

2010 Montana Small School Alliance (MSSA) Alternative Library Standard Workshops

Thursday, August 12, 2009

9 a.m. to 12 noon

Miles Community College, Miles City, MT

Monday, August 16, 2010

9 a.m. to 12 noon

Red Lion Hotel, Helena, MT

Contact Information

Mike Schulz

m_schulz@umwestern.edu

University of Montana—Western

710 S. Atlantic St Dillon, MT 59725

406-683-7492

What is an information and technology literate student?

What is a 21st century student?

The Definition of the Information Literate Student

- An organized investigator
- A critical thinker
- A creative thinker
- An effective communicator
- A responsible information user

Loertscher, Reinventing Your School's Library in the Age of Technology, 1998

The school library media program is essential in creating independent learners who are efficient consumers and producers of information. By using a variety of information formats, focusing on the learning process and collaborating with other disciplines, school libraries provide the entire school community with opportunities to acquire the information skills they need to interact responsibly in a global society. An ongoing desire to know, a love for reading and a respect for information will transform a student into a lifelong independent learner. The role of libraries in a democratic society is to embrace the social responsibility of learning. ARM of MT 10.55.709 LIBRARY MEDIA SERVICES, K-12

To ensure that students are effective users and producers of information and ideas Taken from Colet Bartow, Library Media Specialist <http://opi.mt.gov/Curriculum/libmedia/>

The definition of a technology literate student

A technology literate student is a skilled user of technology tools and an enhanced learner.

My thoughts of our goals for students of today, what are your ideas?

Effective users and creators of information and technology

Lifelong, independent learner

Active critical thinker and problem solver

User of higher order thinking

Collaborator and multidisciplinary focused

Possess a global perspective

Socially responsible

Educational Best Practices

13 Interlocking Principles or Theories of Best Practice Learning

Best Practice: Today's Standards for Teaching and Learning in America's Schools, Zemelman et. al. 2005

Student-Centered

Student-Centered—Students' own questions and interests

Experiential—Active, concrete, hands-on

Holistic—Studying whole ideas, events, and materials in purposeful contexts

Authentic—Real, rich, complex ideas and materials

Challenging—Students learn best when they are faced with genuine challenges, choices and responsibilities

Cognitive

Cognitive—Higher order thinking associated with various fields of inquiry and reflection

Developmental—Children grow through a series of definable but not rigid stages; education should be keyed to those stages

Constructivist—Students don't just receive content, they reinvent and re-create every cognitive system they encounter

Expressive—Students regularly employ the whole range of communication (speech, writing, drawing, poetry, dance, drama, music, movement, and visual arts)

Reflective—Balancing emersion and expression must be time to reflect, debrief, abstract from what they have felt, thought, and learned

Social

Social—Learning is socially constructed and often interactive

Collaborative—Cooperative learning opportunities tap the power of social learning instead of individualistic and competitive approaches

Democratic—the school as a model community, students learn what they live as citizens of the school

Marzano's Essential Nine

Nine instructional strategies that are most likely to improve student achievement across all content areas and across all grade levels. Found in [Classroom Instruction That Works](#) by Robert Marzano, Debra Pickering, and Jane Pollock. Taken from <http://www.middleweb.com/MWLresources/marzchat1.html>.

1. Identifying similarities and differences
2. Summarizing and note taking
3. Reinforcing effort and providing recognition
4. Homework and practice
5. Nonlinguistic representations
6. Cooperative learning
7. Setting objectives and providing feedback
8. Generating and testing hypotheses
9. Cues, questions, and advance organizers

Montana Standards for Information Literacy/Library Media

Information Literacy/Library Media Content Standard 1, 09 workshop

To satisfy the requirements of Information Literacy/Library Media Content Standard 1, a student must: **identify the task and determine the resources needed.**

Information Literacy/Library Media Content Standard 2, 09 workshop

To satisfy the requirements of Information Literacy/Library Media Content Standard 2, a student must: **locate sources, use information, and present findings.**

Information Literacy/Library Media Content Standard 3, 10 workshop

To satisfy the requirements of Information Literacy/Library Media Content Standard 3, a student must: **evaluate the product and learning process.**

Information Literacy/Library Media Content Standard 4, 10 workshop

To satisfy the requirements of Information Literacy/Library Media Content Standard 4, a student must: **use information safely, ethically and legally.**

Information Literacy/Library Media Content Standard 5

To satisfy the requirements of Information Literacy/Library Media Content Standard 5, a student must: **pursue personal interests through literature and other creative expressions.**

Technology Standards

Standard One:

Student must use digital tools and resources for **problems solving and decision making**.

Standard Two:

Student must collaborate and **communicate globally** in a digital environment.

Standard Three:

Student must **apply** digital tools and skills with **creativity and innovation to express his/herself, construct knowledge and develop products and processes**.

Standard Four:

Student must possess a **functional understanding of technology** concepts and operations.

K-12 Library 2010-2011

Specific Formative & Summative Measurable Objective:

By May 2011, eighty percent of the students at _____ School will acquire the skills to identify the task, determine the resources needed, locate sources, use information and present findings at the appropriate grade level, evaluate the product and learning process, use information safely, ethically and legally and pursue personal interests through literature and other creative expressions.

[For grade level objectives see MSSA's Library Media Curriculum K-8.]

Research:

1. I can identify a task for research.
2. I can decide what resources I need to do my research.
3. I know where to find the sources.
4. I know how to use the information to respond to the task.
5. I know how to present my findings in an appropriate manner.
6. I know how to evaluate my product and learning process.
7. I know how to use information safely, ethically, and legally.
8. I pursue personal interests through literature and other creative expressions.

Name _____ Grade _____

Research Rubric

Process	4 Advanced	3 Proficient	2 Nearing Proficiency	1 Novice
Identify task				
Decide on resources				
Find resources				
Use information				
Present findings				
Evaluate product & learning process				
Use information safely, ethically & legally				
Pursue personal information through literature & other creative expressions				

Library Media Standards and Procedures

10.55.709 LIBRARY MEDIA SERVICES, K-12 (1) The library shall be housed in a central location and each school shall have a full-time or part-time licensed school library media specialist with a K-12 library media endorsement at the following ratio:

- (a) .5 FTE for schools with 126-250 students;
- (b) 1 FTE for schools with 251-500 students;
- (c) 1.5 FTE for schools with 501-1000 students;
- (d) 2 FTE for schools with 1001-1500 students;
- (e) 2.5 FTE for schools with 1501-2000 students;
- (f) 3 FTE for schools with 2001 or more students.

(2) Schools or districts of fewer than 125 students shall employ or contract with a licensed, endorsed school library media specialist, or seek alternative ways to provide library media services, using licensed personnel. For example, they may contract for services or receive services from a regional, licensed library media specialist provided through joint efforts of adjacent districts and/or counties.

(a) Alternative services shall include:

- (i) **Instruction** in library media skills;
- (ii) **Administration** of a library media program that meets the district's instructional goals;
- (iii) **Collection, development** and management;
- (iv) **Reader assistance;**
- (v) **Library media collection management;** and
- (vi) **In-service** in the use of new resources and equipment.

Library/Media: Program

The school library media program is essential in creating independent learners who are efficient consumers and producers of information. By using a variety of information formats, focusing on the learning process and collaborating with other disciplines, school libraries provide the entire school community with opportunities to acquire the information skills they need to interact responsibly in a global society. An ongoing desire to know, a love for reading and a respect for information will transform a student into a lifelong independent learner. The role of libraries in a democratic society is to embrace the social responsibility of learning.

10.55.1801 LIBRARY/MEDIA PROGRAM DELIVERY STANDARDS

(In accordance with ARM 10.55.603 and ARM 10.55.1001)

(1) In general, a basic program in library media shall:

(a) Meet the following conditions:

- (i) Establish **flexible scheduling** to ensure that libraries respond to information needs, foster intellectual curiosity, and support learning;
- (ii) Ensure **collaboration** with classroom teachers of all disciplines to implement content area standards and to assist students in engaging in the inquiry/research process;
- (iii) **Model and support the ethical use of information**, adherence to copyright laws, and respect for intellectual property; and
- (iv) **Advise the board** of trustees on policy and rule pertaining to:
 - (A) **Developing and maintaining a library collection** that is **current, balanced**, and reflects authentic **historical and cultural** contributions of

Montana's American Indians and other minority and ethnic groups;

(B) Engaging in comprehensive **long range planning** to administer and manage, in a secure area, the human, financial, and physical resources of the library to locate, access, and use on-site resources that are organized and cataloged; and

(C) Implementing a viable **collection development policy** which includes the following components:

(I) materials selection and de-selection;

(II) challenged materials procedure;

(III) intellectual/academic freedom statement;

(IV) Confidentiality assurance;

(V) Copyright guidelines; and

(VI) Gifts and donations.

(b) Include the following practices:

(i) collaborate with classroom teachers of all disciplines to highlight and reinforce the commonalities and links between and among the curricular areas;

(ii) Cooperate and join with other libraries, information agencies, and community resources in the **sharing of materials**;

(iii) Encourage **partnerships with information centers** that use electronic information systems; and

(iv) Participate in **school-wide technology and telecommunications planning** and promote its integration into all instructional programs.

School Library Information and Technology Programs for 21st Century Learning

Taken from Colet Bartow, Library Media Specialist <http://opi.mt.gov/Curriculum/libmedia/>

Mission: To ensure that students are effective users and producers of information and ideas

Three essential functions of Teacher–Librarians:

1. Information and Technology Instruction
2. Reading Advocacy
3. Information Management and Services

The scope and mix of these functions will depend on the program priorities and goals of the local school district

Information and technology instruction

- Leads **information literacy instruction** including evaluation and analysis of the credibility, relevance and currency of information
- **Coaches instructional staff** in support of curriculum, information technology and information management Teaches students to be critical consumers and producers of information
- **Teaches students and staff to use emerging learning technologies** for school and lifelong learning
- **Teaches students to be safe, ethical and responsible** digital citizens

Reading advocacy

- **Establishes and models a powerful, relevant and ubiquitous culture of reading** in the school community
- **Motivates and guides students to read** for enjoyment and understanding
- **Develops a relevant collection of fiction and non–fiction in a variety of formats,** ensuring quality reading choices for all students
- **Manages resources in support of** established curriculum and student passions

Information management and services

- Provides **open and equitable access to resources, technology and information services** for the entire school community
- **Develops and administers inviting and effective physical and digital** library environments

- **Manages resources to support teaching and learning**
- **Administers information management systems to support student learning and school and district programs.**

Measuring progress toward meeting core responsibilities

1. Formative evaluation done in the fall and summative evaluation done in May
2. Collection analysis

Four measures are essential in all library collection analysis work:

- Determine the size of the collection/subject segment
- Determine the average age (mean or median) of the collection/subject segment
- Determine the turnover rate for the collection/subject segment
- Objectively scan or examine the collection/subject segment (Crew Weeding Method, MUSTY Misleading, Ugly, Superseded, Trivial, Your collection has no use for the book <http://www.tsl.state.tx.us/ld/pubs/crew/crewmeth08.pdf>)

Examples of Quantitative and Qualitative data for library collection assessment or mapping

Taken from <http://www.lib.az.us/cdt/collass.aspx#Reasons>

Examples of Quantitative Data:

- Number of titles: A manual or automated shelf list count, a physical count or estimate of titles from the shelves, a count of acquisitions and expenditures, the percent of each subject's yearly growth, the percent of acquisitions compared to published titles, and the percent of acquisitions compared to published titles.
- Age and timeliness of materials: The materials' median or mean age, the range and distribution of publication dates, or the most common publication date range (i.e., 1972-1976 = 56% of the nonfiction).
- Use: Circulation statistics by type or subject and interlibrary loan borrowing statistics in each general subject area.
- Per capita measures: How many titles or items per community member.\
- Percent of fiction and nonfiction in the collection

Examples of Qualitative Data:

- Percent of standard titles or items: Calculated by consulting "best" lists.
- Individual or group evaluation:

- Shelf scanning by the librarian, observation by an outside expert, or observation by a committee

A note from Colet Bartow, OPI's Library Media Specialist about library collection

analysis:

Taken from <http://opi.mt.gov/Curriculum/libmedia/>

One program assessment strategy that I encourage each library to consider is **collection analysis** or “an organized process for systematically analyzing and describing a library’s collection.” It is amazing how effectively collection analysis data can help guide collection development, planning for instruction and meeting students' reading and research needs. **Average copyright data, Dewey coverage, percentage of fiction in the collection** and other data sets provide a clear picture of a library collection.

One collection analysis tool for automated libraries is **Follett's Titlewise**. While it is free to use the Titlewise service, even to non-Follett libraries, you must first sign up in Titlewave (www.titlewave.com) Non-Titlewave users will need to go to <http://www.titlewave.com/login/> and go to the "New to Titlewave" link to request an account. Schools are encouraged to call the Titlewave Help Desk at 1.888.511.5114 if they need assistance.

Bound to Stay Bound also offers a collection analysis service. If you are interested in this service, please visit the Bound to Stay Bound Books Online Bookstore. Go to www.btsb.com and choose Collections.

The Big6™ <http://www.big6.com/>

Taken from <http://www.big6.com/what-is-the-big6/>

Developed by educators Mike Eisenberg and Bob Berkowitz, the Big6 is the most widely-known and widely-used approach to teaching information and technology skills in the world. The Big6 is an information and technology literacy model and curriculum, implemented in thousands of schools – K through higher education. Some people call the Big6 an information problem-solving strategy because with the Big6, students are able to handle any problem, assignment, decision or task. Here are the six stages we call the BIG6. Two sub-stages are part of each main category in the Big6 model.

People go through these Big6 stages—consciously or not—when they seek or apply information to solve a problem or make a decision. It’s not necessary to complete these stages in a linear order, and a given stage doesn’t have to take a lot of time. We have found that almost all successful problem-solving situations address all stages.

The Big6™ Grades 7-12

1. Task Definition

- 1.1 Define the information problem
- 1.2 Identify information needed

2. Information Seeking Strategies

- 2.1 Determine all possible sources
- 2.2 Select the best sources

3. Location and Access

- 3.1 Locate sources (intellectually and physically)
- 3.2 Find information within sources

4. Use of Information

- 4.1 Engage (e.g., read, hear, view, touch)
- 4.2 Extract relevant information

5. Synthesis

- 5.1 Organize from multiple sources
- 5.2 Present the information

6. Evaluation

- 6.1 Judge the product (effectiveness)
- 6.2 Judge the process (efficiency)

Montana Library Standards and the Big6

Standard One fits steps: 1 and 2

Standard Two fits steps: 2 through 5

Standard Three and Four fits step 6

The Big6™ Grades 3-6

1. Task Definition

What needs to be done?

Focus

What's the Problem?

2. Information Seeking Strategies

What resources can I use?

Search

Plan how do I find out?

3. Location and Access

Where can I find these resources?

Sort

What have I got?

4. Use of Information

What can I use from these resources?

Select

What is important?

5. Synthesis

What can I make to finish the job?

Synthesize + Produce

How does it fit together?

Who wants to know (audience)?

6. Evaluation

How will I know when I did the job well?

Evaluate Reflect So what?

What have I learned?

The Super3™ Grades K-2

1. Plan—beginning

When students get an assignment or a task, BEFORE they start doing anything, they should think--

What am I supposed to do?

What will it look like if I do a really good job?

What do I need to find out to do the job?

Big6 steps: 1. Task Definition and 2. Information Seeking Strategies

2. Do—middle

In the Middle the students DO the activity. This is where they read, view, tell, make a picture, etc.

Big6 steps: 3. Location and Access, 4. Use of Information

3. Review—end

Before finishing the product and turning it in, students should stop and think— Is this done?

Did I do what I was supposed to do?

Do I feel ok about this?

Should I do something else before I turn it in?

Big6 steps: 5. Synthesis and 6. Evaluation

Technology Big6™ Skill

Taken from <http://www.big6.com/2002/03/25/technology-as-a-tool-applications-in-a-big6%e2%84%a2-context/>

Word processing, graphics, desktop publishing **5. Synthesis** (writing)

4. Use of Information (note-taking)

Spelling and grammar checking **6. Evaluation**

Information Retrieval and Search Systems **2. Information Seeking Strategies & 3. Location & Access**

Spreadsheets, Database management systems **5. Synthesis**

Hypermedia Use of Information **5. Synthesis**

Electronic resources (on CD-ROM, servers, WWW) **2. Information Seeking Strategies & 3. Location & Access**

Internet Capabilities and the Big6™

Technology Big6™ Skill

E-mail, listservs, chat, video conferencing, instant messaging:

1. Task Definition

2. Information Seeking Strategies

3. Location & Access

4. Use of Information

5. Synthesis

6. Evaluation

Network navigation (WWW Netscape, Internet Explorer, Portals) **3. Information Seeking Strategies & 3. Location & Access**


FTP, download/upload **4. Use of Information**

Yahoo, Google, Yahooligans, Lycos, AltaVista, portals **3. Location & Access**

Web authoring **5. Synthesis**

Web sites **4. Use of Information**

Adapted and reprinted with permission from Eisenberg, M.B. & Berkowitz, R.E. (1999). The New Improved Big6 Workshop Handbook. Worthington, OH: Linworth Publishing, Inc. p.43.

 The BIG 6 Skill	AASL Standards	NETS	Basic Activities	Advanced Activities
1 <u>Task Definition</u>	<u>1.1.3</u> <u>1.2.1</u>	<u>3a</u> <u>4a</u> <u>4b</u>	<u>Concept Mapping</u> <u>Graphic Organizers</u>	<u>Ask Essential Questions</u>
2 <u>Information Seeking Strategies</u>	<u>1.1.4</u> <u>1.1.5</u>	<u>3c</u>	<u>Subject Directories</u> <u>Evaluating Web Sites</u>	<u>Web Site Evaluation</u>
3 <u>Location and Access</u>	<u>1.1.8</u> <u>1.3.2</u>	<u>3b</u>	<u>Keyword Searching</u> <u>Search Strategies</u>	<u>Advanced Search Strategies</u>
4 <u>Use of Information</u>	<u>1.1.7</u> <u>2.1.1</u> <u>1.3.3</u>	<u>4c</u> <u>5a</u>	<u>Extract Information</u> <u>Analyze Sources</u> <u>Bibliographic Citations</u>	<u>Identify Point of View</u>
5 <u>Synthesis</u>	<u>2.1.4</u> <u>3.1.4</u>	<u>2a</u> <u>2b</u>	<u>Critical Thinking</u> <u>Appropriate Product</u>	<u>Classroom Applications</u>
6 <u>Evaluation</u>	<u>3.4.1</u> <u>3.4.2</u>	<u>1a</u> <u>5b</u>	<u>Assessment Rubrics</u>	<u>RubiStar</u>

Taken from <http://www.janetsinfo.com/big6info.htm>

1. Task definition, Basic Activities

Graphic Organizers: Making Thinking Visual

<u>Chain of Events</u>	<u>Clustering</u>	<u>Compare/Contrast</u>
<u>Continuum</u>	<u>Cycle</u>	<u>Family Tree</u>
<u>Fishbone</u>	<u>Interaction Outline</u>	<u>Problem/Solution</u>
<u>Spider Map</u>	<u>Storyboard</u>	<u>Venn Diagram</u>
<u>Graphic Organizers</u>	Semantic Mapping for Concept Formation	<u>KWHL Technique</u>
<u>Anticipation/Reaction Guide</u>	The Concept Mapping Homepage	

Taken from <http://www.sdcoe.k12.ca.us/score/actbank/torganiz.htm>

1. Task Definition, Advanced Activities

Essential Questions: Derive from the six facets of understanding defined by Wiggins and McTighe, authors of Understanding by Design. (ASCD, 1998; 2nd expanded edition, 2005.)
Essential questions

- address the philosophical or conceptual foundations of a discipline
- recur naturally throughout one's learning
- raise other important questions, often across subject-area boundaries
- have no one obvious right answer
- are framed to provoke and sustain student interest

Essential questions **direct your choices in content and processes** are also an important component of quality teaching and learning. Comprehensive, well crafted questions ground intellectual pursuits giving students some sense of direction, purpose, and relevance as they are engaged in the work of the subject.

Jacobs (1997) notes that essential questions are often tools for creating clarity and precision and for communicating pivotal parts of ideas, subjects or disciplines. As **students problem solve, read, inquire, sift and sort related knowledge and skills**, essential questions become end points, beacons to final destinations, and landmarks marking the way.

Another definition of essential question modified from MathStar NM:

Questions that probe for deeper meaning and set the stage for further questioning, ones that foster the development of **critical thinking skills and higher order capabilities** such as problem-solving and understanding complex systems. A good essential question is the principal component of designing inquiry-based learning.

Examples of Essential Questions:

What are the ramifications of cloning?

What is intelligence?

Are we really free?

Where does perception end and reality begin?

Does history really repeat itself?

Are there any absolutes?

Are there other more pressing issues that deserve consideration before space exploration?

What was the greatest invention of the 20th Century?

Taken from <http://www.uwsp.edu/education/twilson/learning/quest1.htm>

2. Information Seeking Strategies, Basic Activities

Suggestions for Successful Internet Assignments

Most students prefer using the Internet for research and recreation. They will spend countless hours searching and surfing. However, they may not completely understand the Internet's strengths and weaknesses as both a research tool and as a general source of information. Here are some suggestions to help you design effective and successful Internet learning experiences.

Provide Guidance

If you know the URL, provide it. This way students should have no trouble getting to the web site.

Plan Ahead

Check to make sure that the site is still working a few days before giving the assignment. Web pages have a strange way of vanishing without any warning. Alternately, provide several different sites to visit just in case one or two disappear.

Request a Hard (Backup) Copy

Have students make a print copy of the web site (Netscape automatically prints the date and time of access) or else ask them to note the date and time they used the site. This should help clear up any problems if the information changes all of a sudden, leaving some students with out-of-date material.

Avoid Busywork

Ask students to do more than just fetch something off the Internet. Require them to visit one or more sites or search by topic. You might have them compare or evaluate several similar sites. Give them a list of criteria to follow for their comparison or evaluation.

If assigning a research project that either wholly or partially includes internet sources, ask student to include their search strategy as a component of the research project. Request that they analyze methods they used to refine their search and what made the search more and less successful.

Draw on Their Knowledge

When assigning students to create a bibliography of web sites (weblibliography) Ask students to come up with their own method of evaluating and assessing web sources. They could list the criteria they feel is most important in site selection and inclusion.

Don't Assume Student Expertise

Often students cannot always differentiate between advertising and information on a web page, especially undergraduates and those unfamiliar with the web. Often students accept any information found on the web at face value. As above, provide them with the tools to evaluate the web sites they do find.

Use Established, Trustworthy Web Guides/Directories

You might want to use the library's Internet Resources as either a starting point for students or else as a link from your class web page.

Other invaluable web directories include:

Infomine at <http://lib-www.ucr.edu>

Librarians Index to the Internet at <http://www.lii.org>

Internet Scout Project at <http://scout.cs.wisc.edu>

Kids Click <http://www.kidsclick.org/>

Yahooligans <http://kids.yahoo.com/>

AASL. *American Association of School Librarians Best Websites for Teaching and Learning*

<http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/bestlist/bestwebsites25.cfm> Taken

from <http://lib.nmsu.edu/instruction/evalsugg.html>

2. Information Seeking Strategies, Advanced Activities

Web Page Evaluation

1) Make sure you are in the right place.

Does this site address the topic you are researching?

Was the page worth visiting?

2) When in doubt, doubt.

Do you have good reason to believe that the information on the site is accurate?

Do authors provide any supportive evidence for their conclusions?

3) Consider the source.

Who is responsible for the site? Do the authors have any authority or expertise?

Do they provide you a means to contact them? Is this a commercial, governmental, personal, or academic Web site?

4) Know what's happening.

What is the purpose of the site? Is the main purpose to inform, to persuade, or to sell you something?

Do you understand what is being said? Are the facts documented?

What do you think has not been said that should be addressed?

5) Look at details.

Is the site well organized? Are there misspelled words or examples of poor grammar?

Do the links work?

Do they send you beyond the site to other reliable sources of information?

Does the site offer anything unique or does it tell you little more than you could find in an encyclopedia?

Are the graphics on the page clear and helpful or distracting and confusing?

What opinions do others have about the Web page?

6) Distinguish Web pages from pages found on the Web.

Do you think this page was designed for the Web, or do you think it was originally something else?

If it was originally something else, what something else was it?

Value Added Web Page Assessments

- **Authority:** Who are the authors of the Web page, or who is responsible for it? What gives them their authority or expertise to write?
- **Accuracy:** Do you have good reason to believe that the information on the site is accurate? Are the facts documented?

- **Objectivity:** What is the author's point of view? What is the purpose of the site?
- **Currency:** When was the information on the page originally written? Has the site been kept up-to-date?
- **Coverage:** Does this site address the topic you are researching? Is the information basic and cursory or detailed and scholarly? However complex the language might be, is the information substantial?
- **Value:** Was the page worth visiting? Does the site offer anything informative, unique, or insightful? Is the site free of careless errors, misspelled words, and poor grammar?

Taken from ICYouSee: T is for Thinking: A Guide to Critical Thinking about What You See on the Web
<http://www.ithaca.edu/library/training/think.html>

3. Location and Access, Basic and Advanced Activities

Advanced Searching

Advanced Searching Techniques will take you farther, faster.

- Preliminary research, answer the questions: Who, What, Where, When, Why, and How
- Develop a list of synonyms and subject headings for your search term through the cross references. These help you to narrow or expand your search
- Keep a research journal during the project
- Use the advanced search features. The databases all contain instructions on how to use the advance search functions.
- Learn what the Public Access Catalog, databases and search engines all have in common
- Linking terms through Boolean (And, Or, Not)
- Ability to locate search terms in various locations (Title, Author, Subject, etc)
- The ability to search more than one search term at a time
- Phrase Searching
- Searching words near each other, Proximity
- Search Narrowing, (no perfect search--10-20 results), Relevance (Date/Year, Journal, Site, language, full text, peer reviewed, etc)
- Move from general to specific in your research (General encyclopedia to subject encyclopedia to book or web site on the topic
- Print and nonprint (video, DVD, CD, Ebooks and journals, etc.)
- How are PDF (Portable Document Format), HTML (Hypertext Markup Language), full text, abstract/summary, bibliographic and other text displays different?
- What's the difference between a journal and a magazine? Journals are refereed, peer reviewed, and scholarly. Can you define these terms? The information contained in a journal article can be relied on as good research.
- How shall I capture the information I need? Print, Download, or Email?

Noodle Tools provides innovative software that teaches students and supports teachers and librarians throughout the entire research process.

- Search intelligently
- Assess the quality of results
- Record, organize and synthesize information using online notecards
- Format your bibliography in MLA, APA, or Chicago/Turabian style

<http://www.noodletools.com/> Noodle Bib <http://www.noodletools.com/tools/index.php>

Search Engines

Google

www.google.com

Yahoo! Search

www.search.yahoo.com

Exalead

www.exalead.com/search/

Internet Directories

Kids Click

<http://www.kidsclick.org/>

Yahooligans

<http://kids.yahoo.com/>

ipl²

www.ipl.org

Infomine

www.infomine.ucr.edu

About.com

www.about.com

Google Directory

www.directory.google.com

Yahoo!

www.dir.yahoo.com

Meta-Search Engines

Yippy

www.yippy.com

(formerly Clusty)

Dogpile

www.dogpile.com

SurfWax

www.surfwax.com

Copernic Agent

www.copernic.com

4. Location and Access, Advanced Search Strategies

How to Use Online Tools: Game and Advanced Search Tips Search Engines' Game Rules

Background information for effective searching

Limit search to 10 terms.

Goal is to get as few hits as possible to retrieve exactly what you were searching for.

Advanced Search Tips (These will help you WIN!)

Use quotation marks

Looks for words in **exact order** that you enter them "French Restoration" / "Bob Marley" / "human rights" / "affirmative action"

Use **minus** sign to exclude word from search eg. vikings -Minnesota

Limit search to certain groups on the web: best are colleges or organizations (not commercial companies: .com) eg. lacrosse site:edu

Don't use questions. Don't use **irrelevant** words

Use of **keywords** is **crucial**; helps **NARROW** the search.

1.eg. "great depression" = 5.1 million hits

2."the great depression" site:org okies occupations = 89 hits

Taken from

<http://elementary.oslis.org/orig-steps/plan/planningele/useonlinetools/useonlinetoolsadvtips>

Types of Periodicals

Scholarly

- American Economic Review
- Applied Geography
- JAMA: The Journal of the American Medical Association
- Journal of Marriage and the Family

Substantive News/General Interest

- The Economist
- National Geographic
- The New York Times
- Scientific American
- Vital Speeches of the Day

Popular

- Ebony
- Parents
- People Weekly
- Readers Digest
- Sports Illustrated
- Vogue

Sensational

- Globe
- National Examiner
- Star
- Weekly World News

Taken from <http://www.library.cornell.edu/olinuris/ref/research/skill20.html>

Evaluating Periodicals

Locate stories about the same topic or event in three different periodicals: a scholarly journal, a substantive news or general interest publication, and a popular magazine

What features distinguish a scholarly journal from other types of periodicals? How does the level of vocabulary and detail differ in each type of periodical? What is the intended audience?

Locate stories about the same topic or event in three different news magazines categorized as liberal, moderate, and conservative.

What are the characteristics of publications which allow you to conclude that they are liberal? moderate? conservative? How does their orientation affect the way they presented information about the topic or event you selected?

4. Use of Information, Basic Activities

Reading for Information: The Trash and Treasure Method of Teaching Note-Taking (Grades 3 – 12)

<http://www.big6.com/2001/11/29/reading-for-information-the-trash-n-treasure-method-of-teaching-note-taking-grades-3-12/>

Quoting, Paraphrasing, and Summarizing

What are the differences among quoting, paraphrasing, and summarizing?

These three ways of incorporating other writers' work into your own writing differ according to the closeness of your writing to the source writing.

Quotations must be identical to the original, using a narrow segment of the source. They must match the source document word for word and must be attributed to the original author.

Paraphrasing involves putting a passage from source material into your own words. A paraphrase must also be attributed to the original source. Paraphrased material is usually shorter than the original passage, taking a somewhat broader segment of the source and condensing it slightly.

Summarizing involves putting the main idea(s) into your own words, including only the main point(s). Once again, it is necessary to attribute summarized ideas to the original source. Summaries are significantly shorter than the original and take a broad overview of the source material.

Taken from <http://www.ohio.edu/linguistics/info/quoting.html>

Citation Helps

MSU Library

<http://www.lib.montana.edu/guides/styles.php>

UM Library

<http://libguides.lib.umt.edu/content.php?pid=3183&sid=16557>

The Owl at Purdue

<http://owl.english.purdue.edu/>

Citation Machine

<http://citationmachine.net/>

Citation Maker

<http://elementary.oslis.org/resources/cm>

Plagiarism--Proofreading Assignments

By Doug Johnson

Phi Delta Kappan, March 2004

Taken from <http://www.doug-johnson.com/dougwri/plagiarism-proofing-assignments.html>

Much effort is expended in education trying to “catch” plagiarism in student work. Teachers and library media specialists are using various web services and techniques using search engines to determine if or how much of student writing is lifted from online sources. Such tools are necessary and can be effective.

But our time as educators is better spent creating assignments, especially those that involve research, that minimize the likelihood of plagiarism in the first place. Rather than making assignments that can be easily plagiarized and then contriving methods for detecting or reducing copying, why not do a little work upfront to design projects that require original, thoughtful research?

Qualities of Low Probability of Plagiarism (LPP) projects:

1. LPP projects have **clarity of purpose and expectations**.
2. LPP research projects **give students choices**.
3. LPP **projects** are **relevant to the student’s life**.
4. LPP projects ask students to **write in a narrative rather than an expository style**.
5. LPP projects **stress higher level thinking skills and creativity**.
6. LPP projects **answer real questions**.
7. LPP projects **involve a variety of information finding activities**.
8. LPP **projects** tend to be **hands-on**.
9. LPP projects **use technology** to spur creativity.
10. LPP projects use formats that **use multiple senses**.
11. LPP projects can be **complex**, but are **broken into manageable steps**.
12. LPP projects are often **collaborative** and produce results that are better than individual work.
13. LPP projects have **results that are shared** with people who care and respond. Science fair participants don’t get grades.
14. LPP projects are **authentically assessed**.

15. LPP projects allow the learner to **reflect, revisit, revise, and improve their final projects.**

16. LPP projects are encouraged by adults who believe that given enough time, resources, and motivation, **all students are capable of original work.**

Project Based Learning

Checklists to support Project Based Learning and evaluation

Project based learning is a comprehensive approach to instruction. Your students participate in projects and practice an interdisciplinary array of skills from math, language arts, fine arts, geography, science, and technology.

"The collaborative nature of the investigation enhances all of these valuable experiences ... as well as promotes a greater appreciation for social responsibility (Scott, 1994)."

Taken from <http://pblchecklist.4teachers.org/>

Examples of PBL from NASA

<http://www.cotf.edu/ete/modules/modules.html>

WebQuests

What is a WebQuest?

A WebQuest is an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet, optionally supplemented with videoconferencing.

Some Thoughts About WebQuests

http://webquest.sdsu.edu/about_webquests.html

Criterion for Assessing WebQuests

<http://bestwebquests.com/bwq/matrix.asp>

4. Use of Information, Advanced Actives

Determining **Point of View** of web based research

5. Synthesis, Basic Activities

Critical Thinking

K-12 STRATEGIES & SAMPLES

<http://www.criticalthinking.org/resources/articles/#Teaching>

- Tactical and Structural Recommendations
- Tactics that Encourage Active Learning
- Using Intellectual Standards to Assess Student Reasoning
- The Art of Redesigning Instruction

- Making Critical Thinking Intuitive
- Remodelled Lessons: K-3
- Remodelled Lessons: 4-6
- Remodelled Lessons: 6-9
- Remodelled Lessons: High School
- Introduction to Remodelling: Components of Remodels and Their Functions
- Socratic Teaching
- Strategy List: 35 Dimensions of Critical Thought

6. Evaluation, Basic and Advanced Activities

Rubrics A very useful method of assessment for teachers is to provide a rubric for student use and for both formative and summative assessment purposes.

Kathy Schrock's Guide for Educators: Assessment and Rubric Information

<http://school.discoveryeducation.com/schrockguide/assess.html>

Midlink Magazine: North Carolina State University

<http://ncsu.edu/midlink/ho.html>