Using Web Logs in the Science Classroom

by Staycle C. Duplichan

As educators we must ask ourselves if we are meeting the needs of today's students. The science world is adapting to our ever-changing society; are the methodology and philosophy of our educational system keeping up? China is revising textbooks to include resources that teach technology skills, South Korea is developing an educational technology infrastructure, and the United Kingdom is producing major educational technology programs (Richardson 2006). How are we preparing our students to work in this new world?

The good news is that our children are social beings; they naturally want to personalize and discover new information (Huffaker 2005). They are learning new skills when they use their Xboxes, iPhones, iPods, Flip camcorders, and digital cameras. Students also read, edit, and create multimedia projects using MySpace, YouTube, Facebook, and Xanga. Educators can tap into these technology skills by using web logs as a resource for the science curriculum.

Web 2.0

Technology has evolved from the time when the internet was used only as a reference library to today's social, interactive online world. When the internet was born, users had to know the exact URL address to retrieve any information. We now refer to this time as the Web 1.0 era. Internet users saw the need to or-

ganize information in the form of websites and to create search engines. Organizing internet data formed the Web 1.5 era. Today the internet has evolved into a Web 2.0 era that allows participants to invite others to view and possibly edit documents, pictures, websites, and spreadsheets. This era is the system of inviting collaborators to actively join and share information. Web 2.0 offers many educational resources, such as web logs, social bookmarking sources, wikis, Google resources, and podcasts. Web 2.0 is not a perfect system. All of these tools require registration and most require an e-mail address. Not all of the information is accurate and controlled. But with this in mind, technology is at the beginning of a Web 2.5 era. In this era, internet sites are being created so that information can be monitored and controlled (Solomon and

FIGURE 1 Examples of how web logs can be used in the science classroom

Current event	Ask a classmate	Book club	Report
• Students are required to post a summary of a current event, such as global warming, for each grading period.	• Students post a question for other classmates to answer. An example of a possible post is, "How can I remember the difference between interphase and prophase?"	• Students reflect on their favorite science book.	• Students are assigned a subject to research. Each student or group could be assigned a scientist, theory, organ, kingdom, or disease to report on.

Creative writing	What if	Debate	Online reading
• Students write how a cell is like a factory. Each student posts one example. • Students write a complaint letter from the heart to the cholesterol molecule. • Students write a love letter from the lungs to an oxygen molecule.	• Students are asked if their life would be different if their knee joint became a ball and socket joint. Each person posts one example and responds to others. • Students are asked, "What if pollution killed all of the earthworms?" • Students are asked to reflect on how the Earth would be different if the temperature rose 20 degrees.	• Students are asked, "What are the legal ramifications of DNA testing?" • Students are asked, "What is your opinion on using animals for testing products?" • Students are asked, "Should stem cell research be allowed?"	• Students are assigned to read an article from Google Scholar.

Visual aids	Lab report	Study habits
• Students post digital pictures of lab setups. • Students post digital pictures of pictures of lab procedures. • Students draw steps for any lab procedure. • Students draw and label a key scientific concept.	• Students post their lab results. • Sutdents post their data for comparision.	• Students post how they remember vocabulary or facts. • Students give examples of how they study for tests.

FIGURE 2 Student permission slip

Dear parent/guardian,

Our _____class will be using a web log (blog) this year to encourage your child to write more and to improve on your child's writing skills. All students must follow these class rules:

- Think of all consequences before making a post to the blog.
- Keep all personal identification secure. Do not use your last name on any post.
- Do not post any inappropriate images or language to the blog.
- Follow all school and internet-use policies.
- Remember all copyright rules discussed in class!
- I understand that it is my choice to blog. I can answer my assignments using paper and pencil.

I understand that if I do not abide by these terms and conditions, I will lose all computer privileges.

_____

Student signature

_____ _____

Parent signature *Date*

FIGURE 3 Examples of excellent educational web logs for teachers

Darren Kuropatwa—A Difference
http://adifference.blogspot.com
Educational Weblogs—Zimbio
www.zimbio.com/Educational+Weblogs
Tim Lauer—Education/Technology
http://timlauer.org
Sarah, Plain and Tall by Patricia MacLachlan
http://sarahplainandtall.blogspot.com
Leader Talk
www.leadertalk.org
Kathy Schrock's KaffeeKlatsch
www.kathyschrock.net/blog
Anne Davis
http://anne.teachesme.com

Schrum 2007). One important Web 2.5 tool that can be used in the science classroom is web logs.

Web logs

Web logs were given the name *blogs* by the American blogger Jorn Barger in 1997 (Lanclos 2008). Web logs have an important place in the science curriculum. Students need to know how to write, problem solve, and form educated opinions to be science literate. Blogging can be the answer by engaging learners to reflect on real-world problems by learning how to express themselves and communicate by writing. Teachers might be surprised how well even quiet, shy students express themselves when blogging (Kajder and Bull 2003).

Blogs are a multigenre, multimedia, visually minded medium that can be used to promote student engagement. For example, the teacher could post a question or writing prompt, which students answer by posting a blog. The example given in Figure 6 demonstrates how teachers can assign a writing prompt to their science students. All students can read postings by their classmates and write a response to their classmates' postings. Students benefit from collaborating with each other. Blogs can also act as an online filing cabinet by allowing students to post and keep their assignments online. Students can store their writing assignments in a folder on the web log. Web logs can become an online portfolio (Kajder and Bull 2003).

Let's get blogging

The first step in creating a web log is to obtain permission from your school district or principal to use blogging websites in your classroom. Permission must also be obtained from students' parents. All students must be giv-

FIGURE 4 Examples of web-log servers

Blogger
www.blogger.com/start
Bravenet
www.bravenet.com/webtools/journal/index.php
21Classes
www.21classes.com
Edublogs
http://edublogs.org
Class Blogmeister
http://classblogmeister.com
ClearBlogs
http://clearblogs.com

en a permission slip that they sign and have signed by a parent before they can participate in this project (Figure 2). Alternative assignments can be created if a student is not allowed to blog. For example, the student could be given paper and pencil to do the web-log assignment.

Once permission has been given, the teacher should look at examples of web-log classroom sites. Figure 3 lists examples for teachers to view. The internet offers many different free educational web-log sites for students (Figure 4). Most web-log sites do not require an e-mail address from your students. Students are given a username and password by the teacher. When they log in they can view and post their assignments. The students' postings are not directly posted on the web-log site. The teacher has the option to view each assignment and post the students' blogging to the web log.

Start with your home page by writing a message for your students. Sarah, Plain and Tall by Patricia MacLachlan (Figure 3) is an excellent example of a classroom web log. Figure 5 contains a screen shot of my classroom's home page. The picture is important to my students. For the first time in my students' lifetime it snowed! The students wanted to share their experience. The web log gave them a place to share their experiences and feelings about the snow.

On my blog (Figure 5) I used a picture that I took with my digital camera. Be careful with students' pictures—most school districts do not allow photographs of students in any publications. Finally, create an account for each student. Most web logs only require typing in a username, password, and students' name. I only use the student's first name or first name and last initial when forming my students' accounts.

FIGURE 5 An example of the author's home web log with student postings

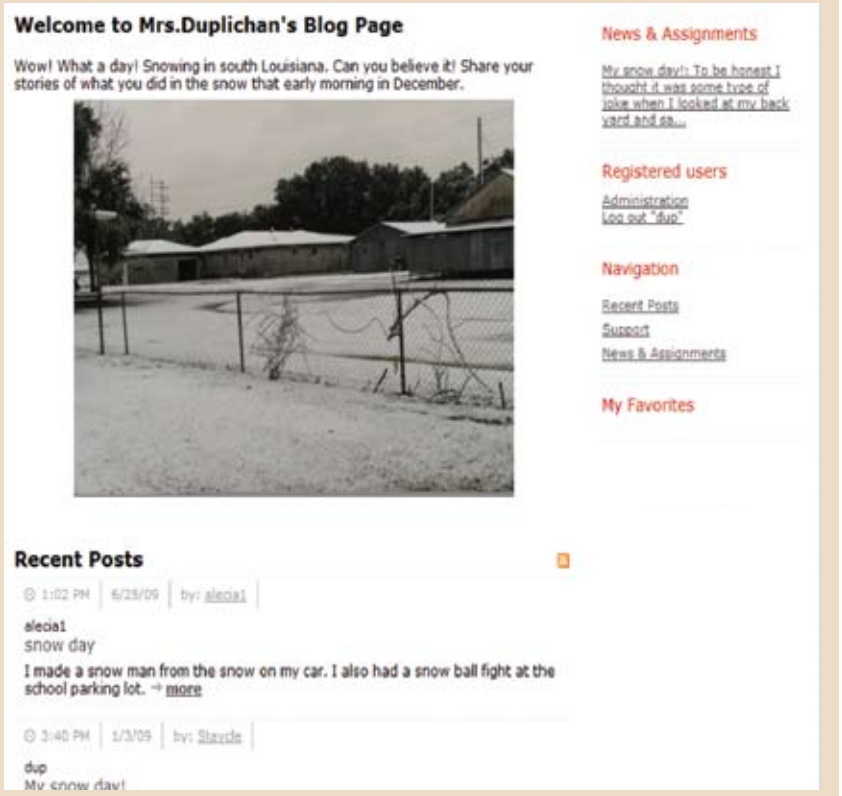

FIGURE 6 A screen shot of student postings

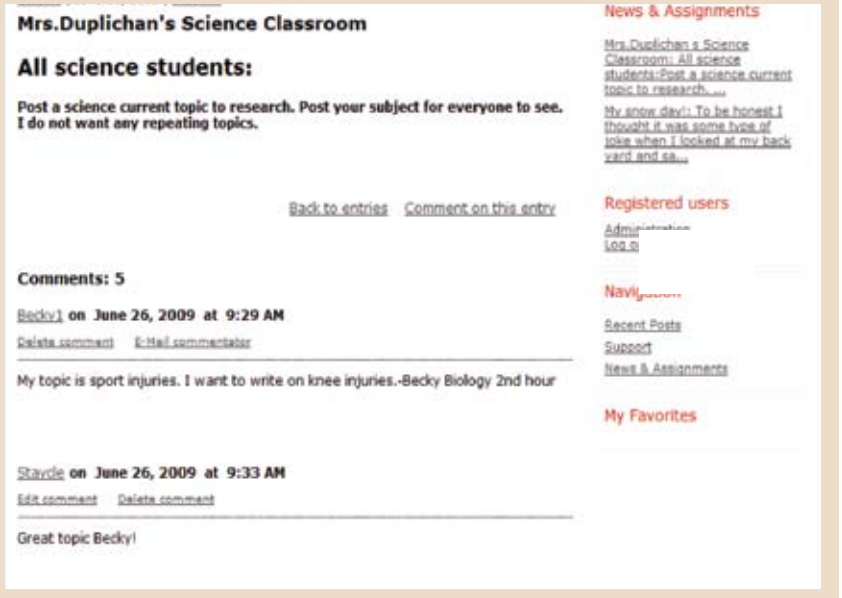

FIGURE 7 Web-log assessment

Multimedia project: Writing a blog

Teacher name: _____ Student name: _____

CATEGORY	4	3	2	1
Rough draft	Rough draft brought on due date. Student shares with peer and extensively edits based on peer feedback.	Rough draft brought on due date. Student shares with peer and peer makes edits.	Provides feedback and/or edits for peer, but own rough draft was not ready for editing.	Rough draft not ready for editing and did not participate in reviewing draft of peer.
Mechanics	No misspellings or grammatical errors.	Three or fewer misspellings and/or mechanical errors.	Four misspellings and/or grammatical errors.	More than four errors in spelling or grammar.
Content	Covers topic in depth with details and examples. Subject knowledge is excellent.	Includes essential knowledge about the topic. Subject knowledge appears to be good.	Includes essential information about the topic but there are one to two factual errors.	Content is minimal OR there are several factual errors.
Originality	Product shows a large amount of original thought. Ideas are creative and inventive.	Product shows some original thought. Work shows new ideas and insights.	Uses other people's ideas (giving them credit), but there is little evidence of original thinking.	Uses other people's ideas, but does not give them credit.

Rubric created using RubiStar (*http://rubistar.4teachers.org*).

The second step in creating a web log is to decide what you want to accomplish with your blog and brainstorm ways of using this writing resource in your classroom (Figure 1). A blog can be a resource that will teach students to explain scientific concepts in the form of writing. Let's say you want students to think critically on a science topic, such as the legal ramifications of DNA testing. Start off with one assignment and then gradually add to your blog.

Before students post to your blog, remind them of proper posting etiquette. Review their permission slip. Post the blogging rules in the computer lab, so students will be reminded of them often (summarized as part of Figure 2). Lastly, consider how students' posting will be assessed. A rubric similar to Figure 7 can be used.

If your students do not have access to a home computer, all of the assignments can be posted in a computer lab. Time can be given at the beginning or the end of the class period for students to post on the web-log site. If students are working in groups or pairs, the teacher will have to decide if one person in the group posts the assignment or if each student in the group posts to the web log.

Enjoy using this new blogging world. You will be amazed by your students' excitement and participation. Happy blogging! ■

References

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