

## **What is Information Literacy in the Digital Age?**

- Rob Darrow, Library Media Teacher on Special Assignment, Clovis Unified
- Cynthia MacDonald, Youth Services Manager, Fresno Public Library

Published in the California School Library Journal. February 2004.

According to the Hobbes Internet Timeline (<http://www.zakon.org/robert/internet/timeline/>) this year marks the 45<sup>th</sup> anniversary of the Internet. Just 10 years ago the term “information literacy” – the ability to access, evaluate, and use information (Doyle, 1994) - only applied to the print world and many people thought the Internet was just a passing fad.

As we now know the Internet and the World Wide Web are not a passing fad, but something that is quickly becoming part of the fabric of American life. The third UCLA Internet Report (<http://ccp.ucla.edu/pages/internet-report.asp>, 2003) found that:

- More than 70% of all Americans go online every week for an average of 11 hours.
- Over 90% of young people, aged 12-17, are online
- Over 70% of students report using the Internet at school
- The top reason users say they use the Internet is the “ability to get information quickly”
- The Internet ranks higher than books as an important source of information

Other research has shown that:

- “58% of Internet users, believe ‘most or all’ information on the Web can be trusted to be right.” (UCLA Internet Study, 2001.)
- “71% of internet-connected students choose the Web over a visit to the library to complete school projects.” (Pew Internet & American Life Study, 2001.)

The advent of computers, software, hardware, networks, the Internet and the World Wide Web exponentially expanded the way information literacy is applied. The good news is that the core concepts of information literacy – the ability to read, access, use and evaluate information – is the same in the digital world as it is in the print world. However, with students and teachers now having access to a broad range of information in digital forms at school, at home, in libraries, and at Starbucks, how should library professionals address information literacy skills?

First, it is important to note that regardless of what you think about students accessing the Internet, it is quickly becoming the primary source of communication and information for children of all ages. Furthermore, it is a world of analog adults and digital kids where high school students today are the first generation to grow up on the Internet. Students and young people internalize technology, while adults have to adopt it. As library professionals, we need to identify ways to organize information in digital formats to make it most accessible to users – especially young people – so that they become better users of information. The way information literacy skills are taught need to change as the type and format of information being accessed by users changes.

In thinking about the information literacy skills needed in the 21<sup>st</sup> century, do you think information literacy skills taught to students should include...

- Choosing the best Web sites?
- Distinguishing between fact and opinion?
- Knowing how to search the Web?
- Utilizing the Control/F key to find text on a page of text?

It is all of these. More importantly, how is information literacy different in the digital age? Overall, there is expanded access to information in a variety of formats from worldwide institutions, businesses and universities. All library services are moving online (See “Ask Now,” a California based online chat reference service for students. [www.asknow.org](http://www.asknow.org)). Finally, what is increasingly evident is that students of all ages must possess skills to locate and use the “best” information in both print and digital format. And, they must know how to evaluate the information so they know that the information is reliable.

All library professionals should be knowledgeable and proficient in the various digital technologies – especially with the Internet - so they can help users to access the information they need when they need it. One way to conceptualize this overwhelming thought is to put the information skills needed for the digital age into a context and a framework for both library professionals and for learners. Let’s break down the types of information literacy skills needed in the digital age according to the Big6 steps ([www.big6.com](http://www.big6.com)). Additionally, we have listed online resources to provide examples and activities that can be used to address information literacy skills at each stage of the Big6.

### **Stage One – Task Definition**

For students, this means knowing what they need to do to complete an assignment. For library professionals, this means learning what they need! Anything that is done to better define the assignment helps students to better know what information they need. Generally this is accomplished through a reference interview – whether in person or online. In this stage, students also need to learn how to best define their topic, and at the high school level, how to define a thesis. There are many online tools that are helpful to guide students in this learning.

Resources:

- Reference Interview online: <http://www.olc.org/ore/2interview.htm>
- Developing a Thesis Statement: <http://mciu.org/~spjvweb/thesis.html>

### **Stage Two – Information Seeking Strategies**

This means defining which sources of information are best to use. In the print world, it was determining which book was best or whether to look in the reference or nonfiction book. In the digital world, it is deciding which search engine to use and which search terms to use in the search. Today, students need to learn whether the best source is online or in print...and research shows that most students now turn to the Internet before considering print sources.

Resources:

- InfoPeoples Best Search Tools template for efficient searching - <http://www.infopeople.org/search/tools.html>
- Search the Web WebQuest - [www.cusd.com/calonline/infolit](http://www.cusd.com/calonline/infolit)
- Boolean machine - <http://kathyschrock.net/rbs3k/boolean/>

### **Stage Three – Location and Access**

Learning how to find the information that is needed and knowing that it is the best available information for the assignment are the components of this stage. Knowing how to sift through the thousands of hits, how to organize what is found, and how to evaluate the information are new information literacy skills that are crucial in the digital age. Libraries can also aid access to the best resources by compiling subject arranged Web sites or pathfinders based on state standards.

Resources:

- Searching the Web Strategies - <http://www.rcls.org/wows/>
- Evaluating Web sources - QUICK: The Quality Information Checklist - <http://www.quick.org.uk/menu.htm>
- Subject arranged Web sites - <http://www.fresnolibrary.org/teen/hc/index.html>
- American history pathfinders - [www.cusd.com/calonline/tah](http://www.cusd.com/calonline/tah)

### **Stage 4 – Use of Information**

This is the stage where students extract the important information needed for the project. In the print world, this meant taking notes – on note cards or on paper. However, in the digital world, it means copying and pasting text from Web sites or books or journals. This is where the knowledge of plagiarism, copyright and the ethical use of information are critical. It is important to guide students in the best ways to get the information they need, which could mean taking notes by transferring information into PowerPoint slides, into a graphic organizer or a preformatted note taking document. Library professionals can again guide users in the best ways to use the information they find by directing them to reliable Web sites. Offering workshops for teachers and students where they use some of the resources below is one way to help people understand the importance of copyright and plagiarism issues.

Resources:

- The Cornell Note Taking System  
[http://www.byu.edu/stlife/cdc/Learning\\_Strategies/study\\_skills/note-tak.htm](http://www.byu.edu/stlife/cdc/Learning_Strategies/study_skills/note-tak.htm)
- Cyber Ethics for Kids - <http://www.usdoj.gov/criminal/cybercrime/rules/cybercitizen.htm>
- The Copyright Webquest -  
<http://www.edsupport.cc/mguhlin/service/copyright/index.html>

### **Stage 5 - Synthesis**

The synthesis stage means putting all of the information together in a final form, such as a Web site, speech, research report, or PowerPoint presentation. In the digital age, putting the final project together should take a variety of forms beyond the typical research paper. Generally, this is the stage when students complete a bibliography of sources used. Whether required or not, it is important to always cite sources. There are many valuable online resources that can guide users in these information literacy skills.

Resources:

- A+ Research and Writing – for college and high school students -  
<http://ipl.si.umich.edu/div/teen/aplus/aplus.htm>
- Citation Game - <http://depts.washington.edu/etriouw/gameindex.htm>
- Citation Machine - [http://www.landmark-project.com/citation\\_machine/cm.php](http://www.landmark-project.com/citation_machine/cm.php)

- Library of Congress Performance Task Idea Generator (pdf) - [http://lcweb2.loc.gov/learn//educators/workshop/design\\_clovis/idea.pdf](http://lcweb2.loc.gov/learn//educators/workshop/design_clovis/idea.pdf)

### **Stage 6 – Evaluation**

Finally, once students complete their work, it is important for them to “Evaluate” both the process and the product. Although libraries are generally not involved in this stage, when librarians do work with students, it is important to incorporate some type of quick evaluation of the product and process that was accomplished. Evaluating the product is generally the grade awarded by the teacher. Even more important is to have teachers and students evaluate the process used to complete the task so they can improve the process for the next time.

Resources:

- Rubistar (product) - <http://rubistar.4teachers.org/>
- Final Reflection Tool (process) - <http://www.csd99.k12.il.us/north/library/Research/reflection.htm>

### **Concluding Thoughts**

The important aspects of meeting the information literacy needs of teachers and students in the digital age change daily. However, the processes and components of information literacy will always remain the same. As new digital technologies emerge, information literacy frameworks need to be applied by library professionals to help students to become more efficient users of information.

The task of meeting the information literacy needs in the digital age can not be met by any one library or library professional – it must be a collaborative effort with libraries at every level, with teachers and with administrators. Academic, public and school libraries must work together towards the ultimate goal - for every community in California to be an “information literate” community. The only way to accomplish this is to have a broad based coordinated approach among all educators in the community – parents, teachers, students, and library professionals. Ultimately, an information literate community leads to increased student achievement and continual economic growth.

NOTE: This article was written as an outgrowth of an Infopeople workshop presented by the authors. Content from the workshop, including worksheets, PowerPoint and list of links can be found at: <http://infopeople.org/training/past/2004/k12infolit>.

### **ARTICLE AUTHOR INFORMATION**

Rob Darrow is the Online Learning Specialist and Library Media Teacher on Special Assignment in the Clovis Unified School District. He coordinates CAL Online, a virtual high school program in central California ([www.cusd.com](http://www.cusd.com)). Additionally, he is the project director for a federal “Teaching American History” grant ([www.cusd.com/calonline/tah](http://www.cusd.com/calonline/tah)). He was the Vice President of Educational Technology for the California School Library Association from 1998-2003 and is an instructor in the Fresno Pacific University library media program. He has been a teacher, administrator and library media teacher in K-12 schools in California for the past 25 years. His email is [robdarrow@aol.com](mailto:robdarrow@aol.com).

Cynthia MacDonald is Youth Services Manager for the Fresno County Public Library system. She has taught for a number of years in the library credentialing programs at Fresno Pacific University and Fresno City College. She has been involved with public, academic and special libraries for 20 years. Her email is: [cynthia.macdonald@fresnolibrary.org](mailto:cynthia.macdonald@fresnolibrary.org).