

Literacy 2.0: Finding, Using, Creating, and Sharing Information

Information literacy is a vital part of 21st century learning that requires a shift of the skills students need to be successful.

By Nancy Frey and Douglas Fisher

Nancy Frey (nfrey@mail.sdsu.edu) is a professor of teacher education at San Diego State University and a teacher leader at Health Sciences High and Middle College in San Diego, CA.

Douglas Fisher (dfisher@mail.sdsu.edu) is a professor of teacher education at San Diego State University and a teacher leader at Health Sciences High and Middle College.

They are the authors, with Diane Lapp, of *Teaching Students to Read Like Detectives* (2012, *Solution Tree*).



Watch the Video!

Watch a teacher introduce students to tools that help them share information using basic and advanced literacy skills.
www.nassp.org/pl0412fisher

Teachers who focus on 21st century skills understand that students' literacy needs have changed. Although students still use vocabulary, comprehension, fluency, and decoding skills, they apply those skills in new ways. The Internet and the devices that connect with it have changed the ways in which people read, write, speak, and listen. Consider the typical teenager searching a smart phone for one of thousands of songs, sending a message to a friend, reviewing for an upcoming test, and making the next move in a Scrabble game, all within minutes.

Teachers who focus on 21st century skills also recognize that there is a wide range of tools available. Unfortunately, this ever-expanding list of tools causes some people a lot of stress. Who hasn't felt pressure when a student asks about using the newest, greatest technology tool? It's really hard to keep up with all of the various tools. Thankfully, we don't have to. Each tool serves a function, and knowing the function is more important than knowing the specific tool. After all, the tools will change over time, but the functions remain—remember the Netscape web browser that was expected to dominate the niche for years but is now all but obsolete?

The tools and their functions generally fit into four categories that push literacy to a new level: finding, using, creating, and sharing information. It's no longer about simply developing literacy skills, but rather about developing students' use of those skills to think about information.

Finding Information

Students have more access to information today than ever before in the history of education. There is no shortage

of content. In fact, it has been said that everything is on the Internet. The problem is that students don't know how to find information, especially information that is accurate and valid. Teaching students to find information begins with teaching them how to search the Internet. It's not sufficient to simply type a phrase into a search engine: the top items are likely to be sponsored sites and students may need a lot more information. Instead, students need to be taught more sophisticated search strategies. For example, there are a number of Boolean search tools (www.internettutorials.net/boolean.asp) that students can use to narrow their searches using such features as quotation marks, plus and minus signs, and operator words (e.g., *and*, *or*, and *not*).

In addition, students must be taught to evaluate the information that they find. Teachers must ensure that students develop a healthy skepticism in their research efforts and come to understand that the Internet has errors and misleading information. When they think something sounds too strange or too good to be true, they should know to check a site devoted to debunking myths, such as Snopes (www.snopes.com), and do some fact-checking of their own. In addition, they should know how to evaluate the information contained on a website. For example, students might learn to use the system developed by Robert Harris that includes criteria for credibility, accuracy, reasonableness, and support (or CARS) (www.virtualsalt.com/evalu8it.htm).

Using Information

Once students locate information, they must use it appropriately. Using information well requires a wide range

of skills, many of which are low-level literacy skills, such as synthesizing and summarizing, referencing, and documenting sources. Thankfully, there are a number of helpful tools for teaching students about the appropriate and inappropriate use of sources. For example, teachers can use the information and game created by the University of Leeds to guide students to greater understanding (www.ldu.leeds.ac.uk/plagiarism/teaching.php). In addition, students need to be taught appropriate referencing systems. Teachers can use citation websites to help students generate appropriate references (<http://citationmachine.net/index2.php> or www.bibme.org).

Creating Information

Creating information is where students take off. Of course, teachers have always asked students to create information, whether it is a lab report, a research paper, or a diorama. The tools available today enable students to create information in whole new ways. Teachers can use the following tools to address this function:

- Podcasts: students can digitally record information about a topic and edit it into a product. For example, in a US history class, a student developed a podcast that summarized various sources of information about child labor and industrialization.
- iMovies: students can produce short videos that contain content information. For example, a group of students produced an infomercial about clean water around the world as part of the ecology unit in biology.
- Facebook: students can create pages about topics that would be useful for others. For example,

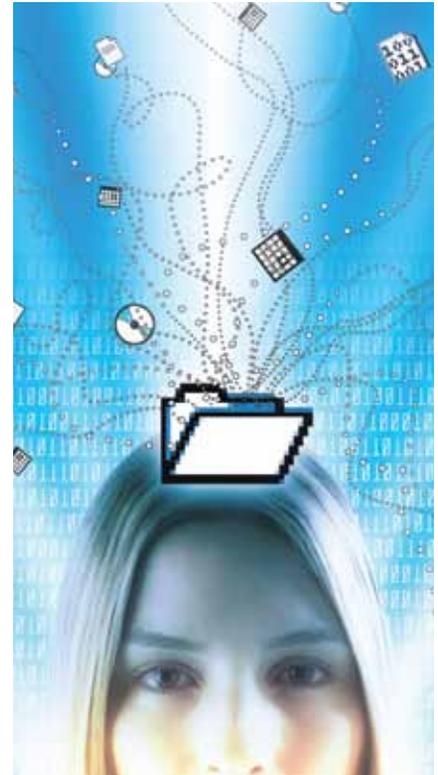
as part of their investigation of what's worth fighting for, students developed Facebook fan pages about topics that were important to them, such as "Islamophobia," teen depression, polar bear conservation, and the development of skateboard parks.

- Virtual posters: students can use graphics and text to communicate their understanding of a topic. For example, in their English class, students created posters advertising the book they read to convince others that the book was worth reading.

Sharing Information

In a 21st century classroom, students have opportunities to share their understanding with a much wider audience than just the teacher. They put their ideas out there in the world, and then they get to see how people respond to those ideas. Of course, not all of the responses are positive, and sometimes students make revisions to their work on the basis of the feedback they receive from others. This means that students and their parents must understand the risks in sharing thinking widely. In discussions with family members, teachers and leaders should note that most students are already sharing a lot with the world and that type of sharing might eventually help them filter what they say in virtual environments. Students can share information in any number of ways, including:

- Amazon.com reviews: students can review the books they read and make recommendations for a wide audience, rather than write book reports for their teachers.
- YouTube: students can post their videos and allow others to com-



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Tools Organized by Function

Searching

Google
 Yahoo
 Lycos
 Bing
 StumbleUpon
 Phone apps

Storing

MP3 players
 Flash drives
 Servers
 CD/DVD
 E-book readers

Communicating

Text messaging
 Twitter
 Digg
 Video conferencing

Sharing

YouTube
 Blogs
 Vlogs
 Flickr
 Picasa

Collaborating

Wikis
 VoiceThread
 Google Docs
 Crowdsourcing

Listening and Viewing

Podcasts

iTunes
 Screencasts
 Hulu
 RSS feeds
 Streaming media

Producing

GarageBand
 iMovie
 Comic Life
 Voki

Presenting

PowerPoint
 Keynote
 Wimba
 Smartboards

Networking

MySpace
 Facebook
 Ning

Source: Frey, N., Fisher, D., & Gonzalez, A. (2010). Literacy 2.0: Reading and writing in 21st century classrooms. *Bloomington, IN: Solution Tree.*



devote more class time to performing and receiving feedback.

In the video that accompanies this column, Alex Gonzalez, a technology resource teacher, introduces students to tools that they can use to share information. In doing so, he invites students to use their basic and advanced literacy skills as they complete the work of school.

It's a Shift

Literacy in the 21st century represents a shift in, rather than a replacement of, the skills students need to be successful. As students engage in the work of school using new tools, they see increased relevance and experience connections with others. For teachers, this can be stressful. Leaders can alleviate some of the stress when they remind teachers to focus on the functions that the tools serve, rather than trying to learn every new tool on the market. In fact, in highly successful 21st century schools, different individuals use different tools. All members of the school community do not need to use the same tools to accomplish a function. Instead, students and adults within the school system can share the tools they use as they learn from one another. Collaboration and communication are, after all, two of the skills that students must develop if they are going to succeed in the world. **PL**

ment on their ideas and their work. For example, students in a biology class created videos to review various organ systems, posted them on YouTube, and received feedback about their level of understanding from peers and the teacher.

- Twitter: students can submit short summaries of their thinking or progress to their followers. For example, students in physical education tweet their exercise records using an application called RunCoach.
- Blogs: students can summarize their experiences and learning in blogs. For example, as part of their earth science class, students

maintained a diary-like presence complete with photos from field studies and summaries of their lessons.

- Web pages: students can create virtual spaces focused on their learning. For example, as part of their freshman experience, students created webpages to store and organize all of their work. They created sections for each of their classes and visual aids to guide visitors to information.
- Google Docs: students can collaborate with peers in a virtual environment. For example, groups of students in a drama class created and revised their biweekly scripts outside of class so that they could