

Using Web-based bookmarks in K–8 settings: Linking the Internet to instruction

Web-based bookmarks can support reading instruction in kindergarten through eighth grade and provide structure and content for students with special needs.

Little yellow flags distracted me as I entered the computer lab. Each third-grade student had one. Looking closely, I discovered the flags were actually sticky notes bearing an Internet address (URL). The children were diligently entering the URLs into Web browsers from the sticky notes and experiencing varying degrees of success. I briefly watched the teacher run around like a madwoman, correcting a myriad of typing mistakes and losing instructional time. In less than 60 seconds I jumped in and added the link to a Web-based folder and got the whole class to the website. The teacher was amazed and grateful. Not knowing how quickly I could add a link, she had gone to “Plan B” rather than interrupt my day with a request for help.

This teacher is one of many that I assist each day. My job is to collaborate with K–8 teachers to produce lessons that incorporate library and technology skills into the rest of the curriculum. This approach, what some consider a new pedagogy (Holden, 2002; Skeele & Stefankiewicz, 2002), allows me to find authentic uses for our print and electronic resources, address multiple standards, and model collaboration. Because I don’t have much time to prepare, I need a system for quickly finding, evaluating, and sharing resources with colleagues. I frequently use Internet content to support reading instruction for kindergarten and early ele-

mentary learners, provide resources for learners with special needs, and promote information literacy among all learners. Web-based “bookmarking,” the process of creating a list of favorites or bookmarks and storing them on the Web, allows me to effectively link the Internet to instruction.

Why link the Internet to instruction?

Educators today recognize multiple types of literacy, and they recognize students as efficient information decoders, analyzers, evaluators, and synthesizers (May, 2003; Salpeter, 2003). Harris (2000) described how to use the Internet for research and collaboration activities that support standards-based instruction. She showed how Web-based activities can be the backbone of instruction, providing content and experiences that textbooks don’t. According to Harris, the Internet can help students extend their thinking and achieve multiple objectives with a single lesson. Like Harris, I use the Internet for a variety of purposes, all of which are focused on helping students achieve academic standards. In my experience, even students who cannot read can benefit from exposure to Internet content. Using the Internet is an easy way to introduce young learners to Web browser terminology and navigation. “It is also important to remember that just because children can’t read words doesn’t mean they can’t recognize pictures or comprehend what they see” (Scott, 2003, p. 43). Websites that focus on audio or visual content are appropriate for these young learners.

Kindergarten students and students with special needs are often the ones who need exposure to Internet content most. In my school we have many students who are considered at risk and have special needs. Most don't have computer knowledge when they enter school. Approximately 96% of our students are classified below poverty. Some lack even the basics of food, clothing, and shelter. Seventy-five percent of our students are eligible for special education services. Ninety-two percent of our student population is African American. Our students need access to technology and the skills to use it. They need structure and support to foster learning. They need access to Afrocentric resources that recognize their heritage and improve self-esteem (Schugurensky, 2002). The Internet, as a component of our instructional program, can be used to support these learners.

Why use Web-based bookmarking?

In the words of Jaclyn Scott (2003), "Kindergarten students should not be excluded from the virtual learning world simply because of their age and developmental level" (p. 42). I would add that all learners, including those with learning difficulties, should not be excluded. On the other hand, much of what I've read about the Internet and virtual learning is not feasible with many of my students. Teaching them how to refine a search, evaluate a source, or participate in an online chat isn't possible when they can't even recognize all 26 letters of the alphabet. So, how do we help kids who can't read and don't even recognize letters? How do we use the Internet to address the needs of students in early elementary grades and those with learning difficulties? Scott (2003) suggested that part of the solution can be websites maintained and accessed for children. I agree that a Web-based solution is desirable. In my case, an appropriate way to provide Internet content is to use a Web-based bookmarking service.

Using Web-based bookmarking as a component of instruction allows teachers to provide visual cues for students and present high-interest, meaningful reading material from the Internet. Because all links are previewed before being made available to students, safety on the Internet is improved. Creating Web-based bookmarks takes just

a few clicks of a mouse and only a few seconds of time. Producing or updating a webpage can take significantly longer, especially if you have to go through your school webmaster to make changes. Quick, safe access to sites used for instruction allows a teacher to design lessons that address multiple standards and multiple students with one activity. For students, the use of Web-based bookmarking increases time on task and decreases frustration among those who can't read. It allows students to encounter letters, words, and grammatical structures in an authentic context. Using an example, I will show how to support instruction for all learners using Web-based bookmarking and Internet content.

Supporting reading instruction for kindergarten

On Monday morning the kindergarten teacher gives me a copy of her standards-based lesson plans for the week. I glance over it and see that the language arts focus will be on recognizing the letters *V* and *W*. From the plan, I can tell that she would like to work on letter recognition, and she expects me to lead our technology-enhanced lesson. Sometimes I lead the lesson, sometimes the classroom teacher leads the lesson, and sometimes we coteach. I always work with teachers to model and monitor until they are proficient and consistent users of technology with students. I take a quick look at the other subject areas and see that the science focus this week is on the moon, the stars, and the planets. I file this idea in my brain and move on with my day.

Twelve hours have elapsed since receiving the kindergarten teacher's plans. I know that she expects me to work with the letters *V* and *W*. I review the plan looking for other knowledge and experiences to be shared with the students. After considering numerous options, I decide to link my instruction to the science lesson about the moon, the stars, and the planets. I search for and preview several Internet sites. As I work, I think about three questions posed by the National Educational Technology Consortium: "Do images and events on the screen represent experiences that have meaning for children? Are children able to make connections between what is on the screen and what is in the real world? Do children

really understand who controls the computer or are they randomly hitting keys?" (Skeele & Stefankiewicz, 2002). Using iKeepBookmarks.com (www.iKeepBookmarks.com), a Web-based bookmarking service, it takes me 10 seconds to bookmark each site that passes the three-question test. I use iKeepBookmarks.com to teach students how to use the mouse, keyboard, and browser toolbars. It is a good site to use with young learners because it has few words, is not too busy, and uses color to guide students (Scott, 2003). It also allows me to add annotations and icons to describe each site. While Web-based bookmarking services like Backflip (www.backflip.com), Blink (www.blinkpro.com), and MyBookmarks (www.mybookmarks.com) are available, iKeepBookmarks.com is the only one that allows for customizable annotations and includes visual guidance through the use of color and icons. After developing several options for the kindergarten teacher to consider, I move on to plan other lessons for the next day.

On Tuesday morning, I meet with the kindergarten teacher and we decide that our focus will be on five objectives. Students will (a) identify the letters *V* and *W*; (b) identify the stars, planets, and moon as objects in the night sky; (c) explain how a painting is similar to and different from a book illustration; (d) practice using a mouse, links, and the browser toolbar; and (e) color the night sky, stars, planets, and moon appropriately. Students from a local teacher preparation program will be present during the day. Our plan includes opportunities for them to monitor students and work with small groups. It takes me only seconds to move the bookmarked sites to the correct folder and edit the annotations on our Web-based bookmarks page.

An hour later, I greet the class and read *How Many Stars in the Sky?* (Hort, 1991). The story includes wonderful illustrations and descriptions of the night sky. As we read we stop to identify the stars, the moon, and the planets. We carefully examine the colors used in the book as well. After the reading, we review what we know about the night sky. I tell the kindergarten class that we will be using the Internet to see another painting of the night sky. The students choose books and move to the adjacent 20-station computer lab.

In the computer lab, students double-click on the Internet browser icon. This is a challenge in the beginning of the year, but most know exactly what

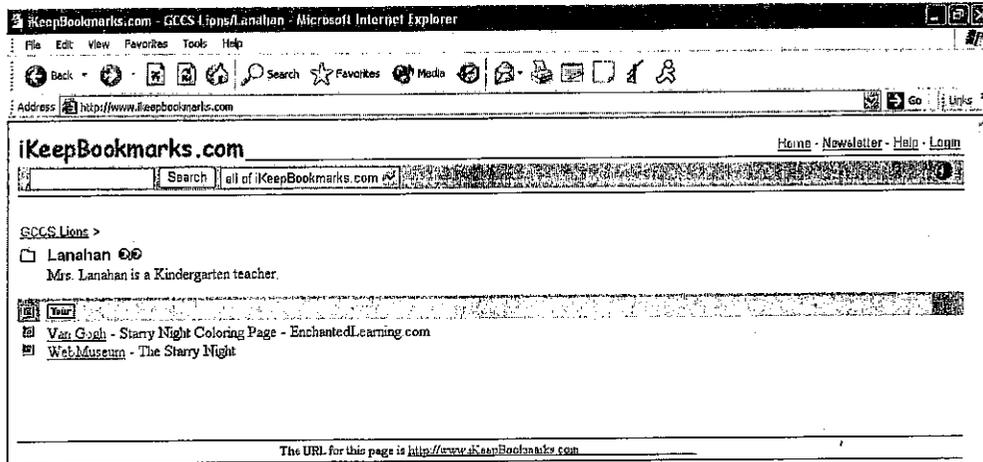
to do on the day of this lesson. Our homepage in the computer lab is set to the school Web-based bookmarking page. The page is split into two parts as shown in Figure 1. At the top is a yellow bar and further down is a green bar. Below the yellow bar are folders and below the green bar are links. Because the page doesn't change throughout the year, the kindergarten students rapidly spot their teacher's name on a folder and click on it. Inside the folder they find two sites bookmarked below the green bar. Because they know the structure of the page, they are immediately able to find the links for the lesson.

Using their letter identification skills, the students find a link that begins with the letter *W* for WebMuseum. Using sign language for the letter *W*, students indicate when they have found the link. After pointing to the letter and getting permission to move on, students click on the word *WebMuseum*, which is a link to WebMuseum, Paris (Pioch, 2002). Vincent van Gogh's "The Starry Night" immediately appears on the screen to the delight of the students. Every student experiences instant success. Continuing the lesson, we ask the students to find the letter *V* on the page for Vincent van Gogh. Again they display the sign for *V* and point to it. After ensuring that all students have identified the letter, we explain that van Gogh was a famous painter from France, and his work is like that of an illustrator. We examine the painting to see how it compares to a book illustration. Eager to look at the painting in more detail, they click and enlarge the image. They zoom in and out of the painting and move horizontally and vertically. Some students use the mouse while others use the keyboard. All the students are anxious to share. Knowing that "much of the benefit from computer use at an early age is derived from the interactions children have with adults or older peers that help them learn" (Skeele & Stefankiewicz, 2002, p. 84), the college students, the classroom teacher, a teaching assistant, and I monitor, listen, and congratulate them on all the new things they discover during the activity.

Students eagerly volunteer answers to questions about the night sky. We identify the stars and the moon in the online version of van Gogh's "The Starry Night." Some students notice a brighter star and ask if it is a planet. From our background reading, the teacher and I know that it is probably the planet Venus but are surprised that our kindergarten

FIGURE 1

An iKeepBookmarks.com folder containing two links



children can identify it. We explain why the moon and Venus appear larger than the more distant stars.

A few moments later, and two clicks of the “Back” button on the Internet browser, we are back to the Web-based bookmarking folder for the kindergarten teacher. The last site to visit includes a printable version of the van Gogh painting. Again, by identifying the letter *V* in the folder for van Gogh, the students are able to navigate to the correct page. Using the “Print” button on the Internet browser toolbar, each student prints and receives a copy of the coloring page (Col, n.d.). Fifteen minutes after opening a browser window, we have visited two webpages, addressed multiple academic standards, and printed an assessment worksheet.

According to Skeele and Stefankiewicz (2002), “It has been reported that computer activities produce the best results when combined with appropriate off-computer activities” (p. 84). Using the coloring page as a post-computer activity, we hope students will use what they know about the letters and the night sky when they complete the coloring page. While completing our kinesthetic activity, finding and circling the letters *V* and *W* on the coloring page, the students listen to “Vincent,” from Don McLean’s (1971) “American Pie” CD. The

students are excited to hear the words “starry, starry night” in the song and some recognize the words as the title of the coloring page. While van Gogh’s artwork is a myriad of colors, we expect to see the stars and moon colored differently than the rest of the painting. We are amazed when some of the students point out the moon and the planet and tell our college visitors why they appear larger than the stars. At the end of class, I collect the kindergarten artwork. It will be bound into a book, bar-coded, and added to our student-produced section of the library. This could not happen if kindergarten students had to type a URL or navigate to an unfamiliar webpage. It could not happen if I had to update our school webpage daily.

The students return to their classroom where they will complete additional letter recognition activities. They will learn new letters and work on sight words. Next week they will return for another lesson. We will continue our work with the letters *V* and *W*, and the students will argue over who gets to borrow the book they made on van Gogh. To provide additional contact with the letters, I will type annotations that include the letters and sight words, and we will visit websites that include them. Through these activities, students will encounter the content in a high-interest, meaningful environment.

Facilitating Web-based reading tasks

Each grade level, first through eighth, will complete similar activities. Letters, blends, sight words, spelling, and vocabulary will be incorporated as we choose sites for students to visit and write annotations with the reading goals in mind. The annotations, which accompany the links on our bookmark website, frequently include directions and descriptions for use of the Internet content. These annotations are custom designed for the level of the learners. Web-based bookmarking is used to facilitate a variety of reading tasks.

For example, Web-based bookmarking is used to assist fourth-grade students studying the tall tale genre. To begin the task students access our Web-based bookmark page, find a folder labeled "Tall Tales," and open it. Inside they find three websites that are bookmarked. The annotations that accompany the bookmarks describe how to use each site. The task the students will perform introduces new vocabulary, examines literary elements in tall tales, provides reading practice, and checks for comprehension. After reading the directions, the students click on the button marked "Tour." The Tour feature allows them to visit the sites in a specific order. At the first site, "Tall Tales" (Hietpas, 2000), they read about the features of a tall tale and the origins of tall tales. They encounter *hero* and *tall tale*, two vocabulary words, in context. At this site, the students read a paragraph about John Henry, an African American tall tale hero. When they have completed this task, they will move on to the next site.

Because we anticipated that the class would want to learn more about John Henry, a site titled "John Henry: The Steel Driving Man" (Hempel, Novak, Procopio, & Shaver, 2002) is the second bookmarked site. Students access the site by clicking the "Next" button on the Tour toolbar. The site includes general information about John Henry, several different musical renditions of the tale, and read-along lyrics for some of the versions. After reading and listening to several versions, students uncover the general format for a tall tale. A teacher-created worksheet provides questions to guide students and check comprehension. Finally, students click "Next" on the Tour toolbar and view a template for writing a tall tale (Hietpas, 2000). They read and follow the directions to create their own

tall tales. In this example, Web-based bookmarking provides quick access to relevant content and interaction with the material in an authentic context, and it allows for the incorporation of an Afrocentric resource. These characteristics make for a high-interest lesson that addresses several reading tasks.

By eighth grade, students use Web-based bookmarking to access sites and to create their own bookmarks as they encounter increasingly difficult reading tasks. During a unit on the U.S. Civil Rights movement, Web-based bookmarking is used to introduce new vocabulary and read from primary source documents. From our Web-based bookmark page, students access the National Civil Rights Museum (www.civilrightsmuseum.org) where they view the exhibits in the online gallery. During whole-group instruction, students are introduced to new vocabulary, key players, and major events leading up to the post-WWII Civil Rights era. After the whole-group activity, students use the next bookmarked link to access the African American Odyssey exhibit at the Library of Congress (<http://memory.loc.gov/ammem/aahtml/exhibit/aopart9.html>). One portion of the exhibit focuses on the U.S. Civil Rights era and includes primary source documents and relevant artifacts. The annotation for the link directs students to choose an artifact to research and bookmark it. To accomplish this task, students must examine the exhibit carefully and read both descriptive paragraphs and primary source material. They then choose an item to bookmark and write a descriptive annotation. While the primary source material is a challenge, Web-based bookmarking allows them to summarize their thoughts and store them with the accurate link for future reference. Returning to the artifact and the reading later in the assignment provides additional opportunities to process the information.

Using a third bookmarked link, students access a teacher-selected search engine. They search for additional information about the selected artifact, bookmark the useful sites, and write meaningful annotations. Later the students will review their initial thoughts about the artifact, evaluate the additional information collected, and properly cite the best resources. In this example, Web-based bookmarking provides students with the maximum time on task and a minimum amount of frustration. They mark possible links and engage in critical evaluation instead of printing reams of paper or