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Best Practices in Using the Internet to Support Writing

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Recently, Karen, a fourth-grade teacher, told me she was interested in using the Internet to support her writing instruction. While she was not completely comfortable with technology, she recognized the Internet's potential and wanted to explore how it could enhance her teaching and her students' learning. Like many teachers, Karen had good intentions to incorporate the Internet into her classroom, and her school clearly supported technology use. There was a cart of wireless laptop computers available for teachers to sign out, a computer lab, two Internet-connected desktop computers per classroom, and an instructional technology support teacher whose primary responsibility was to help teachers use technology effectively. Karen's knowledge of the Internet had developed from her participation in several school-sponsored activities, including the completion of technology inservice workshops, distance learning education courses, and daily e-mail use for approximately 7 years. However, the pressures associated with state testing, the adoption of new report card procedures, and the daily focus on mandated curriculum standards made it difficult for Karen to find time to research and practice effective ways of using the Internet to support writing. She explained:

"I think the Internet is a fantastic resource for both kids and teachers. I see other people using it in their teaching and I get jealous. But I don't know where to start and I don't know how to make it a part of my classroom so that I can expose students to the technology while also teaching them how to write."

Karen's uneasiness about making the Internet an integral part of the curriculum is not unique (Karchmer, Mallette, Kara-Soteriou & Leu, 2005). In the National Education Technology Plan (2005), the U.S. Department of Education documented the lack of teacher technology proficiency across the country and the need to provide much greater support at the school level. The report states:

Teachers have more resources available through technology than ever before, but some have not received sufficient training in the effective use of technology to enhance learning. Teachers need access to research, examples and innovations as well as staff development to learn best practices. (pp. 42-43)

Interestingly, while many teachers are unsure of how to use the Internet in the classroom, there are also many who are knowledgeable about and comfortable with it. In fact, most of what we know about best practices in using the Internet to support reading and writing comes from the good work of classroom teachers who use technology on a regular basis (Karchmer et al., 2005). Their daily interactions with students along with their interest in technology puts them in an exceptional position to share critical insight into how the Internet can support the language arts as well as other disciplines. For instance, look at the creative work of Susan Silverman (www.kids-learn.org), Dale Hubert (www.flatstanleyproject.com), and Marci McGowan (www.mrsmcgowan.com). Each of these teachers has developed highly successful collaborative Internet projects, practices in which two or more classrooms study similar topics and share their findings through writing and visual arts over the Internet (Leu, Leu, & Coiro, 2004). Likewise, Janice Smith (home.earthlink.net/~jesmith) and Rennebohm Franz (www.psd267.wednet.edu/~kfranz/index.htm) have developed classroom websites where they created space to publish their students' writing, an opportunity for students' work to be shared with a much greater audience than what the teacher alone can provide.

The purpose of this chapter is to stimulate teachers' interest in using the Internet to help students develop their writing skills. To this end, the chapter is divided into three sections. First, I examine the unique attributes of the Internet and how they influence the process of writing. Sec-

ond, I share classroom examples framed by how they may match teachers' time, interest, and expertise levels. Third, I conclude with a series of principles to consider when planning to make the Internet an integral component of the classroom.

RESEARCH ON THE INTERNET AND WRITING

Technology is increasingly being recognized for its potential to support K-12 writing instruction. Research has shown the positive effects of word processing (e.g., Goldberg, Russell, & Cook, 2003; Russell & Plati, 2001), spell-check (e.g., MacArthur, Graham, Hayes, & De La Paz, 1996), speech recognition (e.g., Quinlan, 2004), and multimedia software (e.g., Daiute & Morse, 1994) on different stages of the writing process. Moreover, this research examined technology use by a variety of users, including average-achieving writers (Reece & Cummings, 1996), at-risk learners (Howell, Erickson, Stanger, & Wheaton, 2000), and students with identified learning disabilities (MacArthur et al., 1996).

Unfortunately, while one of the most powerful technologies of our time, the Internet has yet to be systematically studied for its effects on students' writing achievement (MacArthur, 2006). What we do know is that the Internet is characterized by a set of unique attributes, each of which influences the act of writing (Reinking, Labbo, & McKenna, 1997). First, electronic text, the medium by which information is communicated over the Internet, encompasses several features that set it apart from the printed text found in traditional books (Reinking, 1998). Electronic text allows for the seamless incorporation of audiovisual features. Graphics, audio, and video can be inserted to add depth to text or to act as the text itself. The inclusion of these features can make the text interactive. For example, the author can add digitized speech to support reading comprehension or video clips to refer to particular content (Reinking & Rickman, 1990). Electronic text is also easily manipulated. Writers can change background colors, font styles, and the placement of graphics to determine the best format for their writing. Moreover, they can continuously change the text because it is so easily adaptable. What one person reads on Monday may be different than what another reads on Tuesday. Additionally, electronic text structure tends to be nonlinear. While traditionally printed text typically includes a progression of events, electronic text is not fixed. Rather, writers are able to use hyperlinks to direct their readers from one page to another. This notably changes the role of the writer "because the author is not only the creator of new texts (and meanings) but also the facilitator of meanings by pro-

viding an index of specific WWW texts and images available in cyberspace" (Mitra & Cohen, 1999, p. 189).

A second unique attribute of the Internet that influences writing is the outlet it provides to authentic audiences. Work published on the Internet can be accessed by anyone with a connected computer and the web address. This attribute is beneficial to writers who want to project their message to a large audience or for those whose work is rarely shared with outside readers. In fact, teachers report an increase in students' motivation to write well when they know their work will be published on the Internet (Karchmer, 2001). It also seems that Internet publishing encourages students to pay more attention to spelling conventions and the overall appearance of their final products. Along with the opportunity to communicate with this larger audience comes the responsibility of recognizing the culturally and linguistically diverse nature of the Internet (The New London Group, 2000). Calkins (1994) argues the importance of identifying audience prior to writing so that writers can target their work to meet their readers' skills and expectations. This is a great challenge, as the Internet has no boundaries. Instead, writers must think critically about how they will use the features of electronic text to help them effectively communicate intended meaning and must acknowledge that some readers could misconstrue their work.

The third unique attribute of the Internet is the opportunity for writers to interact with their audience. Research on students' writing has shown that teachers' comments focus mostly on proofreading concerns. Students then tend to make peripheral revisions to their work concentrating on mechanics rather than substantive changes (Matsumura, Patthey-Chavez, & Valdes, 2002). By inviting critique from outside audiences via the Internet, writers may recognize the social context of their work, leading them to consider different perspectives on their ideas and to think more deeply about how best to approach revision (Beach & Friedrich, 2006). Furthermore, the opportunity to interact with an Internet audience reaffirms the readership that might otherwise be too abstract for some students to grasp. Young children in particular have difficulty understanding the vastness of the Internet community. Responses from real people validate the far-reaching effects of the Internet's capabilities.

These unique attributes of the Internet require new ways of thinking about writing and writing instruction. Specifically, how do we prepare K-12 students to use the Internet to communicate effectively with others? We can only speculate about the best approaches, yet it is clear that teachers around the world are taking advantage of the Internet by engaging their students in technology-based writing practices, by providing

them opportunities to develop electronic texts, and by publishing their work online for others to read and critique.

INTERNET PRACTICES THAT SUPPORT WRITING

My interest in technology over the past 10 years has led me to examine several hundred educational websites. I keep a log of noteworthy sites that I refer to when needed. Noteworthy websites, in my opinion, are those that document their development over time, communicate to a variety of audiences, are organized and reader-friendly, and/or include innovative ways of using technology to teach. When I was asked to write this chapter, I reviewed the log and spent time focusing on if and how the websites supported students' writing. It was clear that there were numerous types of Internet practices and, more important, that each required different levels of teacher time, interest, and expertise. I found this to be most interesting in light of my earlier conversation with Karen. I wondered which practices would be best for teachers just getting started? Which practices were challenging but doable with some technology support? And which practices would be most appropriate for more experienced Internet users? This section is framed around these questions with the hope that teachers will find practices that match the time, interest, and expertise they have to put toward incorporating the Internet into their curriculum.

Just Getting Started: WebQuests

Brian, Renee, and Lois are working diligently on campaign posters while Trish and Sam write the speech for the class debate. They are campaigning for Bill Gates, hoping to convince their sixth-grade classmates to vote for him at the schoolwide presidential election next week.

"We really need a slogan," says Renee.

Brian agrees, "Yeah, something that catches people's attention. All presidents have slogans."

Lois reminds her group that their teacher, Ms. Randall, gave them websites to refer to for examples of presidential slogans. They huddle in front of one of the classroom computers, and Sam types in the first web address.

"The slogans are all short—maybe three words. How can we capture Bill Gates in three or four words?" asks Brian.

Trish responds, "Let me read you our speech. See if the words inspire you to vote for him and maybe you'll be able to come up with a motto."

These sixth graders have been studying the presidential election process. To make the concept concrete, Ms. Randall engaged them in a WebQuest titled "Meet Your New President," by Sherita Love (slove.myweb.uga.edu/Courses/EDIT6150/index.htm). This WebQuest, developed for third through eighth grade, examines the importance of informed voting and persuasive writing. Students work in groups and choose candidates from a list of current business, political, and social leaders such as Hillary Clinton, Bill Gates, and Oprah Winfrey. Their task is to create a presidential campaign and persuade the student body to vote for their candidate. They learn about the election, the campaigning process, and their candidate's background through Internet research and then share their findings through the power of persuasive writing. The project concludes with a schoolwide vote.

This classroom scenario is an example of a WebQuest, an Internet-based inquiry practice. Bernie Dodge and Tom March of San Diego State University developed WebQuests in 1995 with the idea of creating an Internet practice that focused students' attention on the examination and analysis of information rather than the act of searching for it (Dodge, 1997). Framed by curriculum standards, these projects are designed and submitted by educators to The WebQuest Page (webquest.sdsu.edu/). While WebQuests can focus on any discipline, writing is an integral part of many of them.

Every project found on the WebQuest database includes the same components, organized around student and teacher pages. The student page begins with a rationale for participating in the project and an overview of the associated tasks that sets the goals and objectives. Next, step-by-step directions of the process are listed, explaining how to complete each task and directing students to teacher-approved websites, necessary handouts, and other materials. The next section includes evaluation methods suggested by the project's author. Most utilize assessment rubrics with detailed descriptions of grade expectations. The final section summarizes what should be learned during the project. Some summaries are long and elaborate, pinpointing all areas of learning, but many include just a brief description. The teacher page incorporates the same content but also lists state standards supported by the project and the National Educational Technology Standards (NETS) for teachers and students. These additions are critical, as they emphasize the direct connection between the WebQuests and curriculum content (Karchmer-Klein & Layton, 2006).

To search for WebQuests, go to The WebQuest Page (webquest.sdsu.edu/) and click on the Find WebQuests link to connect to the WebQuest Search page. From here, teachers can take one of two approaches to locating appropriate writing projects. One approach is to

focus on a specific writing genre. For example, type in the word *poetry*. This search identifies 20 WebQuests targeted at all grade levels. Most of the projects introduce students to different types of poems by directing them to read and analyze particular poetry books or websites with examples. Students then create their own poems using what they learned from the models. A second approach is to consider writing as part of content-area teaching and search by curriculum topic. For example, suppose your third-grade class is studying sharks. Type the keyword *shark* into the WebQuest Search page and several projects will come up. One is "Shocking Sharks," by Pat Dobson and Laura Carlson (*projects.edtech.sandi.net/sessions/sharks/index.html*). This project requires students to work in pairs to research different species of sharks. Students first read and analyze information found on teacher-selected websites. Next, they identify two types of sharks to study in depth and chart the similarities and differences between them on a graphic organizer created in the software program Inspiration. Using the organizer and their lessons on persuasive writing, students write a commercial for Sea World, inviting tourists to visit the sharks in person. Although this WebQuest focuses on the science topic of sharks, it also hones writing skills. A list of other noteworthy WebQuests that incorporate writing can be found in Table 11.1.

Even though WebQuests are relatively easy to locate and participate in, they still require time to implement effectively. Teachers must prepare students with basic Internet skills like typing in URLs, manipulating the mouse, and following hyperlinks. If more complex technologies will be used, teachers must model them and provide time for students to practice before starting the WebQuest. Most important, teachers must take time to identify WebQuests that match their learning goals. While the focus of the WebQuest may be writing, reading is an integral component. Therefore, it is critical to keep in mind the appropriateness of the WebQuest for the particular population of students with whom it will be used. Many of the projects span four or five grade levels. Teachers must carefully examine both the content and readability of the websites to be sure their students can effectively interact with the text. If teachers find a WebQuest that they really like but are afraid is too challenging for students, they can modify the project in several ways. One option is to pair better readers with ones who struggle. This way the stronger reader can help navigate the text, but both students can collaborate on the writing activity. Another option is to conduct the WebQuest with the whole class. Using a projector and computer, the teacher can facilitate analysis of the Internet resources by conducting shared reading of the websites.

WebQuests are a good place for novice Internet educators to start incorporating technology into their writing curriculum. They are struc-

TABLE 11.1 Noteworthy WebQuests Found on The WebQuest Page (*webquest.sdsu.edu/*)

Genre	Title, description, URL	Grade
Poetry	<p>"Kidd's Rime Time Circus"</p> <p>Designed to introduce and familiarize fourth-grade students with five different types of poetry. Students are encouraged to create one of each of the types of poetry. Students will also be asked to go on an Internet scavenger hunt to gain a greater knowledge of these types of poetry.</p> <p><i>www2.franciscan.edu/webquests/kiddersrime/</i></p>	4
Poetry	<p>"Poetry Quest"</p> <p>By discovering the types of poetry and breaking poetry and its elements down into manageable and understandable areas, students will be able to identify multiple forms of poetry and express themselves in some of those forms. Students then write a reflective essay about the process.</p> <p><i>www.rccsd.org/RKeim/index.htm</i></p>	6-9
Persuasive argument	<p>"Island Colonization"</p> <p>Groups of four to five students work together to create a persuasive argument for or against colonization of a newly discovered island.</p> <p><i>teacherweb.com/TW/TaipeiAmericanSchool/BrendaHuff/index.html</i></p>	3-5
Persuasive argument	<p>"Fat Facts"</p> <p>Trends in our country indicate an obesity epidemic. With this epidemic comes the danger of chronic illnesses such as type-2 diabetes, heart disease, and cancer. In this WebQuest, students research the topic and design informative and persuasive projects using technology.</p> <p><i>teacherweb.com/MD/OxonHillMS/FatFacts/index.html</i></p>	6-8
Personal narrative	<p>"All About Me"</p> <p>This WebQuest will guide students through each step of writing a personal narrative. Students visit the schoolhouse where they will read and research on the Internet to discover each step in the writing process.</p> <p><i>imet.csus.edu/imet7/damoswebquest/281_group_project/group_project/schoolhouse.htm</i></p>	3-5
Personal narrative	<p>"Wanted: Wild West Outlaws"</p> <p>After reading <i>Holes</i> by Louis Sachar, students will take a look at other outlaws similar to Kissin' Kate Barlow. They will create a wanted poster of the most wanted outlaw in the Wild West and write that outlaw's story using first-person narrative.</p> <p><i>members.cox.net/nanstevenson/default.htm</i></p>	5-6
Informational text	<p>"Ark Helpers Society"</p> <p>Members of the Ark Helpers Society are zookeepers who must design an informational brochure about an endangered or threatened animal of their choice.</p> <p><i>www.ufrsd.net/staffwww/stefanl/Webquest/animals/index.htm</i></p>	6-12
Informational text	<p>"Please Help Our Ocean Animals!"</p> <p>The aquarium workers are sick and need the expertise of a class of students learning about ocean animals. The children can choose to become experts on one of four animals. Students research the animal they have chosen, draw a habitat for it in KidPix, and make a sign for their animal's aquarium home with four important facts about it.</p> <p><i>www.bedford.k12.ny.us/wpes/webquest/</i></p>	K-2

tured activities, which enable students to complete them independently. They do not follow a specified timeline, so teachers can decide their own beginning and ending dates, and they tend to require only basic technology skills like Internet searching and word processing. Furthermore, there are hundreds of WebQuests shared on the Internet, so teachers can start by using other educators' projects, and, if they become hooked, they can develop their own.

More Challenging but Doable: Collaborative Internet Projects

In an effort to prepare preservice teachers to use technology in their own practice, I engage my undergraduate teacher education students in a collaborative Internet project (CIP) titled "Unfortunate Collaborations" (comsewogue.org/~silverman/snicket/). A CIP is a practice in which two or more classrooms study similar topics and share their findings through writing and visual arts over the Internet (Leu, Leu et al., 2004). This CIP, developed by Susan Silverman and me, is based on Lemony Snicket's *The Bad Beginning* (1999). Along with the preservice teachers, fifth- and sixth-grade students from New York are participating. They have all read the book and participated in class and online discussions about each chapter. The preservice teachers are working in small groups to develop writing response activities representing a combination of genres (e.g., poetry, letter writing, informational writing). The grade students will choose from these activities and respond to at least one; their work will be posted on the website to share with the Internet audience.

Preservice teachers Lila, Sean, and Thomas work diligently on their activities, regularly referring to their class notes on writing and the Lemony Snicket text.

"I think the activities need to be interesting to the students or they won't pick them," states Sean.

Lila agrees. "One way to do that might be to include some neat technology. Maybe they could create some illustrations in a graphics program to go along with their writing."

Thomas interjects, "I think it might also help to include models. Like for the poetry, we could include a link to a kid-friendly website so they can see what haikus look like."

After 45 minutes of brainstorming, their list was complete:

- Informational text: Write a short biography of Lemony Snicket. Research information about him on the Internet. Include as much information as you can find, including where he finds his motivation.
- Persuasive writing: Devise a plan to rescue Sunny from the tower

and write a persuasive argument convincing Violet to use your plan. You can write it as a letter. Include a map of the escape route using a graphics program.

- Letter writing: Using a graphics program, create a postcard from the Baudelaire children to their friends describing what their life is like since moving in with Count Olaf.
- Poetry: Write a haiku about Sunny's thoughts as she was trapped in the cage. A haiku is a type of poem that is three lines long and follows a 5-7-5 syllable pattern. Look at the following website for examples by kids: www.kidzone.ws/poetry/haiku.htm.

I will post the entire class list of writing activities on the project website along with a due date for the work to be submitted to the project coordinators. An advantage of CIP is that participating teachers do not need the technical know-how to publish on the Internet. Their focus, instead, is to allocate time for student response. Once the work is done and posted online, my preservice teachers and I will compare and contrast the work, analyzing how fifth and sixth graders respond differently to the same writing activities.

Teachers have utilized CIPs for years (Leu, Leu, & Coiro, 2004). I found that those who regularly participate in CIP do so for three reasons. First, most projects focus on connections between content and students' background knowledge, something teachers believe is important for making learning concrete. For instance, "Stellaluna's Friends," one of Susan Silverman's first CIPs, was based on the book *Stellaluna* by Janell Cannon (1993). The participants were required to read the story and study a species of bat indigenous to their geographical location. After completing their research, students shared their findings through writing genres such as poetry, letters, and narrative text (www.kids-learn.org/stellaluna/index.htm). This project was particularly useful because the participants were located all over the world, including the United States, Australia, and New Zealand, providing an insightful look at the relationship between bats and geography. Students were able to compare what they knew about bats living in their own area to information shared by students across the country and around the world.

Second, teachers value CIPs because they allow students to participate actively in their own learning. Reflecting again on "Stellaluna's Friends," project, students were given a choice of which genre to use to share their research findings. This choice is typical of most CIPs. Students feel invested in their work because they make decisions about how they participate. Also, most CIPs require the use of some technology, such as basic word processing and scanners or more sophisticated soft-

ware like graphics programs or databases. After time to practice with the technology, students actively participate by creating responses that reflect their ideas.

A third reason teachers value CIPs is that they help students recognize and appreciate differences among their peers, as is poignantly illustrated in the creative writing posted on the “iEARN A Vision” CIP website (www.earn.org/lavision/). iEARN, the International Education and Resource Network, is a nonprofit organization that connects 20,000 schools in more than 109 countries for the purpose of creating a safe place for young people to communicate. The latest project is an international online publication that captures teenagers’ perspectives of “the things around them and even across borders regardless of cultural and racial diversity.” The compilation of work posted there can precipitate rich discussion about geography and current events. For instance, several students wrote about the December 2004 tsunami that made worldwide headlines. Figure 11.1 is a poem written by an Indian teenager. Analysis of these writings can teach students an important lesson about how tragedy, for example, can affect people in similar and differ-

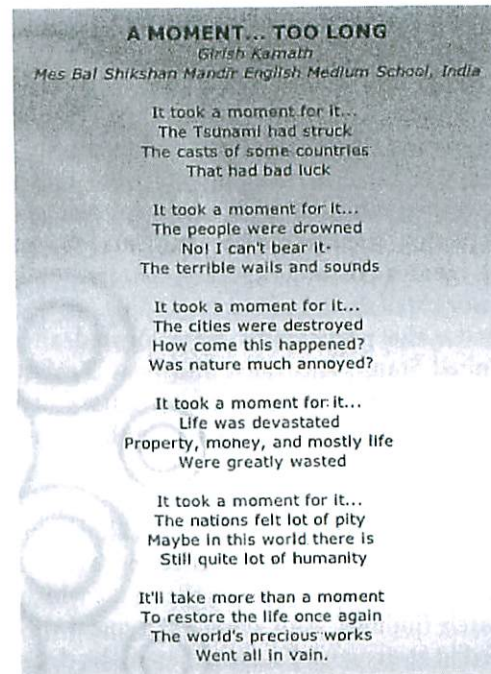


FIGURE 11.1. Poem from the “A Vision” project.

ent ways. Furthermore, although work on this site is posted in English, it is not the first language of most of the participants. Therefore, the authors must have learned to consider their words carefully so their thoughts would be clearly conveyed to people of differing backgrounds and locations. This type of opportunity is priceless because it confronts students with the multicultural community found on the Internet (see Karchmer-Klein & Layton, 2006, for a more thorough description of CIP).

There is no specific set of guidelines that all CIPs follow; however, from my experience participating in and developing CIPs, there are certain ones teachers should look for in the project description. A targeted audience should be stated, along with an explanation of the project's appropriateness for the grades. A good CIP will make a strong case for participation based on its ability to interest students and the match between the project and curriculum standards. In fact, teachers should only participate in a CIP that supports required content so that it becomes an integral component of instruction rather than a supplementary activity.

The project coordinator should have experience designing and implementing CIPs. Many times, coordinators will link new projects to existing ones so participants can see models of their previous work. Working with a veteran coordinator is helpful, particularly for first-time participants. He or she can provide technical assistance if needed and/or suggestions on ways to modify the project best to meet different expectations. His or her experience may also give teachers peace of mind knowing that the project will be completed as planned.

It is important that CIP include tasks with specific submission deadlines. This component manages teachers' expectations and allows them to schedule a realistic amount of time to work on the project. Some projects, such as "Unfortunate Collaborations," require reading a specific text prior to working on the writing activities. Other activities, like "Stellaluna's Friends," require students to conduct research. These activities must be factored into the time allocated for CIP work in the classroom.

Finally, one of the most important guidelines that should be included in a CIP description is how students' work will be submitted to the project coordinator and posted on the project website. When CIPs first became popular, some project coordinators allowed teachers to mail students' work to them through the postal service. It was the coordinator's responsibility to scan it into the computer and post it on the website. Times have changed, and many coordinators assume teachers have basic technology skills. They require all student work to be electronically submitted.

Like WebQuests, CIPs are easy to find. A Google search of the term identifies more than 2 million projects designed for K–12 education. To focus the results, it is best to search a project registry such as Global SchoolNet Internet PROJECT Registry (www.globalschoolnet.org/GSH/pr/index.cfm), a portal where you can search for appropriate CIPs by subject or grade level. An additional strategy is to remain in contact with project coordinators who implemented well-run CIPs. These coordinators, such as Susan Silverman, Marci McGowan, and Patti Knox, are usually happy to let you know about their next CIP. A list of noteworthy CIPs can be found in Table 11.2.

CIPs are good practice for teachers who want their students to write for a much larger audience than they can provide. If chosen well, they fit

TABLE 11.2. Noteworthy Collaborative Internet Projects

Title	Description and URL
Susan Silverman's Webfolio	At this site you will find projects developed by Susan Silverman, an educational leader in the area of CIPs. www.kids-learn.org
Unfortunate Collaborations	At this site you will find an Internet project completed by middle school students and preservice teachers. The project is based on Lemony Snicket's <i>The Bad Beginning</i> . comsewogue.org/~ssilverman/snicket/
Homepage of Patti Knox	At this site you will find projects developed by Patti Knox, an instructional technology coordinator for a school district in Ohio. www.northcanton.sparcc.org/~ptk1nc/index.html
My Town Is Important	At this site you will find a K–4 Internet project focused on geography and history. Participating classes study their town and share findings through poetry posted on the website. www.mrsmcgowan.com/town/index.html
Global SchoolNet Internet PROJECTS Registry	At this site you will find hundreds of CIPs developed for K–12 classrooms. You can join an existing project or post your own for others to participate in. www.globalschoolnet.org/GSH/pr/index.cfm
iEARN A Vision Project	At this site you will find the results of the A Vision creative writing project, a crosscultural examination of current topics written by teenagers all around the world. www.iearn.org/avision/

seamlessly within the classroom curriculum, which is especially important given the emphasis on standards-based learning across the country (Karchmer-Klein & Layton, 2006). They are a little more challenging than WebQuests because they require classrooms to finish by a specified date and work needs to be submitted electronically, but they are easily modified. They can be as simple or as complex as the teacher chooses. For instance, teachers can decide the types of technology to be used for the writing activities based on its availability in their school, their comfort level, and students' knowledge of the software. Novices tend to stick with word-processing and basic graphics programs, whereas teachers with more experience may use slide shows, spreadsheets, or electronic graphic organizers. Technical support is available from the project coordinator if necessary, and many schools have instructional technology support teachers who can help.

For the More Experienced: Classroom Websites

Mrs. Sharp projects the classroom website on the screen in the front of the classroom. Her fourth graders have posted their latest work, an animal research report, and they received several comments from readers in the electronic guestbook. Mrs. Sharp reads each of the comments aloud to the class as the students listen intently.

We are a first-grade class in Texas and we were excited to read your animal reports. We have foxes and rabbits and catfish near us. We do not have any cougars or bears. Thanks for sharing your work.—Mr. Lambardi's first graders

Dear Mrs. Sharp and Students:

We enjoyed reading the work on your website. We found it when we did a search for animals in Pennsylvania. We live in Pennsylvania too.

We are in Wilkes-Barre. We see the same kinds of animals where we live.—Ms. Tobey's second-grade class

"This next comment is very interesting to me," says Mrs. Sharp. "The reader has some important comments about our work. I want you to think about what he says carefully and then we'll discuss it." Mrs. Sharp reads the comment to the class:

Hi there, Class! I just spent time reading the animal research reports. I'd have to say that I was most impressed by Sean's report on the grouse. It was informative, yet concise, and it had a couple of nice pictures. I also found Taylor's explanation of ruminants very interesting. A couple of you guys should go back and do some fact checking, though. I'd buy an

eagle making it to 40 years old, but to 400 or more years?!?! Even giant tortoises don't live THAT long! And if I run into one of Pennsylvania's 20 POUND squirrels I'm going to run for my LIFE! But, those are minor things that are easily corrected. Anyway, keep up the good work!—Mr. Finn from Minnesota

"I wrote the report on the eagle and I'm pretty sure I read on the nature website they live up to 400 years old," explains Chelsea.

"Maybe we can check the website again to make sure?" suggests Carrie.

"Good idea! Chelsea, do you know the website address?" asks Mrs. Sharp.

Chelsea types the URL into the computer and the eNature site comes up. It is a reliable source developed by a nonprofit organization and now run by the National Wildlife Federation, the nation's largest conservation organization. Chelsea searches for the section on eagles. Once finding it, Mrs. Sharp reads it to the class, "Eagles in captivity live approximately 40 years and eagles in the wild live between 10 and 12 years."

"I guess my information was wrong. I must have added an extra zero to the 40," admits Chelsea.

Bryan raises his hand and says, "That's okay, Chelsea. It's on the website, so it won't be hard to fix. You can just make the changes and we can update the site."

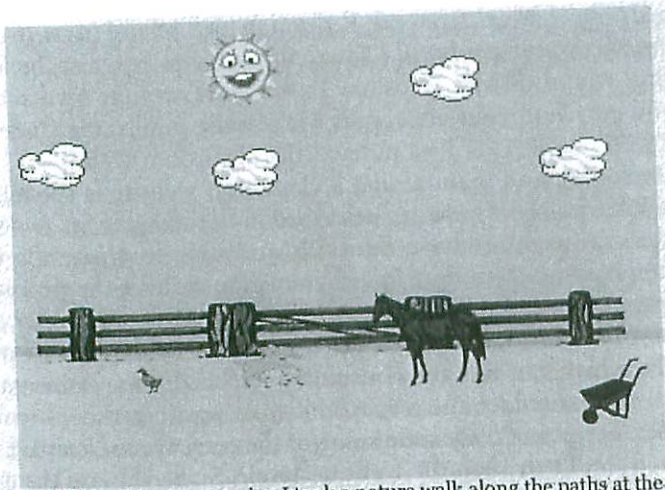
This scenario reflects the recursive relationship developed by the Internet between the author and her audience. That is, not only does the author share thoughts and ideas through writing, but the audience has an opportunity to reflect and respond. It is then the author's decision to revise the original work in light of audience feedback. What is unique about this relationship is that the Internet audience is unknown. It is virtually impossible to please all readers given the spectrum of ideologies represented, but this relationship can be perceived as a critical opportunity for students to consider the social context of their work in a way not typically supported in the K-12 classroom.

Classroom websites are used by teachers all over the world. The purpose behind them varies from teacher to teacher, yet most sites seem to have similar components. There is usually a teacher biography, which provides a useful context for understanding the website and what is included. Some teachers post classroom rules, expectations, and assignments if they plan to use the site as a tool to communicate with parents. Many sites have a section devoted to classroom news, a good place to involve students by having them write updates on the latest content learned in class. Additionally, as online publishing becomes an integral component of classrooms, most websites include a link to student work.

Using the Internet

Teachers report that students are more motivated to write when their work is read by an Internet audience (Karchmer et al., 2005). Therefore, online publishing is becoming a much more widely used practice. Patty Taverna's Second Grade Website is a fantastic example devoted to students' online publications (www2.lhric.org/pocantico/taverna/taverna.htm). Each link connects the reader to a variety of Internet writing projects. For example, in math, students learned to use words and pictures to pose mathematical equations. Using a graphics program, they wrote and illustrated a variety of word problems. In language arts, her students learned about how powerful word choices could depict clear images for readers. After visiting a local farm, students wrote short essays using their senses to describe the experience and drew an accompanying picture in a graphics program (see Figure 11.2 for an example). Again, this work was posted on the Internet for others to read.

Ms. Taverna has documented her writing assignments by maintaining links to past students' work from 1997 through 2006. This record is



On a chilly and sunny morning I took a nature walk along the paths at the Stone Barns. I looked closely at the black dappled ponies bucking in the field next to the pond. In the distance I could hear the wind blowing against the leaves in the trees. I rubbed my fingers across a bright, orange-skinned pumpkin sitting on top of a bale of hay as I dashed into the hay barn courtyard. I enjoyed the smell of the red, orange, and yellow chrysanthemums near the outdoor café then it was time to go back to school. I said, "That was fun!"

FIGURE 11.2. Example of a student's descriptive essay on Ms. Taverna's classroom website.

a wonderful way of illustrating her growth as a teacher. It also provides her current students with models of how to use technology to enhance their writing.

If student work is included on the classroom website, a guestbook, where readers can post comments like the one shared earlier in this section, is strongly recommended. Guestbooks can be designed in different web-authoring programs like Dreamweaver or downloaded for free from websites such as Bravenet (www.bravenet.com). Keep in mind that advertisements may be downloaded as well and become part of the website. If you are unable to include a guestbook, include the teacher's email address or an email address specifically designated for the project.

Perhaps the best way to begin publishing student work is to examine other teachers' classroom websites. There are several ways to locate exemplary sites. The Miss Rumphius Award recognizes excellent classroom websites. Members of the RTEACHER listserv, a literacy- and technology-focused discussion group managed by the International Reading Association, give the award (www.reading.org/resources/community/links_rumphius_info.html) to twice-nominated sites with exceptional resources for teachers. TeacherNet.com maintains a long list of noteworthy classroom websites from pre-K through high school (www.teachernet.com/html/classroomsites.htm). Classroom websites can also be found by searching school district websites. If you start at your own school district, you may find your colleagues are already publishing student work on the web. Table 11.3 lists noteworthy classroom websites.

Developing and maintaining a classroom website is the most challenging Internet-based practice described in this chapter for two reasons. First, the teacher must have the skills and time to create the website. While improved web-authoring programs are making the process much easier, it can still be an arduous task as you learn the technology. Second, once the website is developed, it is important to maintain it by updating regularly, which can be time consuming, especially for elementary-level teachers, who shoulder the responsibility of posting student work.

There are ways to alleviate some of the pressures of keeping a classroom website. First, keep the website simple. Since you are the designer, you can make it as basic or complex as you choose. Second, make good use of any technology support available in your school. Most instructional technology support teachers I work with feel they are underutilized. Third, tap into your students' knowledge of technology. Mary Kreul, a fourth-grade teacher, has her students update their classroom blog each month. It is their responsibility to report the latest news and activities taking place in the classroom. Many students maintain their own websites. Ask them for ideas and technical help if you run into a problem.

TABLE 11.3. Noteworthy Classroom Websites

Title	Description and URL
Ms. Smith's English Page	This classroom website showcases writing projects created by Ms. Smith's eighth-grade students. <i>home.earthlink.net/~jesmith/</i>
A Kindergarten Class— Mr. Fontanella's Welcome	This classroom website showcases writing projects created by Mr. Fontanella's kindergarten students. <i>www.jsd.k12.ak.us/hbv/classrooms/Fontanella/</i> <i>fontanejbvHome.html</i>
Ms. Taverna's Second Grade	This classroom website showcases writing projects created by Ms. Taverna's second-grade students. <i>www2.lbric.org/pocantico/tavernaltaverna.htm</i>
Ms. Kreul's Class Blog	This classroom blog is a space for Ms. Kreul's fourth graders to write about what takes place in their classroom. There is also a link to the class home page, where students' writing projects are showcased. <i>marykreul.teacherhosting.com/blog/</i>
Sunnyside School Primary Multiage Class	This classroom website showcases writing projects created by Ms. Franz's first- and second-grade students. <i>www.psd267.wednet.edu/~kfranz/index.htm</i>

In addition to thinking about the design of the website, teachers must also consider the types of electronic text their students will write, which depends upon the technology available in school. It is advised initially to keep the text basic, using word-processing and graphics programs, digital cameras, or scanners to insert pictures. Students can gradually move up to including video, audio, and hyperlinks as they become more familiar with the technology. Most important, students need to be taught how to construct effective electronic text. They need to understand how these unique features add meaning to the written word. Therefore, teachers must emphasize the importance of creating integrated text where the multimedia components support the meaning of the presentation, rather than creating flashy text that lacks content and cohesiveness.

CONCLUSION

Different levels of time, effort, and technology proficiency are needed to implement each of the Internet writing practices described in this chap-

ter. When looking at all three, however, several guiding principles emerge that should be considered when planning to make the Internet an integral component of your writing curriculum.

- Internet writing practices can be as simple or as complex as the teacher chooses.
- Internet writing practices should be modified to meet the needs of a particular group of students.
- Internet writing practices support required curriculum standards.
- Internet writing practices encourage students to think about the social implications of their work.
- Internet writing practices promote deeper understandings of the multicultural community through technology-based social interactions.
- Internet writing practices help students learn the literacy skills necessary to be successful in the 21st century.

This chapter is about making the Internet a part of writing instruction. Perhaps more important, it is about classroom teachers' willingness to take risks. Using the Internet practices and principles described here as a guide, I hope teachers are able to create new visions for learning in their classrooms.

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