SEVEN

Digital Literacies

Virtually Connecting and Collaboratively Building Knowledge

In her fall 2008 College Writing course for 12th graders at a high school located in suburban Minneapolis, Elizabeth Boeser was not satisfied with her students' engagement in writing essays. This led her to develop an online role-play for her classes around the topic of the school's Internet policies. The students were agitated that administrators in a neighboring high school suspended students for violating athletic rules governing alcohol use based on Facebook photos. The students were also upset about the fact that in conducting research on certain topics in their own school, for example, gun control, they would find that certain sites such as that of the National Rifle Association would be blocked.

To prepare for this role-play, Elizabeth had students read the school's current Internet policies regarding rationales for blocking certain sites, which the students found to be quite vague. She assigned roles representing a range of competing pro–con perspectives on these issues, including those of administrators, teachers, students, parents, librarians, businesspeople, school board members, and technology coordinators. Students created avatars and posted their arguments using a Ning social networking site, a digital literacy tool similar to Facebook or MySpace that allows students to create profiles and to participate in a discussion forum. Students debated the issue as to whether sites should be blocked in their school, as well as whether administrators have the right to access their Facebook pages.

In creating online roles, students often assumed positions contrary to their own beliefs, and subsequently considered alternative arguments for blocking or not blocking sites. In adopting the role of an outspoken student opponent of blocking sites, Ali Christensen noted that:

> I created the character Judith Rosario as something of a foil to
> myself. She is outspoken, loud, and more than a little opinionated.
> She believes in total and uninhibited free speech that should
> not and cannot be restricted. I began the role-play believing that

administration's monitoring of student access was a good idea, but my opinions changed a little as time progressed. As I continued to write as Judith, and research the topic more carefully, I came to see how a person could come to feel so strongly about privacy in the academic setting.

Elizabeth made it clear to the students that, based on their participation in the online role-play, they would be proposing changes in the school's Internet policies to the school's administration. Knowing that they had the agency to do so served to motivate the students to develop convincing arguments. As Mike Kujak, another student, noted about these policies:

> Not only does the [school] handbook set unclear rules or punishment for offenders, but it also states that the administration does not support any of the sites that are blocked. Half of the sites that are blocked are done not because of content but guilt by association.
>
> We have a chance to change something that will continually make a difference. We can stand up for ourselves and show that we don't need protection from the big bad world anymore. We can put forward our own beliefs and represent ourselves for a change. Finally, we can sit down with the school board and set some clear rules for students to follow, and then inform the students on the rules so that they know they are breaking them.

Students wrote persuasive essays, based on their own and others' arguments formulated during the role-play, that served as material for arguing their position to the school's technology coordinator, who had the authority to unblock sites.

The online forum provided students with opportunities to formulate arguments over an extended period of time during and after class. In creating their bios and avatars on the Ning site, they were constructing a virtual identity and stance that shaped their positions consistent with certain beliefs and discourses. For example, some students assuming administrator and parent roles adopted a discourse of control and protection, arguing that students should not be exposed to sites that might promote undesirable behavior. In contrast, some students in student roles argued that being able to access and negotiate complex and controversial information is a necessary component of educating for democratic citizenship. In the forum, students exposed to a wide range of different pro and con positions provided counterargument comments and linked to articles and materials bolstering their arguments, for example, information about court cases related to free speech and censorship.

The collected posts from the role-play served as useful prewriting material for students in composing essays. Students reviewed their own and others' posts and drew on competing arguments to craft their own positions on the problems of not having access to blocked sites for educational purposes. When the students presented their arguments to the school's technology coordinator, the coordinator unblocked sites, including allowing teachers access to YouTube in their classes. Through their use of collaborative arguments using a digital literacy tool, students gained a sense of agency to make changes in their school (Beach & Doerr-Stevens, 2009).

USING DIGITAL LITERACY TOOLS IN 21ST-CENTURY CLASSROOMS

Elizabeth's students' use of the Ning discussion forum demonstrates how digital literacy tools—blogs, wikis, Twitter, social networking sites, digital storytelling—enable students to critically investigate an issue that concerns them (Beach, Anson, Kastman-Breuch, & Swiss, 2008; Richardson, 2009) (for links to information on these digital literacy tools, see http://digitalwriting.pbworks.com, and links on the book's wiki site, http://literacytooluses.pbworks.com). Students in the online role-play created virtual identities/avatars as personas designed to enhance their arguments. Both during and after school they also shared and responded to one another's posts, which could be read by multiple audiences. And to support their positions, they could readily search for and link to material that served as valuable preparation for writing essays and making their case to the technology coordinator.

In the process, they were acquiring digital literacies. As evident in the use of Twitter and cell phones to broadcast the details of the 2009 Iranian election to the world, as well as the use of online social networking in the 2008 Obama campaign, young people use digital literacy tools to become change agents; as citizen researchers, activists, and journalists, their bottom-up communications challenge the top-down control of information by traditional mainstream media. Because these tools allow for instant sharing of engaging, multimodal information, they can be used to foster collaborative critical inquiry and political activity.

It is often the case that students learn to use digital literacy tools outside of schools, as evident in their use of social networking sites, blogs, or Twitter in a networked, participatory culture (Lenhart, Arafeh, Smith, & Macgill, 2008). Rather than limit the use of such tools in schools, it is essential that teachers build on and add their own critical dimension to these media, as did Elizabeth in fostering use of argumentative writing using the Ning.

While some teachers may resist incorporation of digital literacies given pressure to prepare for print-based reading and writing assessments and other teachers may replace print with digital literacies, Kevin Leander (2009) posits the need for a "parallel pedagogy" approach that integrates both print and digital literacies and that re-mediates traditional print-based generic forms. For example, students may combine print memoir pieces with digital stories to reflect on how "the old is absorbed and routinely transformed into new forms" (p. 161).

CONSTRUCTING ONLINE IDENTITIES

Digital literacy tools also serve to foster engagement with participation in online communities in which students acquire identities and a sense of agency. Through enacting online personas on Facebook, MySpace, or Twitter, students are constructing identities as members of online communities, or what danah boyd (2006) defines as "networked publics" (p. 9). These online communities have the properties of "persistence" (communication is recorded and stored), "searchability" (people can readily locate one another and information), "replicability" (material can be copied and moved), and "invisible audiences" (it is difficult to identify one's potential audiences) (p. 9). Boyd (2006) explains that "bloggers also speak about their blogs being their online identity, their digital representation . . . the blog gives them a locatable voice and identity in the digital world . . . bloggers view their blogs as them" (p. 12).

Learning to engage in online interaction involves what Michael Wesch (2009) describes as acquiring "subjectivities: ways of approaching, understanding, and interacting with the world" (p. 3) through creating online "environments in which the practices and perspectives are nourished, encouraged, or inspired (and therefore continually practiced)" (p. 3). For example, in his Introduction to Cultural Anthropology course at Kansas State University, Wesch created an online World Simulation that involves students in becoming experts in the culture of a specific region of the world, using a wiki to share information and digital videos to portray that information. Students then extract notions of what it means to operate in different cultures, including how these cultures may or may not be connected.

Students also use digital literacy tools to communicate with audiences outside the classroom, where they are exposed to alternative perspectives and ideas that challenge status-quo thinking. For example, students can communicate with students in other schools on sites such as Youth Voices (http://youthvoices.net/elgg) or online virtual versions of texts on

the Literary Worlds site (http://www.literaryworlds.org) (Rozema & Webb, 2008). On the Literary Worlds site, students can engage in synchronous chat about frequently taught texts such as *Brave New World*, *Of Mice and Men*, *The Great Gatsby*, and *1984*. By engaging in virtual worlds in the same way that they participate in game worlds, students create their own versions of characters and settings in the texts.

ACQUIRING DIGITAL LITERACIES

Through their use of digital literacy tools, students acquire four important digital literacies: multimodality, hyperlinking, connectivity, and collaboration.

Multimodality

Multimodality means combining or remixing text, images, video, and audio to create digital productions (Kress, 2003). In creating digital storytelling or poetry, students combine a number of different modes, such as print text, audio, images, and video. Because these texts are digital, students can capture, combine, and remix them to share with peers (Rozema & Webb, 2008). For example, in working with his eighth-grade students at West Junior High School, Hopkins, Minnesota, Brent Eckoff describes how he uses the Comic Life (http://plasq.com/comiclife) program as students create comic book interpretations of stories:

> As a prewriting exercise to the first "Comic Life" project, I had students do a rough storyboard of what they planned to create. This involved a six cell, blank comic strip in which they drew rough sketches and included text below each sketch to explain which part of the story they were depicting. They learned quickly that to find images that suit their needs would require various combinations of words and phrases due to the strange tags people tend to place on their photos. They also learned creative ways to use Comic Life to alter images to make them suit their purposes. In addition to altering photos, the limitations Flickr placed on their searches forced them to get more creative with the text they chose to include. Some of the speech bubbles and text boxes they wrote were both surprising, and innovative. The students then exported the Comic Life presentations as Quicktime files, uploaded them to YouTube, and then embedded them on the class wiki (http://eckhoffla .pbwiki.com).

My favorite part about incorporating all of these new digital tools into my classroom is not the new modes of expression or the innovative ideas it brings out in my students; it is the 100% engagement.

Another useful digital literacy tool for combining audio and visual modes is VoiceThread (http://voicethread.com), which can be used to add audio commentary to a photo slide show. For example, in Delainia Haug's Media Studies course, as part of the DigMe program at Roosevelt High School, Minneapolis, Minnesota, described in the Introduction, students created VoiceThread commentaries about their experiences in coping with challenges in their lives. For example, in Delainia's class, Maria Schaeffer and Leosha Bellfield created a VoiceThread production based on research about issues with teen pregnancy (http://voicethread.com/share/296605/). They added commentary to images of teen mothers with their babies such as the following:

Some may not want their babies. Some may want their babies for idealized and unrealistic reasons. Others may feel the child as an achievement and not recognize the serious responsibility a child comes with. Some may keep a child to please another family member. Depression is also common because they are overrun by guilt and fears about the future and just want someone to love.

In their VoiceThread presentation, students included an image of an empty classroom desk to represent the idea of a teen parent not attending school. Their presentation went beyond moralizing: It pointed to the need for society to better support young mothers in realizing their educational ambitions. The use of multimodality also helped convey the complexity and simultaneity of experience that does not fall into simple genrelike categories such as tragedy or joyousness. When various modes such as voice and images are presented in concert, the author/designers are better able to communicate complex emotions associated with becoming a new parent.

Learning to create multimodal digital texts requires the ability to know how to combine, mesh, or remix images, video, audio, and text in ways that engage audiences, something we discuss in more detail in Chapter 9. For example, in creating digital storytelling texts, students need to know how to use images to create narrative conflicts. Students also need a semiotic sense of how certain images resonate with audiences based on popular culture meanings, for example, how an empty chair conveys symbolic meanings about a student not attending school.

In creating multimodal texts, students may be using digital copyrighted material. Because they are reworking or transforming copyrighted texts, this "transformative" use for their own critical and pedagogical purposes of revising, interpreting, critiquing, and parodying material falls under the legal doctrine of "fair use" of such texts, with proper attribution of the original text. For a description of idea of the transformational fair use of digital media related to the fair use doctrine (Center for Social Media, 2008), see http://www .centerforsocialmedia.org/resources/publications/fair_use_in_online_video/.

Hyperlinking

In composing digital media, as students create hyperlinks between texts, they are involved in the digital literacy of knowing how to understand and employ intertextual connections between different ideas (Bernstein & Greco, 2009). For example, students can create hypertext autobiographical essays in which they forge links between aspects of their lives and historical events, local places, or popular culture topics. They may also study media representations of certain topics by finding images on Flickr or videos on YouTube and then combining these with voiceover text on VoiceThread. In creating their VoiceThread production on teen pregnancy, Maria and Leosha selected images such as the empty classroom chair because they believed that it would dramatize the issue of gender inequality with respect to educational access, especially for young mothers. This suggests the importance of defining one's purpose for using a hyperlink or connection to an image. Students also need to envision how audiences may process texts given those audiences' own purposes. In order to self-assess and reflect, they could pose the following questions:

- What do you want your audiences to learn from your text? How does that determine the links or connections you are using?
- What may be some purposes audiences bring to your text—what do they want to find or learn in reading your text?
- What cues, icons, prompts, or directions will you use to help audiences use the links or connections to find what they are looking for or learn certain things?

Students also use links to others' ideas to develop their own line of thinking. Joseph Harris (2006) describes this linking as "forwarding" others' ideas and positions. This forwarding also involves "borrowing: What you draw on, terms or ideas from other writers to use in thinking through your subject" (p. 39) and "authorizing: When you invoke the expertise or

status of another writer to support your thinking" (p. 39). By linking to others' ideas, students are also ideally engaged in "extending: When you put your own spin on the terms of concepts that you take from other texts" (p. 39). For example, in Meredith Aby's 12th-grade AP U.S. Government class at Jefferson High School, Bloomington, Minnesota, students created blog posts about their perceptions of the 2008 presidential campaign (http://2008presidentialrace-meredith.blogspot.com). In their posts, students drew heavily on one anothers' posts as well as on a range of different news and blog sites. One student, Jessica Lieb, took issue with her peer's argument that John McCain's vice presidential candidate, Sarah Palin, was not a liability for the Republican campaign:

> I have to disagree with AJ's claim that Sarah Palin didn't hurt the McCain campaign. I also disagree with people's argument that while her celebrity status towards the end of the race hindered his campaign, she was a positive asset at the beginning because of her relatable status. I disagree with this claim because I believe that McCain's selection of her as his running mate symbolized his loss of the chance to become our next president. Palin summarized all of the things McCain should not have played up in his election. Americans did not want another "old maverick" in the White House. . . . The choice of Sarah Palin as his running mate symbolized John McCain's movement towards ambiguity and empty promises, which was the last thing Americans wanted to hear with our economic crises.

In her post, Jessica is disagreeing with another student's position on John McCain's selection of Sarah Palin as his vice-presidential nominee. To do so, she drew on a number of links that she cites: 1) http://www.washington post.com/wp-dyn/content/article/2008/10/27/AR2008102702406.htm, 2) http://www.politico.com/news/stories/0908/13062.html, and 3) http://themoderatevoice.com/politics/sarah-palin/24121/did-sarah-palin-lose-the-election-for-mccain/. She is borrowing ideas from these links and extending those facts to develop her own position as to why McCain's selection of Sarah Palin reflected his own "ambiguity and empty promises," forwarding this material to generate and support her own opinion.

Connectivity

Digital literacy also involves connectivity—the ability to employ digital communication tools to socially connect and network with others. Through

making connections, students build personal learning networks (PLNs) for creating social relationships and acquiring knowledge. Learning to network with others has become as essential literacy tool in the knowledge economy; given the short-term, transient nature of employment, people need to know how to promote themselves through networking.

The theory of connectivism suggests that learning revolves around knowing how to use digital literacy tools to create and use networks to acquire information and build social relationships (Downes, 2007; Siemens, 2008). Because information is readily available online and through the media, students now need to know not only where or from whom to access that information but also how to critically synthesize it to achieve new knowledge and understandings. And, given the vast amount of information available, students also need to be able to search for, filter, and adjudicate the relevance, validity, and currency of information consistent with their needs. Teachers can model their own use of search strategies by making explicit their decision-making, for example, identifying their purposes and whether search results fulfill those purposes. Students can also use tools such as the Critical Web Reader (http://cwr.indiana.edu) to analyze sites, post inquiry questions, assess the relevancy of information to those questions, and critically analyze the biases operating on sites.

Students also use digital literacy tools to build social connections with other students, as evident in the popularity of texting and social networking sites. Teachers can have their classes connect with each other to exchange ideas. In one instance, as mentioned in Chapter 2, students in Melissa's 10th-grade class at North High School were studying Zora Neale Hurston's (1937/1991) *Their Eyes Were Watching God*. As part of their study, they exchanged e-mail responses with Joy Hanson's 10th-grade students at a suburban Minneapolis high school. In their planning, Melissa and Joy were curious about what would happen as these quite different groups of students responded to issues of race, class, and gender difference.

To begin, they asked students to complete pre-unit survey questions related to their preconceptions of suburban and urban students. The North High students then created four representations of urban female and male students, as well as depictions of the suburban students. Students at the suburban school created images of students in both schools. They then created video introductions of their classes to exchange, followed by ongoing cross-school e-mail exchanges with partners of their responses to the novel. Students discussed what fueled their preconceived images of urban and suburban students, particularly in terms of how media representations portray urban and suburban worlds as completely distinct.

Following this exchange, students met face-to-face, where they discovered that their counterparts were experiencing similar interests and challenges in ways that defied their stereotypes about each other. They recognized that they had similar responses; they had shared insights acquired through their online communication that would never have occurred in their segregated worlds. They were using digital literacy tools to break down borders and barriers, leading to cross-cultural understanding (for another example, see the PICCLE Moodle courses [http://piccle.ed.psu.edu] offered in several countries, designed to promote cross-cultural understanding).

Students can also foster connections with peers on sites such as Youth Voices (http://youthvoices.net) to engage in collaborative critical inquiry projects. Paul Allison (2009) notes how his students shared critical inquiry questions with others on Youth Voices:

I ask my students to find a question or a set of questions that they develop in their own speculative writing, and eventually they do online research about their questions, connecting with others who have published on the Internet, and critically interpreting the welter of information available to them there. Students grow their blogs over a semester of working with other students and teachers who share their social network, Youth Voices. (p. 98)

He also poses questions for his students to consider in their blogging:

- What are you passionate about and how do these interests fit with other students' big questions?
- What voices or sources of information do you think are important to include in your search for answers?
- How do you become an effective online networker and get people with shared interests to value your voice online?
- How can you use our social networks as personal learning sites that lead to social action? (p. 110)

Students can use audio digital literacy tools to communicate with one another, particularly given the popularity of cell phones and podcasts on iPods and other audio listening devices. Given the ubiquity of cell phone use, students continually connect with each other through texting and voice mail. In her 12th-grade International Baccalaureate English course at Champlin Park High School, Champlin, Minnesota, Linda Mork employed cell phones as a digital literacy tool to create podcasts of oral commentaries about the students' literature reading. Students recorded their commentaries on their cell phones using Gcast.

Setting up this assignment could not have been easier. During class, I had each student register for a free account at Gcast and create a personal podcast "channel." Because each channel can host many podcasts, students only had to do this step once. Several times throughout the course, students were assigned to call in and record their commentaries. Working in teams of three or four, students regularly visited their teammates' channels, listened to each other's commentaries, and wrote peer evaluations which were distributed and discussed in class. To make finding their teammates' channels easier, I had students create links to their URLs on a class wiki page.

Students found Gcast easy, helpful, and enjoyable. Many commented on how much they looked forward to posting a new podcast and admitted to listening to other students' channels out of curiosity and "just for fun." I believe this authentic audience raised the level of concern and encouraged students to work on improving their commentaries much more than a teacher-only or even small-group audience would have. Many students also stated that this practice greatly reduced their anxiety about the assessment; I can report significant improvement in students' performances.

In addition to recording their responses to texts, students could also record commentaries about lectures, field trips, or school/community events, including interviews with participants.

One advantage of using cell phones is that students who do not have access to computers in their homes are more likely to have access to cell phones. If students do not have access to a cell phone, they can also record podcasts on computers using Garageband (on Macs) or Audacity (http://audacity.sourceforge.net/). For some tutorials created by Richard and Pete McCauley on using these podcasting tools, see http://digitalwriting.pbworks.com/McCauley+and+Beach:+Tutorials+on+Creating+Podcasts.

Collaboration

A fourth aspect of digital literacy is the ability to use digital literacy tools such as wikis to engage in collaboration. Wikis—Web sites that multiple users can add to and revise—can be created using tools such as PBWorks (http://pbworks.com), Wikispaces (http://www.wikispaces.com), or Wetpaint (http://www.wetpaint.com) that allow both teachers and students to write and share information (Beach, Anson, Kastman-Breuch, & Swiss, 2009; Richardson, 2009). Students may also use Google Docs (http://docs.google.com) for collaborative writing.

In his high school literature class, Scott Wertsch used wikis to create literature circle discussions of books, with each literature circle sharing their responses on the wiki (http://wertsch.pbworks.com/Book+Club+Wiki+Pages). Students in each literature circle added their own analysis of the novel they were reading so that students were sharing responses both in face-to-face discussions and online. For her 12th grade AP Literature class, Molly Melton used a wiki as a repository of information around topics such as literary terms, critical lenses, texts read, literary analysis, and interpretations (http://molliwog .pbwiki.com). For example, she notes that the "texts" page serves:

> as a place to post musings, observations, questions, images, analysis and other resources corresponding to each piece. Each student, or a pair of students, could be assigned to be the main "author(s)" of the wiki page for one text. Images could be found on Flickr that relate to the content, symbols, or themes of the piece and posted on the wiki.

In another collaborative project, Jennifer Budenski, who teaches at an off-campus alternative program in Hopkins, Minnesota, decided to have her students design a Web site for their school—something it previously lacked— using Google Sites (http://sites.google.com/site/ocphapproject/Home), a free tool for creating Web pages. The students broke up into groups to focus on different aspects of the Web site. Jennifer describes the experience of one student, Demetrius:

> Demetrius decided to compose a Heroes and Role Models page. First, he interviewed fellow students about their personal heroes. Next, he searched for images, asking along the way who some of them were, occasionally diverting to google them. Finally, he attempted to post them on his subpage.
>
> On the last day of the project, Demetrius opened his subpage to discover that another student had attempted to write a brief introduction naming what the chosen heroes and role models shared in common. Finding this small contribution on his page seemed to motivate him for a final effort. Also on this day, another student and I discovered through trial and error over a few days how to insert a Picasa [a Google photo-hosting site] slide show on a subpage. Demetrius discovered his solution. Rather than struggling to manipulate the images on his page, we placed them in a slide show.
>
> I loved the experimentation and frustration of the recursive thinking and composing, and the clarifying effect both of collaborative writing and translation of information from verbal to visual text. We

didn't know what our composition would look like or read like until it was finished. All students learned how a multimodal composition could communicate more clearly than verbal text in this situation.

The outcome that students nearly unanimously appreciated was collaboration. While they had plenty of criticism for other aspects of the unit (one student called it "chaos"), all but three students said they felt like they were all working together on this project.

Over the 20 days of our unit, assessment became a matter of triage. What problem can we solve today, and who's going to be in charge of working on it? Who can help? If we all worked toward making progress on the site, we all earned our participation credit for the day. We also stopped at the midpoint and at the end to view the site as a whole to evaluate it, reassessing our to-do lists. In the end, students received academic points for completing their individual projects and writing feedback at the midpoint and end of the project. They will share an academic grade for the site as a whole.

One advantage of using these digital literacy tools is that rather than having to work together in the same face-to-face setting, students can contribute and revise their writing from different places and times, further enhancing the ease of collaboration. By using digital literacy tools, students learn to work together with others by contributing their own particular knowledge and expertise, collaboration essential for participating in the workplace and society. They can recognize how they may generate higher-quality work by working together than working alone.

In using these digital literacy tools to connect with and collaborate with others, students acquire a sense of the power of collective action, where the sum of everyone's contribution is greater than the isolated parts; this awareness challenges traditional academic ideologies of individual expertise and authorship. They also learn to define their own identities as digital producers in terms of their particular expertise or ability in contributing to collaborative projects. And they learn to assess the effectiveness and appeal of their digital texts, leading them to continually improve in their uses of digital literacies.