number of grades and ages to ensure that educators can reach and teach all students in today's diverse classroom.

Finally and most importantly, Online Learning Tools *focus on, and facilitate, learning*. They narrow our students' vision while on the 'Net, eliminating distractions and zeroing in on the content. They set the stage for a number of learning outcomes desired by teachers in any activity or lesson

Major Learning Outcomes

Online Learning Tools attempt to impact learning in one of the following ways:

1. Skill reinforcement
2. Human interaction
3. Assessment
4. Research and resources
5. Knowledge construction

Take the first letter of these outcomes, and you have the acronym *SHARK*. No longer must you be satisfied with skimming the surface while surfing the 'Net. Online Learning Tools allow you to prowl the depth and breadth of the Web like a shark. In other words, by looking for sites that help build our students' skills, improve their ability to interact with others, assess our students' progress, narrow and facilitate research, and provide the framework for students who build their own knowledge, we can maximize our time while improving student learning through the use of the Internet.

EXAMPLES OF FREE ONLINE LEARNING TOOLS

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Information, like the air we breathe, should be free. That's why we have public libraries. That's why we have a right to a free public education.

And now we have the Web, which is slowly but surely becoming the fountainhead of education resources—most all of it free. There are literally hundreds, if not thousands, of websites like [Education World](http://www.educationworld.com) that are devoted exclusively to helping teachers teach and students learn.

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Chapter 9: Tools for Online Learning

This section will describe a few of my favorite free online education resources and provide some tips on how to go about finding your own.

ALTEC's [RubiStar](#)

Conscientious teachers prepare rubrics for their students as a guide to what is expected of them for a class assignment or project. This can be a time-consuming—even challenging—task. *RubiStar*, a product of [4Teachers.org](#), makes creating these rubrics a snap.

RubiStar provides generic rubrics that can be used for many typical projects and research assignments. The neat thing about *RubiStar* is that these generic rubrics can be *customized* by the teacher to fit any particular project.

[4Teachers.org](#) is maintained out of the [University of Kansas](#) under the auspices of [ALTEC](#), the Advanced Learning Technologies in Education Consortia. Besides *RubiStar*, ALTEC has a selection of other free tools for online lesson-planning ([TrackStar](#)), for test and quiz generation ([QuizStar](#)), and to help students with research papers ([NoteStar](#)). There is even a tool to help teachers design the layout of their classroom ([Classroom Architect](#))!

Lucas Carlson's [Web Collaborator](#)

Web Collaborator is free, web-based collaboration tool designed to help students work together on group projects. As Lucas Carlson explains, without *Web Collaborator* or a similar online tool, collaborating on a project involves passing papers back and forth, hours of painstaking corrections, hundreds of wasted pieces of paper, headaches—and plenty of coffee! *Web Collaborator* coordinates collaborations, keeping backups of every revision made to a project, letting students see who made the changes. This allows them to concentrate on the work at hand, rather than on the technicalities.

Each collaboration has three components: the **discussion**, where students plan their project; the **project** itself, where students work together online to build their ideas; and the **history** component, which keeps a backup of *every* revision made. It's all digital—no paper involved until the final version is ready to go to press. Students work side-by-side at the computer, or they work from wherever they happen to be at any time of the day or night. Getting together is as simple as being online at the same time.

David Warlick's [ClassBlogMeister](#)

Talking about collaboration, blogging (short for “Web logging”) is a great way for teachers and students to interact in the online world. A growing number of teachers are coming to appreciate the educational value of using blogs to promote student writing.

BlogMeister is the brainchild of David Warlick's [Landmark for Schools Project](#), where you will find other free online tools such as [Rubric Builder](#) and [Citation Machine](#) (a tool to help students correctly cite sources).

BlogMeister provides an easily-managed online environment where teachers and their students can write, edit, and publish material related to course work. Assignments are submitted to the teacher first, who reviews the work online before approving it and publishing it to the blog.

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Chapter 9: Tools for Online Learning

Writing is a powerful way to learn, especially when the writing is guided by the teacher in the context of a course-relevant blog.

The Center for History and New Media at George Mason University's [Survey Builder](#)

Need to create and manage online surveys suitable for Internet-based oral history projects, course evaluations, and other activities that involve collecting feedback? *Survey Builder* is the free online tool for you.

After you create your survey using its built-in editor, *Survey Builder* generates a unique Web page (hosted on the [Center for History and New Media's](#) site) that displays the survey for people to fill out and submit online.

GMU's Center for History and New Media also has free tools for gathering and managing online media ([Web Scrapbook](#)), a [Timeline Builder](#), and a polling tool ([Poll Builder](#)).

The websites highlighted above are but the tip of the iceberg when it comes to free online teacher tools. There are two ways to find other tools. The first is to **network with other teachers** by joining online discussion groups such as [EDTECH](#) where you will find thousands of teachers like yourself who exchange ideas, share resources, provide answers to questions, and, in general share their expertise. The second is to **become proficient at searching the Web**.

To paraphrase the words of William Shakespeare: **The Web is your education world; make it your oyster**. Talking about Shakespeare, you'll find his complete works—for free—at Amanda Mabillard's [Shakespeare Online](#)!

An extensive selection of other online learning tools and resources can be found at <http://www.pitt.edu/~poole/onlinelearning.html>.

LEARNING OUTCOMES OF ONLINE LEARNING TOOLS

Skill Reinforcement

Despite today's movement towards problem-based learning and advocacy of the constructivist theory of education, real teachers know that sometimes you just have to memorize stuff. Multiplication tables, French vocabulary, history facts, etc. Before we can create new knowledge, sometimes we need to double-check that everyone "got" the old knowledge.

Skill reinforcement sites are Online Learning Tools that review and reinforce skills, facts, and concepts. While a simple paper worksheet can accomplish the same task, sites and software can often engage and motivate learners in a way that paper cannot.

Another advantage of sites over paper is the ability to quickly adapt to the skills and abilities of different users. Take a classroom of third graders, have them explore and practice math skills on www.gamequarium.com, for example, and notice how many differing levels the activities can address in the same classroom. No one-worksheet-fits-all here! Gamequarium.com is the brainchild of Diana Dell, an instructional technology specialist for the Valley Park School District, in Union, Missouri.

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Chapter 9: Tools for Online Learning

An excellent example of a skills reinforcement site is www.funbrain.com. Ostensibly for K-12, the site's strength is in grades 1-6, providing interactive yet educationally sound games like *Math Baseball* and *Grammar Gorilla*. For Middle School, www.chompchomp.com offers excellent grammar review, while www.aplusmath.com provides skill and drill in grades 6-8 as well. Go to the Online Learning Resources page mentioned at the beginning of this section and click on *Online Games-Make Your Own* and *Online Games-Ready to Use* for many more skills-based sites and activities.

Skill reinforcement sites are excellent for either remediation or enrichment. They can also provide cultural exposure and practice for those students with limited English proficiency.

Teachers with only one computer in the classroom can use the sites as center work or extra review or extension. Saving one or more of these sites to your Favorites or even making one your home page will further increase the ease at which students, particularly in the elementary grades, access these activities.

When labs or carts are available, a classroom of students can use these sites on those "non-school days," when special events, spring fever, or a full moon make for energetic but unmotivated students. Many teachers use these sites as "rewards" for finishing other work in class as well.

Not surprisingly, we must take care to use skill reinforcement sites in moderation. The computer should not supplant the bulk of our instruction nor should it be a babysitter. Some studies have suggested that skills-based sites and software are used more often with lower income, lower achieving students and have been shown to actually decrease achievement, while the higher income students focus more time on higher-order thinking activities (Solomon).

On the other hand, if skill-and-drill computer activities actually supplement what is being taught in the classroom and if teachers have access to the students' scores and progress, then these sites have some merit (Raymond). In this case, however, the teacher must follow-up and actively track student progress online to ensure that students are putting forth effort and selecting more challenging activities as the year progresses.

Despite its potential abuse, there is room for judicious use of skills reinforcement tools. Skills on concepts and facts pertinent to the classroom curriculum, reinforced in an engaging way through Online Learning Tools, are a necessary outcome of a complete learning environment.

Human Interaction

Skills can be practiced with pen and paper, but human interaction cannot. Collaborating with other students or experts around the globe is a major benefit that the Internet brings to the classroom. The old "snail mail" pen pal exchange can now be sped up and souped up to be much more than a chat session. Classes can share data, offer opinions, and come together online to create products or projects.

These interpersonal exchanges (Harris) engage learners, broaden horizons, and improve communication skills. With the globalization of our economy and life, it becomes even more imperative that we are able to communicate and embrace cultures other than our own (Midness).

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Chapter 9: Tools for Online Learning

One group of students once emailed a teacher who was on a sabbatical on the Greek island of Chios. The students were studying Homer's *The Odyssey* and they were at best lukewarm about the material. But, by having an "eyewitness" in modern Greece, the students became intrigued and inquisitive about the weather, the landscape, the colors, and the pace of life. They then shared our findings with another class in another city via e-mail.

Ready to begin an online dialogue? Try Oracle's Think.com (<http://www.think.com>). This free site provides a number of valuable collaborative tools for students ages 7-14. A school or class creates an account with Think.com. Then, students can create personal Web pages that perhaps highlight something they are learning in class or another topic of interest. Those pages are only accessible by a teacher or student at that school. Students view each other's pages and leave a "virtual sticky note" with any thoughts or questions they had.

Email accounts, which can be limited to only email within that class/school, allow students to interact with one another, while open/assigned groups between or within classes provide the perfect opportunity for students to work together on projects, share ideas in a whole class setting, etc.

Beyond all these robust and time-tested tools, what separates Think.com is its commitment to student safety. By limiting access to all the tools only to students in one class/school, Think.com provides a safe space for students to experiment with collaborative learning.

Want something hands-on and a little tasty? Try counting colors of Froot Loops, vowels/consonants in Alphabits, or...who knows! The collaborative projects at Technospud (<http://www.technospud.com>) vary from year to year, but each provides a class/school with a great way to collect data, share their results with the Web site, then compare their results with others across the world. One past project had K-12 students counting the number of red, orange, green, purple, and yellow Skittles in a regular-sized bag.

The strength of this project lies in its application to a variety of ages. Kindergarteners enjoy counting and creating simple graphs of the total counts. Third graders can take their results and graph them on a spreadsheet program. Middle school students can take their results and experiment with probability, percentages, and simple statistics. Worksheets prepared by other teachers are included on the site.

Dozens of quality human interaction sites exist with exciting projects ranging from: cataloging road kill, tracking hummingbirds, comparing grocery prices around the world (Warlick), establishing common bonds between classes from varying cultures, and more. Go to the Online Learning Resources page mentioned at the beginning of this section and click on *Collaborative Learning* for a list of these educationally sound sites and activities. Of particular note are the sites with guidelines for developing and implementing human interaction projects online.

If you decide to use a human interaction site in your classroom, start small and keep your focus narrow. Try some of the many projects already in progress, and collect data or submit small samples of student work. Save the semester-long projects or free-form collaborations with another gung-ho teacher until you've got the hang of collaborating online.

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Chapter 9: Tools for Online Learning

Once you're ready to tackle a project outside the constraints of existing sites, be sure to plan and select participants carefully to avoid disappointments. Trust me: there's nothing quite as sad as a roomful of third graders tearing up because their buddies across the world forgot to email them back this week. Check out the guidelines for designing your own collaborative effort at Telecollaborate! (<http://telecollaborate.net>) and in an online article called "Organizing and Facilitating Telecollaborative Projects" (<http://lrs.ed.uiuc.edu/Mining/February95-TCT.html>).

A caution, however; human interaction activities are not easy, baby-sitting activities. Teachers must communicate clearly with the teachers at the other end to ensure that all involved are committed to the project and have reliable access to the Internet. While access is almost universal in the States, most of the world does not enjoy similar accessibility. It may be necessary to complement some web-based communication with more traditional pen-and-paper methods.

Also, just assigning students to partners and telling them to "share" isn't usually enough. Consider what a challenge it is to talk to a total stranger at a party, then consider how much easier it can be talking to that same person after you've experienced something together: a project at work, a rainy walk to a conference, etc. Having a project to complete or a problem to solve gives boundaries and agendas to your students' collaboration (Harris).

ONLINE ASSESSMENT

One of the easiest ways to integrate the Internet into your classroom is by using online assessment. You can create a quiz online within 10 minutes, have your students take it, and receive their results back via a secure Web page or email. After a little practice, making online tests takes no more time than typing them on a word processor. Plus, think of all the time you save at the copier!

Why bother with using online assessments? According to a brief by the National Governors' Association, electronic assessment not only provides faster feedback to students, especially in the midst of high-pressure standardized tests, but also prepares them for a postsecondary world and career where technology skills are a prerequisite ("Using Electronic Assessment to Measure Student Performance").

In our world of high-stakes testing, students who are comfortable taking tests on the computer in addition to by pen-and-paper, are better prepared to succeed on standardized assessment. As a result, numbers of companies have created online and software resources designed specifically for practicing for these tests (Salpeter). Even if a district, school, or teacher chooses not to purchase these substantial prep programs, simply using the existing free or more reasonably sized and priced online alternatives may prove helpful as well.

Online assessment is especially helpful whenever you have objective information that must be memorized or understood. Vocabulary, facts, concepts, lists, and more lend themselves well to the types of questions a computer can grade (multiple choice, true-false, etc.).

What are the advantages to Online Assessment?

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Chapter 9: Tools for Online Learning

- Speeds up grading – A teacher’s time is, after all, the most precious classroom resource.
- Engages the learner – Since students can see their results immediately after taking the test, their interest in the results is heightened. You will undoubtedly find that students will take a more active interest in their online tests than in any paper-based tests they might be given.
- Make-up tests can be taken anywhere there’s an Internet connection – This is particularly helpful for absent students. Have a parent sign that the child took the test under test-taking conditions.
- Speeds up test taking – Students spend less time taking online tests than paper tests, freeing up class time for more collaborative, problem-based learning activities.
- Provides statistics on class performance – The teacher can see instantly how many students missed what question or how long it took each to take the test. Such information proves useful as you adjust your teaching based upon the test results.
- Easy way to integrate technology – If your administrator or district is clamoring for technology to be integrated in your classroom, put your weekly vocabulary tests online and be sure to have the principal stop by during test-time. It is also a great starting point for the beginning teacher or veteran teacher who is a bit leery of technology.

Using online assessment sites does require some new classroom management techniques. Be sure to prevent students from taking your test early by disabling, restricting, or otherwise securing (each site has a different term for this). Since many sites secure your tests with passwords you create, be sure to use hard-to-guess ones.

When given the chance, you’ll want to randomize the questions on the test so that neighboring students don’t have the same question as number one, etc. A challenge of online assessment is that monitors (or laptop screens) are easier to see than paper on a desk, making cheating a real possibility. Therefore, you’ll also want to carefully monitor test-taking, as always.

Like any classroom tool, online assessment may require some modification for students with special needs. Students with ADHD or related disorders that impair concentration and the ability to sit still, actually do better with online assessment than with pen and paper, perhaps due to the interactivity of the Internet and the kinetic demands of the computer.

Two warnings: use of online assessment should be avoided or limited in grades K-2, especially among students with emerging literacy skills. Even if your questions and answers are readable to them, instructions given by the site itself (Continue, Submit Test) may be more frustrating than helpful at this age level.

Also, while online assessment allows greater flexibility for taking tests off-campus, be sure you are comfortable with the student and his/her family and their ability to maintain a test-taking environment. Such sites should not compromise the integrity of test taking in your classes.

Currently, four Web sites stand at the forefront of basic online assessment for K-12. Quia (www.quia.com) is the granddaddy of all these sites. With numerous activities and tests that your

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Chapter 9: Tools for Online Learning

students can take for free, Quia does charge a fee for teachers who wish to actually receive the grades or results from these exercises. Quia has more features and flexibility than the other three sites, but until you know exactly what you need from an online assessment site, it may be best to start with a free one, then check out a free 30-day trial to Quia and make the comparison.

QuizStar (<http://quizstar.4teachers.org>) is a lesser known but very reliable online assessment site. Part of HPR*Tec, one of the federally-funded regional education consortiums, QuizStar is completely free and very easy to sign up for and use. A great choice for grades 6-12 (due to its simple and non-cartoony design), the site does warn against using QuizStar for formal assessment, however.

The last of the more highly regarded and used online assessment sites is QuizCenter (<http://school.discovery.com/quizcenter/quizcenter.html>). Part of Discovery School's vast treasure trove of educational resources, QuizCenter is free but does take considerably more time to sign up for and use than QuizLab or QuizStar. Also, because of its high site traffic, Discovery School's pages often load slow or not at all. In a lab of 20 or more computers, you may well find that only one third of the students are able to access a quiz at a time. The features of QuizCenter, however, are as strong as the other four, and, provided you have a back-up plan, use of this site for testing would be fine.

In all, online assessment sites can be an excellent addition to today's classroom. They're engaging time-savers that enable the class to then focus on more knowledge-building activities that build on the students' knowledge of the subject. For such projects, however, a little background research is often needed. For this, we turn to Research and Resources tools.

WEB RESEARCH AND RESOURCES FOR TECHNOLOGY USING TEACHERS

Most technology-using teachers are guilty at one time or another of what might be called the "Yahoo lesson plan": go to Yahoo (or some other search engine) and find facts on _____ (fill in the topic for the lesson!!).

With millions of irrelevant (not to mention dangerous) sites out there, this is a slow and inefficient way to search for information. Moreover, students, particularly in grades 2-4, lack the critical thinking skills to sift through the results. They also lack the typing skills to navigate to the correct sites. Even among the older students, class time is often wasted in sidetracks to intriguing but non-educational sites or ads that promise a prize to the happy clicker.

What's the solution? Research and Resources sites can replace the educator's dependence on Yahoo for "information collection and analysis" (Harris 2002). These sites are often templates or programs that focus students' attention on the content to be learned, rather than on navigating the Web.

Examples of such tools include Interactive Outlines, WebQuests, WebGuides, TrackStar, Filamentality Hot Lists and Scavenger Hunts, as well as Virtual Field Trips, which can, according to Kim Foley of Virtual Field Trips (<http://www.field-trips.org>), dramatically save classroom time. "The alternative is that students can spend their time searching for this same

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Chapter 9: Tools for Online Learning

information, but a field trip or track can save them so much time and allow them to instead spend their time concentrating on the subject at hand,” (Foley, 3/18/02)

Interactive Outlines

One idea for integrating Web resources into lesson plans is the Interactive Outline (or Navigation Menu). The teacher, as usual, prepares an outline for a lesson—the topics to be covered in the sequence that will work best for the students. Then, for each topic in the outline, the teacher does the research to determine what Web sites will best provide relevant, reliable, and, above all, engaging content on the topic. The Interactive Outline is prepared using a word processor such as *Word*, with each of the websites (the name of the website along with the URL) listed in the outline. The students are each given the outline (either online or on paper) and are required to complete the Interactive Outline either in school (if the students each have access to online computers) or at home (where students might get together to collaborate if they don’t each have access to an online computer—at home or at the local library).

An excellent exercise for an ICT/IT course for teachers or during an inservice day at school, would be to have each teacher (or team of teachers) prepare such Interactive Outlines which they can all share with each other.

WebQuests

The forerunner and most popular Online Learning Tool is the WebQuest (<http://webquest.sdsu.edu/>). Created by Bernie Dodge of San Diego State University, the WebQuest enables a teacher to select several Web sites then have the students review those sites as the basis for a project or product. If you are unfamiliar with the WebQuest model, go to the above site and look at sample WebQuests in your content area/grade level.

A recent addition to the WebQuest model has been the Patterns approach that seems to cut down the preparation time for creating such a template. Without the Patterns shortcut (found on the above Web site), it can take several days to create a WebQuest in addition to the several days or longer to complete it in class. Moreover, due to the WebQuest’s use of more complex thinking skills, Dodge (2002) no longer recommends their use in grades K-2, although numerous WebQuests exist for those ages.

An easy, one-day, one-Web-site variation of the WebQuest is the WebGuide by Susan Brooks and Bill Byles. Their WebGuides can be found online at Internet4Classrooms (http://www.internet4classrooms.com/webguide_template.htm). This site gives you an easy-to-follow template where you can plug in the details of your site and the tasks you want your students to accomplish (write a report, discuss with their group, complete a spreadsheet). This is particularly helpful for those teachers whose schools or districts look for printed and standards-based descriptions of their lessons. Also, teachers just beginning with technology or first-year teachers will find this template very easy to follow.

Virtual Field Trips

If you do teach K-2, or if you simply want a one-day, fact-finding excursion on the Web, then Virtual Field Trips (<http://www.field-trips.org/>) may be for you. There are numerous, pre-made

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Chapter 9: Tools for Online Learning

field trips available for your use for free. To create your own, you will need to purchase the software from the site and you will need your school to allow you to put a trip on its web server.

One of the strengths of using a virtual field trip is the availability of tools for keeping students on track. As the student clicks from site to site on the trip, if they intentionally or accidentally begin clicking the links on a particular site and become off-task or just plain lost, one click of the forward button on the trip's control panel, and the student is once more back on the right track. As Kim Foley of Virtual Field Trips notes, "From the teacher's point of view, subject specific, age-appropriate resources have been gathered together in one neat, organized package, saving hours of prep time, as well as providing a key tool to maintaining subject context" (7/9/02).

Tracks

Similar tools to virtual field trips are tracks on TrackStar (<http://trackstar.hprtec.org/>). This is an excellent site on the Internet. You can create tracks for use with all grade levels. Once you know about 5 sites that you would like your students to look at, it takes only about 10 minutes to create a track for those sites. The student then navigates the track by clicking the title of each Web site that is found in the left frame of the window.

Tracks are free to make and use, and with thousands already made, these tracks make a great starting place for your own research or selection of sites for use in class. You can copy and paste sites from existing tracks and place them into your track to speed things up. One warning: as with anything made by other teachers, be careful to select sites and tracks that meet your students' needs, skill levels, and interests. Just because a "teacher" made it doesn't make it either great or relevant.

Consider also Filamentality, a website sponsored by PacBell (<http://www.kn.pacbell.com/wired/fil/>). This site is also home of the award-winning BlueWeb'n, an exhaustive list of K-12 lesson resources. Filamentality is a set of free Web tools similar to Tracks including HotLists, Subject Sampler, Scrapbook, Treasure Hunt, and WebQuests. Filamentality offers something the other sites do not: it asks the teacher to decide what they want to achieve with the tool (get kids excited about an upcoming class topic, get background info, create a product today, etc.), then helps the teacher select a tool appropriate for that task.

The key to using these tools, however, is knowing what Web sites you want your students to see. Unlike Yahoo searching, you will need to pick a site or sites for your students to view, and then decide what they should learn from those pages, whether it is answers to your questions, or background information for a later project in class.

Online Learning Tools for Students

While Interactive Outlines, WebQuests, Virtual Field Trips, TrackStar, and Filamentality each help the teacher organize sites and resources for the student, what about online tools that help the student record and organize their own research? Notestar (<http://www.notestar.4teachers.org>) and Digital Index Card (http://www.landmark-project.com/evaluation/evalform_1.php3) each provide space online to record information students gather from the Web. Citation Machine (www.landmark-project.com/citation_machine/index.php) helps them correctly cite their sources based upon a variety of styles. Experiment with each of these tools prior to class use to

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Chapter 9: Tools for Online Learning

make sure each is appropriate for your needs. Most are designed for the long-term project in middle or high school and would be too cumbersome for the daily or weekly Internet research found in some social studies or English/Language Arts classrooms.

Obviously, none of these Research tools can totally replace a search engine such as Yahoo in most grade 4-12 classrooms. But they can be used to speed up and focus Internet research. In the older grades, students themselves can create tracks, field trips, HotLists, in lieu of traditional paper-based projects. Such student-based creation leads us to the last learning outcome of Online Learning Tools: Knowledge Construction.

KNOWLEDGE CONSTRUCTION

We've discussed ways to improve skills, encourage dialogue with students around the world, test objectively, and refine our research all through using the Internet. All of these have their place in today's classroom, but if we wish to help our students create meaningful new bodies of knowledge, we need templates and tools that will help us help them. These are the Knowledge Construction tools.

Harris (2002) argues that these types of sites can "promote critical thinking, collaboration, and problem-based learning. These include information searches, peer feedback activities, parallel problem solving, sequential problem solving, telepresent problem solving, simulations, and social action projects" (p. 57). Notice how Knowledge Construction is in fact a synthesis of many of the other outcomes in one site or activity (gathering research, interacting with others, assessing knowledge, and so forth). See <http://www.iste.org/L&L/29/6/supplement/harris.html> for more information on these categories.

As teachers become more confident and students become better critics and consumers on the Web, we may see these Knowledge Construction tools becoming more and more important in the future: less structured activities and more building blocks to create our own worlds!

ThinkQuest (<http://www.thinkquest.org>) is the most well known of the Knowledge Construction sites. Similar to the old science fair model, students in the same class or with partners from around the world gather information on a topic of their choice and create Web pages that display what they have learned.

The site is free, and contests are divided by countries and grade levels (4th-12th grade may participate). Because of the odd timetables that do not coincide with school quarters and semesters, ThinkQuest is a tool that perhaps is best used for extracurricular groups and clubs or for independent enrichment work for some students.

A free science-based site in this category is WISE (<http://wise.berkeley.edu/welcome.php>) or Web-based Science Inquiry Environment for grades 4-12. Students collect data on a controversial topic then form an opinion and engage in a dialogue with other students and experts. Out of the University of California at Berkeley, this site makes science real for your students.

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Chapter 9: Tools for Online Learning

As mentioned before, letting students create their own WebQuests, Tracks, or Virtual Field Trips would also qualify as Knowledge Construction, as they must learn to synthesize and critique sites as well as organize them and ask meaningful questions of their fellow viewers.

Earlier, Think.com was mentioned as a great resource for human interaction/collaboration online. Don't forget its free student Web pages where students can display their work on a given topic. The tool is free and simple to use for 2nd-8th grade students.

Consider RIBIT (<http://www.ribit.tielab.org>) as well. What's RIBIT? Reusable Internet Based Inquiry Template! Teachers link primary resources to a Web, then, rather than telling students what to think, let the students get hands-on with those resources and learn on their own, constructing their own body of knowledge. It's free, suitable for most classes grades 3rd-12th, and it's easy to set up!

Students in grades 2-6 can then create hyperlinks from one picture to another, so that when another viewer clicks on the door handle in one picture, it takes you to a picture of the inside of the house. Groups can work together to create a story, animate it, then share it with other groups. Such a program can improve students' creativity, writing skills, and interpersonal skills—while giving them a lot of fun.

All of the sites listed under the above sections for Skill Reinforcement, Human Interaction, Assessment, Research and Resources, and Knowledge Construction can improve learning and engage students in your classroom. Do you agree with these learning outcomes or are there more you can think of?

One further caveat: just because a site does not fall into one of these categories does not mean it is not an excellent Internet resource for your class. John Raymond, editor of *The New Curriculum*, offers an additional category, Online Primary Sources such as videos, taped speeches, data, and other information direct from the source that created it. "Perhaps these aren't 'tools' because they lack the user interface.... But I fear if we only talk about the pre-designed sites and materials then many teachers will not bother to seek out and explore the sites with such primary materials" (Raymond).

IMPACT ON THE LEARNING PROCESS

Using technology simply because it is there is not a useful way to spend classroom time. Online learning tools should be used only when and if they can augment your instruction goals in the classroom. According to the Northwest Regional Educational Laboratory, educators must ask two basic questions when evaluating possible use of any technology,

"Is it developmentally appropriate—consistent with how a child develops and learns—and with the child's current development state?" and "Will the activity benefit the child or will it replace other, more meaningful learning activities?" (Van Scoter and Boss, p. 29).

Do your utmost to ensure that the technology is transparent in your teaching. Just as gaudy earrings may detract from an otherwise professional appearance, using an online resource with

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Chapter 9: Tools for Online Learning

lots of bells and whistles may turn the attention to the technology and away from the content. Technology is only a tool, not the focus of attention in our classrooms.

Van Scoter and Boss (2002) also suggest looking at time constraints, motivation, and presentation. The last of these criteria is particularly important, as any teacher who has used PowerPoint or HyperStudio in class can tell you. Students will spend much more time making a presentation pretty than they might spend making it substantive. Make sure any Online Learning Tool you use does not emphasize style over substance. Be critical of your students' multimedia presentations, seriously assessing them for content, and not simply on the basis of razzmatazz.

Another way to see how Online Learning Tools impact the learning process is to take a glimpse into the classroom of tomorrow. We are accustomed to the traditional model of instruction: lecture-based, teacher-centered, information-gathering, and formal assessment-based. The International Society for Technology in Education (ISTE) has listed the following characteristics of the new, emerging learning environments.

Technology-enriched learning environments should emphasize and promote:

- Student-centered learning
- Multisensory stimulation
- Multipath progression
- Multimedia
- Collaborative work
- Information exchange
- Active/exploratory/inquiry-based learning
- Critical thinking and informed decision-making
- Proactive/planned action
- Authentic, real-world context. (*National Education Technology Standards for Teachers* p. 5)

When considering an Online Learning Tool for class, a teacher should evaluate if it does in fact help move the classroom towards these new learning characteristics defined by ISTE.

A third way to evaluate how an Online Learning Tool can help the learning process is to look at the graph by Pam Berger on her Infosearcher Web site (www.infosearcher.com and click on Curriculum-Technology Integration > Curriculum-Technology Integration Chart). Berger divides up what she calls Web Tools in terms of what the learning is doing. For learners who are searching, for example, she recommends, Filamentality. For reflecting, she recommends TrackStar and for evaluating, she suggests Quia. The chart, illustrated on the next page, is simple and easy-to-follow, especially for those new to technology integration.

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Chapter 9: Tools for Online Learning

TECHNOLOGY/CURRICULUM INTEGRATION			
<i>Use technology as a tool to empower students to be actively involved in constructivist, inquiry-based learning</i>			
What is the Learner Doing?	Enabling Tool	Technology Applications	Technology Tool
Predicting	Graphic Organizer/ Visual Display Tool	Brainstorming Tool/Mindmapping	Inspiration
Locating/Finding	Information Access Tool	Online Catalog, CD-ROM, Internet/Web sites, Search Engines, Subject Directories information sources primary sources interactive/tellecollaborative sites fee-based full-text information	KidsConnect
Searching			Noodle Tools
Evaluating			Octopus
			Filamentality/Hunt
Communicating	Communication/ Collaboration Tool	email Internet listservs groupware chat video conference threaded bulletin boards	Microsoft Outlook
Collaborating			Tapped In (MUVE)
Organizing	Organization Tool	databases, spreadsheets desktop organizers Web pages statistical software visual tools/graphic organizers	Microsoft Office
Synthesizing			Octopus
			FrontPage
Expression	Writing/Authoring Tool	word processing multimedia authoring desktop publishing	Microsoft Office
Sharing			HyperStudio
Reflecting	Visual Display Tool	presentation programs graphic design	PageMaker
			TourMaker/TrackStar
			Powerpoint
			Keeboo

Chart of Technology Curriculum Integration

Courtesy Pam Berger, 2000, Information Searcher at <http://www.infosearcher.com>

TIPS FOR TEACHING WITH ONLINE LEARNING TOOLS

Okay, you've read the chapter. You know you want to use Online Learning Tools in your classroom. Where do you start?

First, determine your current state of technology in your classroom and school. This is the STAR approach:

1. **Student skills and attitudes** – Beginners? Excited? Scared?
2. **Teacher skills and attitudes** – Are you comfortable using technology? What skills do you have or need to teach with technology?
3. **Access** – How and when will you access technology at your school with your class?
4. **Resources** – Who is available to help if you get lost or confused? What print or online materials do you need to get started? (Jackson, "A Beginner's Guide to Integrating Technology")

Knowing what you have and what you and your students can do will help you choose an Online Learning Tool just right for your needs. Always ask, "How will this help me reach and teach my kids?"

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Chapter 9: Tools for Online Learning

For human interaction projects, focus on activities that encourage students to exchange information not just engage in discussion or chatting (Harris). Also, focus on collaboration not cooperation. Have your students share data and opinions to form one product. Do not let them take the easy route and collect data just for their own products alone. “Though collaborative activities are more difficulty to do and to facilitate, participants receive multiple benefits from having to understand and incorporate plans, procedures and perspectives different from their own. The truly collaborative process usually requires higher-level thinking and interaction” (Harris, p. 58).

Remember also that technology does not have to be the focus of all the learning in one unit or lesson plan. Take the students to the library and have them do research there, then use Project Poster to display their work online. Or, test their basic understanding of English grammar using QuizCenter before having them begin to peer edit papers in class.

Taking technology in tiny bites like this helps to make using technology in class less overwhelming. If you are a true beginner with technology, try to do something online once a week, even if it is just using TrackStar or FunBrain. Get yourself and your class used to technology, then begin to look for ways that Internet resources can speed up and engage your students. Start with the sites and activities that require the least amount of modification for your class, so you can get your feet wet without too much work. Then, move to more flexible, time-demanding, but higher-order thinking activities.

If you’re reluctant to use technology in the classroom, do what a veteran teacher at one school did last year. She used online resources to teach math skills in one of her middle school classes but used the textbook and paper and pen in the other class. She was amazed at how much more interested her students were in the online lesson and how easy it was to set up her project online. Essentially, she conducted her own research study and concluded that using technology for learning made a difference for her kids.

Adaptations to Your Classroom Management Style

No matter how good you are at controlling a classroom now, chances are, however, that you will need to adapt your classroom management style to fit learning online. Some tips:

1. Computers aren’t babysitters.

Kids might look on-task but keep an eye and an ear out for off-task surfing and clicking!

2. Strive for controlled chaos!

You can’t expect 20 students on computers to be absolutely quiet (except during test-taking) and you really wouldn’t want it that way. With so many questions that can come up, you want students to help one another, so be prepared for a noisy but productive atmosphere.

3. Don’t show, tell.

Yes, you read it correctly. Teachers and helpful students want to immediately grab a mouse or begin typing in an address when a student is lost or needing assistance. But, has that student learned if you did it for him/her? It’s a good habit to keep your hands clasped

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Chapter 9: Tools for Online Learning

behind your back and get students to do the same when telling another student how to fix a problem.

4. Have extra activities ready (call them Plan B, if you like).

More so than with pen-and-paper, students really vary with speed and accuracy online. Some will finish twice as fast as you expect and others will need the class period plus some.

5. Have a backup plan.

Viruses creep up. Networks go down. Power goes out. Make sure you have something content-related but non-technological for when the unexpected happens.

Even if you do not have computers for each student, you can still successfully use technology. Divide group work into discussion time, sketch out what you will do, and then have one group member complete the task on the computer. Have a student serve as a mentor in-group to help but not touch during typing, or pair students up (“Communication: A Key to Learning”). Giving your students finite amounts of time (have a timer with a bell and ticker to keep them busy and energized) also helps to focus them when they are not on the computer.

Tips for Making Effective Use of the Internet with Young Children

Here are some special tips for using the Internet with young students or with students with limited access to technology outside of school:

1. Teach them to distinguish ads from content

2. Show them there’s more “beyond the fold.”

Younger students won’t know that there’s more to the page than what they can see without scrolling.

3. Make sure sites are age appropriate.

We often make sure a site is not too mature for our students, but students are equally as frustrated and angry when a page is too childish for them. Sadly, many Web designers don’t take this into account and ruin your chances of using a great site by making the graphics too juvenile for your third grade class for example.

4. Slow them down.

Kindergarten students especially have difficulty on slow-loading pages. Teach them to click, stop, and count to 10. This gives them something to do while the page loads. Avoid choosing slow-loading pages when possible and teach students not to be click-happy.

5. Stick with simply designed sites.

The fewer graphic and the less music on a page, the easier it is to navigate. Amazon and Yahoo get highest rankings for ease of use by younger students in one recent study (“Usability of Web Sites for Children”)

6. Kids don’t just “get it.” They need written instructions more than adults.

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Chapter 9: Tools for Online Learning

Interestingly, we adults assume kids “get” the Internet better than we do, but research by Nielsen Norman Group (“Usability of Web Sites for Children”) does not bear this out. Show students how to look for and follow directions on a Web site and where to click to navigate around.

CONCLUSION

Internet use has been proven to improve higher-order thinking, problem-solving, content area achievement, and preparation for the workforce (Cradler, McNabb, Freeman, and Burchett). It boosts achievement in math, language arts, and science and especially impacts students with special needs, increases self-esteem, and boosts attitudes about the learning process, particularly when taught within a collaborative framework (Solomon).

Consider your curriculum, your students, and your computers. Start small. Try something out online. If it doesn’t work, reflect on what the problems were: time, difficulty level, your knowledge of the site or program, or something else. Reflect and revise and try again.

The Internet is, and will continue to be, a vital part of our lives at home, work, and school. Use Online Learning Tools appropriately and you will energize your students, increase learning, and prepare your students for the world of the future.

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Chapter 9: Tools for Online Learning

Case Study

Virtually Teaching: My First Steps Online

Mary Mallon

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Background

I had the privilege of being a recent graduate of the International Masters in Instructional Technology Program: Distance Learning Strand that partnered Duquesne University in Pittsburgh, PA with the University of Ulster in Northern Ireland. To find out more about this innovative Masters and the work of the participants visit <http://www.imsct.org/>

Context

BlackCat Slideshow, a simple and easy to use tool for creating multimedia presentations, is one of thirty Granada Learning titles which have been supplied to all primary schools in Northern Ireland as part of Classroom 2000 (C2k) <http://c2kschoolbox.granada-learning.com>

Since it is a new piece of software the pilot had the potential to provide feedback on the use of Slideshow in primary schools whilst at the same time offering me an opportunity to draw together all that I had learned over the course of the Masters program in an online teaching practice, where I would design, build and teach an online course.

My objectives were:

- To support the effective use of Slideshow by teachers and pupils.
- To build an online community of Key Stage One and Two teachers

aimed at producing of a resource library of sample Slideshows.

- To encourage teachers to share their resources, as well as, highlight good practice.
- To evaluate the effectiveness and sustainability of this type of online support.

Implementation

The pilot involved each teacher making one slideshow per week during a three week period, targeting a different subject area. My initial goal in selecting 10 teachers, from 5 schools across Northern Ireland, was to ensure a balance between key stages whilst at the same time minimizing the feelings of isolation. The use of the VLE served to break down barriers of time and geographical location.

Proactive evaluation (Sims, 2001) at each stage of the journey from design, through development to implementation and evaluation helped me to clarify my thinking and also highlight any potential flaws. It involved experimentation, discovery and growth, as I *created the course materials* (Wood, 1988), and involved identifying an area where there was a need for change and then, subsequently, trying to provide a remedy through an evaluative process (McNiff et al., 1996).

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Chapter 9: Tools for Online Learning

This approach allowed me to identify the fact that the teachers would not be able to meet each other face-to-face as a weakness in this pilot, and I therefore set about ensuring that they all met me individually; a strategy that had modeled by Linda Wojnar in her early contact with us at the beginning of the Masters. It proved very useful in breaking down barriers and creating an atmosphere of trust (Hill, 2000) where people are more willing to take risks and share the lows as well as the highs, an important factor if the pilot was going to be used to inform future planning for support.

I felt it vital that I create and provide the participants with a guide to assist them logging on, in their navigation of, and the process involved in posting messages and uploading files to the online environment. I was also careful in providing them with a clear outline of what was involved in the pilot so that they would have the big picture up front and be aware of the commitment they were making to engage in three types of interaction: learner - content, learner - instructor and learner - learner (Schoenfield-Tacher et al., 2001).

The transcripts illustrate the supportive climate created by the participants in the pilot. They encouraged and supported each other in the non-threatening virtual learning environment. The participants were willing to take risks and experience success. They asked questions to clarify their understanding of how individual slideshows were created, seeking assistance in the 'Questions and Answers' section and offering solutions to each others' problems. Such an environment builds confidence and motivates teachers to learn more.

In this pilot the teachers were exploring the software without fear of failure and many experienced success by trial and error. As a result, they were more willing to take risks, try different media, and hence become more confident and effective in their use of the software, for as Hopkins (1997) reports, "Learning is enhanced by risk taking, and ICT provides a medium where many more pupils are prepared to take risks." (p.164)

By sharing their slideshows in this safe environment the participants had the opportunity to try out things they had not considered themselves. They shared and celebrated good practice as well as provided each other with a bank of 30 slideshows in return for sharing three of their own.

Here are some typical comments about each others' work from participants in the pilot study:

I loved your slideshow on the Vikings! I will use it next year (if you don't mind!) Can't wait to download the second part! Keep up the great work... Derek 19 April

Derek - We used your quiz today - very enjoyable! Class worked around laptop (with a referee!) in groups and answered the questions. We had prizes and the works... Never thought of using SlideShow in this way...

Adrian 24 April

Your fairy tale is super. These are giving me ideas for creative writing with my lot...

Pauline 18 April

Thanks, you've given me a starter for my history in the last six weeks of term.

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Chapter 9: Tools for Online Learning

Keep them coming. Well done. If we make any I'll send them to you...

Pauline 22 April

I really have discovered a wonderful range of ideas/approaches to using slideshow - well done to everyone who has participated. Now I'll have to get recording and photographing from real life...

Derek 27 April

These next two excerpts from the discussion forum illustrate the way in which participants were reflecting on each others' work, striving to ensure they fully understood the process by which the slideshow was created.

I used Derek the Troll in my class today and my lot loved it - they are jealous that our sound recorder isn't working properly. But will force me to do something about it now. Congratulate your class - the story was superb, as were their voices and the vocabulary they were using. Did you spend long discussing/writing away from the computer? Did the clip art provide the stimulus for the story or did they choose the clip art to suit the story already written?...

Adrian 24 April

I put the clipart pics onto acetate and let the kids view them. We discussed the "bones" of fairy tales –characters, setting, problem, solution, etc. and then they drew and wrote story boards in groups. From that, we built up one of the stories, using ideas from everyone (data projector was very handy), put the pics in order and then the kids (a lot of it in their own time as I am not a KS2 teacher and so see the kids for short spells only) drafted and redrafted the story itself. If I had more time, I would have recorded

the sound individually, one child at a time. This was quite rushed and the other 26 were sitting listening as it was being recorded each time! Scrape that chair or cough AND DIE!!!

Janine 25 April

In addition, there is evidence of the good practice being shared within their schools where teachers have used SlideShow created by others during the three week period to encourage others within their staff to investigate the potential of Slideshow, so acting as a catalyst for self-supporting staff development.

...Well done. I look forward to showing it on Monday to my key stage one staff. Hope it inspires them...

Pauline 13 April

I really enjoyed your SlideShow! I told our P5 teacher about it and she is very interested...

Janine 9 April

Just thought I'd tell you that when our principal saw what we were doing on Slideshow, he asked for it to be loaded onto his computer as he felt he could cope with this programme as he couldn't master PowerPoint...

Alice 25 Mar

Throughout the pilot the online communication has served to record and paint the special stories behind the creation of the Slideshows. The stories have allowed all the participants in the pilot to peer through virtual windows into each others' classrooms and bring the learning situations to life, as illustrated below.

This slideshow was created by a group of less able pupils. One of the children has a serious speech problem and I was a bit nervous about letting her speak but

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Chapter 9: Tools for Online Learning

she did extremely well. This same child took over management of the last slide, explaining to another exactly what to do, she even recorded the speech herself as I had to leave the classroom. She made the other girl record it twice because she wasn't happy with the first recording. I can now go to Italy happy as I'm obsolete in my classroom...

Alice 28 April

I ensured that as well as posting announcements to the Virtual Learning Environment (VLE), I sent a copy of all announcements to the participants' email accounts, a very effective strategy which I first saw modeled by Dr. Linda Nagy of Duquesne University in Pittsburgh, PA, USA. In this way I tried to encourage those who had been participating whilst at the same time gently nudge those who needed it. They served to summarize happenings to date and alert participants to the changes made in light of experiences in the pilot.

I also used the strategy of adding forums as the time progressed and confidence grew. I was concerned about overwhelming the participants with too many places to navigate through and potential places to get lost in as they took their first steps into the VLE (Hill, 2000). I used this same strategy in the introduction of the Virtual Classroom to offer differentiated learning experiences for those whose skills needed to be stretched. I was therefore delighted to find several messages in the same vein as this one:

Hi, I was checking the mail and found this. Looks very exciting. How does it work?...

Pauline 14 April

Whilst I see synchronous chat as a vital element in online learning I am a firm believer that one of the biggest flaws is that of the chat not being focused. Therefore in an attempt to ensure that the participants had prior knowledge of what I hoped we would achieve as a group from the chat I posted three questions several days before the scheduled chat. The 8 page transcript is summarized in Appendix 1.

Assessment and Evaluation

I felt it would be valuable to have all the participants complete a questionnaire at the conclusion of the pilot. Much of the information in the questionnaire served to triangulate the data from the online transcripts and my own observations, as well as provide useful background information on the participants. Appendix 2, the collated questionnaires, provides a rich source of information which highlights the participants' views on their learning, the positive aspects to sharing their work, as well as mirroring the literature (Ko and Rossen, 2001; McConnell 2000; Palloff and Pratt, 2001; and White and Weight, 2000) in their identification of the benefits and drawbacks of working in a VLE.

As stated earlier Slideshow had only recently been introduced to all primary schools in Northern Ireland and the pilot had the potential to provide feedback on the use of Slideshow in primary schools. I think that the comments from the discussion forums and questionnaires (Appendix 2) validate the use of Slideshow as a tool for multimedia presentation in the primary school. In some cases it might be used as a precursor to PowerPoint for older pupils.

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Chapter 9: Tools for Online Learning

They all loved doing it! The rest want their turn on the next slideshow!

Ursula 17 April

Almost all of my class (also P7) have found it quite straight forward to use. I showed a small group how to use it and got them to show the others.

Adrian 23 April

The pilot with Slideshow was filled with more highs than lows. Undoubtedly we had technical difficulties. These were mainly to do with the time it took to upload and download the Slideshows and I can only applaud the teachers for their tenacity and powers of endurance as they worked through technical problems to share their work. In light of this, for future use the slide shows will be burned onto CD-ROM for distribution!

Sustainability

I have considered the issue of sustainability at two levels. First, within the life of the project did I as course designer and tutor facilitate and encourage the participants to ensure the collaboration online was sustained and did not wane? Second, has this pilot provided evidence to suggest this type of approach has potential for the future?

In terms of the life of the project, it was scheduled to run for three weeks and generated a total of 337 postings, 82 emails and an 8 page synchronous chat transcript.

In the forums specifically for each week the postings were as follows:

- week one 75;
- week two 71,

- week three 71.

In addition, the Course Statistics generated by the VLE enable a more detailed analysis of individual participation as well as the participants' analysis of their own contributions as detailed in the returned questionnaires. I would propose that this quantitative and qualitative data broadly supports the sustainability issue within the life of the pilot.

The second issue of evidence to support the potential of this type of approach for the future is best supported by qualitative data generated through this pilot, in the chat transcript and in the returned questionnaires. All the participants said they would consider being involved in future projects and, whilst their recommendations are all documented, a resounding endorsement came from one participant:

If this approach was adopted when introducing any new software, teachers would not experience many of the difficulties they currently do! Being introduced to the resources with time in a relaxed setting allows teachers to experiment and enjoy the software. They are more likely to then use the software positively with children. Also knowing that immediate help is at hand (by telephone/email/conferencing) reassures staff. I thoroughly enjoyed my involvement in this pilot scheme and would recommend a similar approach to any future initiatives.... Derek
(Questionnaire)

This pilot provided a “powerful method of bridging the gap between the theory and practice of education” (McNiff, 1988, p. 1) where the focus was on the

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Chapter 9: Tools for Online Learning

effective use of Slideshow by teachers and pupils and support was channeled through a VLE.

Post Script: I just wish you could all see the wonderful work that the children and the teachers in the project have produced.

[Appendices for this paper in Rich Text Format](#)

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