Volume 9, 2006
ISSN: 1523-4320

Approved May 2006
www.ala.org/aasl/slr

A Critical Investigation of Students' and Teachers' Views of the Use of Information Literacy Skills in School Assignments

James E Herring, Charles Sturt University, Australia

This study examines the views of students and teachers in a United Kingdom high school on the students' use of information literacy skills. The students were provided with a scaffold in the form of the PLUS information literacy model. The study demonstrates that there exists a range of understanding amongst students about the value of information literacy skills such as brainstorming, concept mapping, reading for information and understanding, note taking and writing an assignment. It also demonstrates that students have a range of views on what they perceive to be the value of learning and applying information literacy skills, and that these views range from the superficial to a deeper level. The study provides some insight into students' feelings about confidence in their ability to produce good work and also their feelings about the efficacy of some of the suggested strategies given to them by the teachers and the school librarian. The results show that most students viewed the existence of a scaffold--the PLUS model booklet in this case--

scope of information literacy in schools and outside the school context. For example, views of information literacy skills learned in schools as lifelong learning skills have been challenged by such authors as Lloyd (2003 and 2004). There is also considerable debate about information literacy in schools relating to such aspects as definitions of information literacy, whether information literacy can be view as a *process*, the value of information literacy models, and the place of information literacy in the new *digital literacies.* What is clear is that, while there is agreement that information literacy is important and integral to student learning, there are a range of viewpoints on the meaning, definition, teaching, and evaluation of information literacy. This critical literature review seeks to explore elements of information literacy in schools, including the meaning of information literacy, evidence of information literacy teaching and learning, models of information literacy, and whether information literacy can be included in digital literacies.

What Is Information Literacy?

Given the extent of the literature on information literacy, this question may seem redundant, but any review of the literature will indicate that there is no one all-encompassing answer to this question. Other questions arise including: Is information literacy a set of skills or attitudes or attributes? Is information literacy a process? Can models of information literacy be effective in enhancing student learning? How does information literacy fit into the digital school environment?

Evidence of a lack of agreement on the meaning of information literacy can be seen in the plethora of definitions of information literacy. Langford (2001, 18) expresses anxiety about information literacy stating, “It was frustrating because one’s understanding of the concept [information literacy], depended on what end of the elephant you had in your grasp.” Langford (2001) states that Doyle’s (1994) definition of information literacy should be seen as an excellent starting point for debating information literacy. Doyle (1994, 40) defines information literacy as “the ability to access, evaluate, and use information from a variety of sources, to recognize when information is needed, and to know how to learn” but also identifies some attributes of an information literate person. The National Forum on Information Literacy (2004, np) define information literacy as “The ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.” Moore (2002, 1) states that information literacy is a “dynamic concept [which] extends basic reading, writing and calculating skills for application in information and technologically rich environments (Kuhlthau, 2001) for the purpose of learning or solving problems.”

Herring (2004, 74) defines information skills as “the skills which pupils [students] use to identify the purpose of, locate, process and communicate information concepts and ideas and then reflect upon the effective application of these skills.” Abilock (2004, 1) takes a wider view of information literacy arguing that “Information literacy is a transformational process in which the learner needs to find, understand, evaluate, and use information in various forms to create for personal, social or global purposes.” Other definitions of information literacy or lists of attributes of an information-literate student have been examined in *Information Power* (AASL/AECT 1998) and by such authors as Kuhlthau (2004), Loertscher and Woolls (2002), and La Marca and Manning (2004).

Williams (2001, 1) is critical of definitions of information literacy and argues that "Definitions of information literacy, drawn from many perspectives, seem to situate themselves *outside the actual learning process*." (Williams' italics). Williams (2001, 4) also poses the question "What sort of *information literacy*?-- an often-used but dangerously ambiguous concept--should we be promoting, and what should it accomplish?" Boyce (2004, 21) also challenges the concept of information literacy, arguing that "the logic of information literacy is inappropriate for the new era of electronic communications technologies--that it [information literacy] is a persistent expression of the will for print-based pedagogy to transcend the changing culture of our communications environment."

Boyce (2004, 26) cites Kapitzke (2003) as stating that "The information literacy framework, as it is currently articulated, is inadequate on three counts: (i) its modernist presuppositions (ii) its lack of a politicised criticality and (iii) its neglect of the implications of new technologies on knowledge and literate work."

Limberg (2005, 49) urges educators in schools to change their attitude towards information literacy teaching and argues that "the essence of the change needed concerns a shift from focus on procedure and order toward a focus on more abstract and the more exciting contents of information literacy as regards what is at stake and what is crucial for becoming an information literate person."

In the higher education sector, Bruce's (1997) oft-quoted work echoes some of Limberg's concerns and argues that information literacy should be viewed broadly and not merely as a process that is followed within the narrow field of education. Bruce (1997) focuses on the information literate person and presents a model (7 Faces of Information Literacy) that views information literacy as encompassing the use of information technology, information retrieval and use of sources but also such aspects as how individuals control information, construct and personalize knowledge and view information wisely and ethically.

A further challenge to prevailing notions of information literacy comes from Lloyd (2003 and 2004, 219) who argues that information literacy is biased towards "the educational sector which t views

The two previous studies of the PLUS model (Herring, Tarter, and Naylor 2000; 2002) focused on students' views of the use of the elements of the model--purpose, location, use, and self-evaluation. The model is intended to be an iterative and not a linear model that students can use as scaffold to their assignment work but also as a reflective tool to enhance their learning. A diagrammatic view of the model is provided in appendix A and at http://athene.riv.csu.edu.au/~jherring/PLUS%20model.htm. In the completed studies, students were generally positive about the use of the model, indicating that they benefited from the use of tools, such as brainstorming and concept mapping in the purpose stage, but that they also used the results of brainstorming and concept mapping when searching, evaluating information and ideas, and when writing the assignment. Some students indicated they had no need for such a scaffold and were reluctant to use a model as they preferred their own methods. Interviews with the class teachers and the teacher librarian revealed that these students were the more able students in the class and that most students had clearly benefited from using the model. Improvements in students' structure of assignments, in their use of a range of information resources, had contributed to a general improvement in student grades although this was not fully tested in the studies.

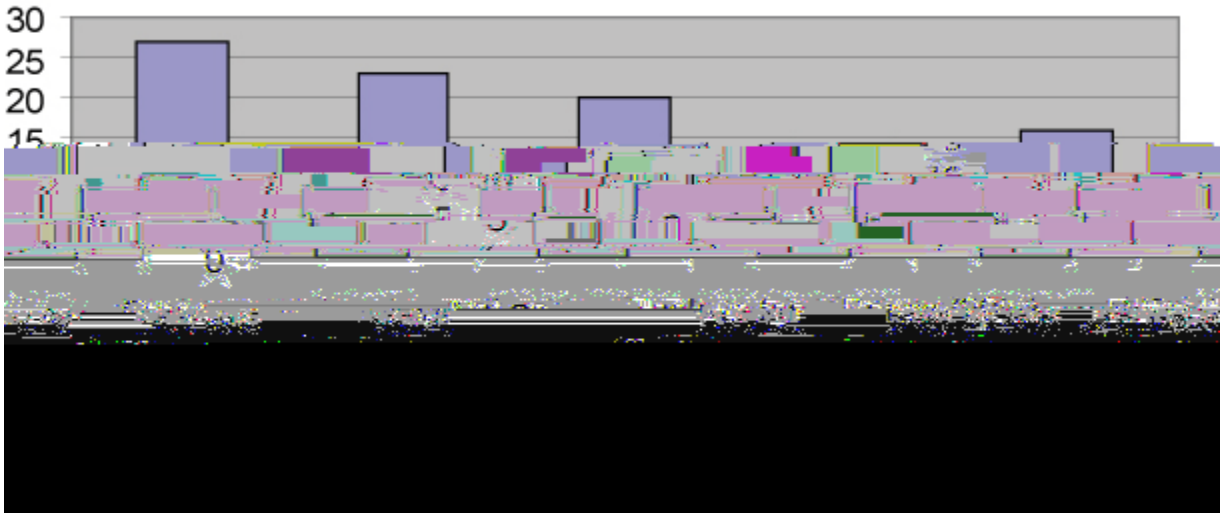
Green (2004, 70) takes a critical view of information literacy models, stating that "many of the

McCarthy (2002) states that "One definition of digital literacy is 'the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers.'" Finn (2004) takes a rather narrower, utilitarian view, stating that "Digital literacy is a means for ascertaining the computer skills competency of an individual to function in the workplace." Kapitzke (2003, 55) seeks to widen the concept of digital literacy to *hyperliteracy* and states that "this term [hyperliteracy] encapsulates the notion of being literate about literacy, and refers to critique of the information process itself, as students are provided opportunity to consider their positioning as information users and producers."

The present author would argue that while digital literacy can be recognized as a prerequisite for learning in digital age schools, it would be false to assume that digital literacy was somehow separate from or in addition to information literacy. While some aspects ofacy

Figure 3. Students' Positive Views on Brainstorming

Figure 4. Students' Negative Views on Brainstorming and Concept Mapping



While the students identified negative aspects of brainstorming and concept mapping, it does not necessarily mean that these students viewed the negative aspects as outweighing the positive aspects. Also, in this study, there was no correlation between the comments of individual students on positive and negative factors. For example, students may have found the process boring but also helpful. They may also have viewed the process as time consuming but at the same time found it useful to them in a number of ways. Clearly, a number of students did not see the value in individual brainstorming and concept mapping, and this may reflect the individual student's learning style or it may be due to a lack of understanding of the value of the process. The questionnaire responses do not make this clear but student comments in the group interviews do cast more light on how some students view individual brainstorming and concept mapping. Driscoll (2002) argues, in relation to such software as Inspiration, that brainstorming and concept mapping "can extend memory and make thinking visible" and this is reflected in the result above. The responses in this study echoed the findings of previous studies by Herring, Tarter, and Naylor (2000 and 2002) on brainstorming and concept mapping.

In the group interviews, students were asked to comment about the value of concept mapping in the assignment process. In the group interviews, students were split between those who found the concept map, *in a written form*, to be very useful (groups) and those who found a similar concept map to be less useful. The first group of students made clear distinction between a written and a mental concept map, but all found the *idea* of a concept map to be useful. In this group, students commented, "It's good to have this in your head, but I don't think you need to write it down--well, I don't need to write it down. It might help others" and "I just have it in my head and I can remember it-- mostly--when I look for the information I need." Students in the other groups agreed that a written concept map was useful, particularly in the later stages of the assignment process, and student comments included "The map really helps--you can split your project up in to bits and work from there" and "You go back to it and it's like a support--so if you find what you think is new information, you can check if you have it already." One student concisely identified the potential value of a concept map, stating "It helps because you know what you know and you know what you need to know."

indicate the extent to which this helped with their assignment. 33 percent of responses indicated that it had helped students to identify the right keywords for subsequent searching; 31 percent of responses indicated that it helped students to find the right resources; 27 percent of responses indicated that it helped students to take notes; and 9 percent of responses indicated that it helped students to write their project.

Students were given the opportunity to identify other ways in which they thought the preliminary reading might have helped them with their assignment, and while some students reiterated the categories above (e.g., "It helped me realize what words I had to type in on the net"), other students were more reflective and their comments included "It helped me understand more about what I should find out," "It helped me get a better picture of my project," and "it helped me expand on that idea and find out more about it." Only one third of students made comments in this section of the questionnaire.

It should be noted that students were not asked if this process was not helpful to them. These findings tend to indicate that most students identified immediate rewards--keywords and finding resources--as opposed to subsequent rewards--note taking and writing--and it is possible to interpret the findings as indicating that most students did not take an extended view of the assignment process but a rather narrow one. On the other hand, the fact that most students were able to reflect on at least one further stage of the process can be seen as encouraging.

Student Views on Initial Use of Books and Web Sites

In the questionnaire, students were asked to comment on how they initially used the learning resources, such as books and Web sites, that they had accessed for their assignment. Students were asked to nominate a strategy from a list of five options (see appendix B). Fifty percent of students indicated that they scanned the material to identify relevant keywords; 36 percent indicated that they skimmed through the material to judge whether it was relevant; 9 percent looked for photographs and graphics; and 5 percent indicated other methods which included examining the contents or index. No students indicated that they read the material all the way through. This indicates that these students were following strategies recommended to them by the teachers and the school librarian. Students were not asked in the questionnaire to comment on how successful their approach was or what reading strategies they followed once they identified relevant information or ideas.

In the group interviews, students were asked to comment about their initial reading strategies and nine out of the twelve students preferred to skim and scan a resource to judge its relevance before taking notes. Three students indicated that they preferred to read and take notes from the start, and their comments included "I prefer to take notes right from the start and keep taking notes--otherwise, I forget and have to read it again, so what's the point?" and "I prefer to take notes as I go along and not read it through first as this doesn't really help me." These students were not asked how they judged the relevance of the sources before they started reading but gave the impression that they had gone through the process of evaluating relevance before they started reading, although they did not indicate how they had done so. The other students favored skimming and scanning, and their comments included "I'm the same [as the previous speaker]--scan it through then come back to take notes if you think it's the right information for you," "I always read it through first--quite quickly usually

Figure 5. Students' Views on Note Taking

The remaining 9 percent of students expressed the view that their chosen method suited their own learning style, and their comments included "I can write in any way I want and other people can't read them and copy."

While it may be of concern that 35 percent of students commented fairly superficially on their chosen method, most students did show an ability to reflect on their preferred style in relation to their own understanding and this evidence reflects Wolf, Brush, and Saye's (2003) findings about student metacognition. Students also showed an ability to link note taking to later stages of the assignment process and this also shows an ability to think more broadly about the process.

In the group interviews, students were asked a general question about how they preferred to take notes. Students adopted a range of note-taking styles including the use of lists, and their comments included "My notes look like a list as I write down information in a list when I find something that I can use for my project." Students also used headings to categorize their notes, and their comments included "I have headings and write my notes in different paragraphs under the headings," but not all students used headings in the same way, with one student commenting "I have headings too but I use bullet points because I don't want to waste time writing whole paragraphs at this stage--I can do that when I write the project." Other students used spider diagrams (i.e., concept maps) to categorize notes, and their comments included "I have a spider diagram and I have bullet points next to the keywords that I chose," but there was also variety in the use of concept maps as another student commented, "I do a spider diagram and I just write down short notes beside the keywords." In both these comments, students refer to keywords and four out of the twelve students interviewed referred to keywords. One student took a flexible approach to note taking, commenting that "I have a list with headings but sometimes I change the headings when I find something new."

The students are clearly able to reflect on the usefulness of categorization of notes whether it is in advance, with headings, or post note-taking organization. One student is able to alter headings as a result of reading. The use of spider diagrams or concept maps show thatwo [(V)5esul(r)3f* 126.485.6

stated, “I agree--

given to them by the teachers and the school librarian. Students, for example, often cited time as a factor ("It was easier and quicker" or "It wasted time"), and some students obviously felt strongly about this factor, but it is not clear what these students *actually* mean when they refer to time. Drawing up an initial concept map does not take much time in quantitative terms, but (possibly less able) students may see some strategies, such as concept mapping and preliminary reading, as an impediment to the completion of their task. One teacher referred to students *rushing* and some of the students' responses may reflect the teacher's view. The evidence presented her has shown that students did not have a strong sense of confidence in their own ability to do a good assignment and that, for some students, use of the PLUS booklet helped to boost their confidence. Student confidence is a complex issue and this study did not explore the issue of confidence deeply.

The results show that most students viewed the existence of a scaffold--the PLUS model booklet in this case--as being beneficial to them in terms of providing them with a coherent structure, helping them to be more organized and being a useful guide to planning, searching for information and ideas, and note taking. It is clear that such a model as PLUS does not suit the learning styles of all students, but there is evidence presented here that this model (similar to the Big Six model in Wolf, Brush, and Saye (2003) study) can encourage students to take a metacognitive view of the information skills process. Whether the use of such a model makes students more information literate is not shown by this study.

The evidence from students demonstrated that students have a preference for electronic sources of information over printed sources and parallels the findings of other studies. This study shows the reasons why this group of students preferred electronic resources but did not explore this in-depth, for example by examining what factors influenced students' opinions and preferences.

All studies have limitations and while this study sought to identify students' and teachers' views on information literacy skills and has provided valuable insights as to how students reflect on and use these skills, the study does not show the extent of student *learning*, either about the students' selected topic or about information literacy. This does not invalidate the study and student learning was an implied rather than an explicit focus of this research. The study also touches on the key issue of the transfer of information literacy skills across subjects but did not have transfer as a research question and the extent of transfer is not explored with students.

Implications for Teachers and SLMSs

Teachers and SLMSS can, by taking a collaborative approach, benefit from this study by doing the following:

- Seeking and analyzing feedback from students on the extent to which students benefit from information literacy skills teaching in schools
- Examining the extent to which students transfer information literacy skills across subjects and school levels
- Exploring students' use of print and electronic resources in order to maximize student use of quality learning resources
- Reviewing information literacy skills programs in the light of Limberg's (2005, 47) focus on developing " a repertoire of understandings" for students

Suggestions for Future Research

As was demonstrated in the literature review, the approach to the teaching of information literacy skills in schools in many countries is being challenged with a number of researchers taking a revisionist approach. Future research would benefit students, teachers, and SLMSs by focusing on the relationship between information literacy and learning, as Williams' (2001) challenges remain.

This research is limited in that it presents evidence from one school and examines particular aspects of students' use of information literacy skills. Future research could examine4 Tw T* [(r)(a)4(m)-2(i)-2

Appendix B. Student Questionnaire

1. You were given advice on PLUS to help you do your Sound Technology assignment. How did you use this advice when you were doing your assignment?

2. Were you given enough advice to help you with your assignment?

Yes No (Please circle)

If you circled NO, what you would you have liked more help with?

3. How did you feel when you started your sound technology assignment? (Please circle ONE only)

a) I was very confident I could write a good assignment

b) I was quite confident I could write a good assignment

c) I wasn't sure if I could write a good assignment

7. After your brainstorming, you did some preliminary reading round your topic and then you made a list of terms to use to skim and scan (keywords) for information on your topic. How did this help with your project. Please circle one or more

a) It helped me identify the right keywords to use to find information

b) It helped me find the right information sources

d) Other (Please explain)

Please explain why your prefer to take notes in this way

11. When you wrote your assignment, roughly how much of your information came from Web sites you used and how much from books/journals in the school library or outside?

Books/journals _____%

Web sites _____%

12. How do you feel about using Web sites instead of books/journals (Please circle ONE)

a) I prefer to use websites

b) I prefer to use books/journals

c) I don't mind which ones I use

Please explain why you feel this way about using websites and books/journals.

Works Cited

Abilock, D. 2004 Information literacy: an overview of design, process and outcomes. Accessed March 19, 2006, www.noodletools.com/debbie/literacies/information/1over/infolit1.html

American Association of School Librarians and Association for Educational Communications and Technology (1998) *Information power: building partnerships for learning* . Chicago, American Library Association.

Asselin, M. 2005. Preparing preservice teachers as members of information literate school communities. In *The information literate school community 2: Issues of leadership*, J. Henri and M. Asselin, 187-202. Wagga Wagga, Australia: Centre for Information Studies, Charles Sturt University.

Barranoik, L. 2001. Meaningful research projects for high school students. *Scan* 20, no. 4: 23-29.

Bawden, D. 2001. Progress in documentation--information and digital literacies: A review of the concepts. *Journal of Documentation* 57, no. 2: 218-59.

Bazeley, P., and L. Richards. 2000. *The NVivo qualitative project book*. London, Sage Pub.

Bouma, G., and R. Ling. 2004. *The research process*. 5th edition. Melbourne, Victoria: Oxford Univ. Pr.

Boyce, S. 2004. Information literacy and school librarianship: A critical look at pedagogy and profession. In *Reality bytes: Information literacy for independent learning*, eds. S. La Marca and M. Manning, 19-32. Carlton, Victoria: SLAV.

Branch, J. and D. Oberg. 2003. The British models. *School Library Media Activities Monthly* 19, no. 10: 17-20.

Burns, R.. 2000. *Introduction to research methods*. 4th edition. Frenchs Forest, New South Wales, Australia: Pearson Education.

Bruce, C. 1997. *The seven faces of information literacy* . Adelaide, Australia: Auslib Pr.

Callison, D. 2003. *Key words, concepts and methods for information age instruction: A guide to teaching information inquiry*. Baltimore, Md.: LMS Associates.

------. 2002. Models (part I). *School Library Media Activities Monthly* 19, no. 1: 34-38.

Dobbs, O. 2003. *Using reading strategies to reduce the failure rate in the content area.* Subject: Social studies. Grade level: 6-8 . Syracuse, N.Y.: ERIC ED 479208

Dolan, D. 2004. Current situation regarding the theme of the workshop. Accessed Jan. 27, 2006, http://europa.eu.int/comm/education/programmes/elearning/doc/workshops/digital_literacy/position_papers/dolan_dudley.pdf.

Doyle C. 1994. *Information literacy in an information society: A concept for the information age*. Syracuse, N.Y.: ERIC ED 372763-2(nq)EDgi4 0 Td5.(hop. A)20 Td5.(hop. A)a4(s)1(/di2d5.(k/MCIDc4s)-1

------. 2002. Methods for measuring the influence of concept mapping on student information literacy. *School Library Media Research* 5. Accessed Jan. 27, 2006, www.ala.org/ala/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume52002/gordon.htm.

Green, G. 2004. Teacher librarians and the culture of thinking: taking up the challenge in La Marca, S. and M. Manning, eds. *Reality bytes: information literacy for independent learning* . Carlton, Victoria, Australia: School Library Association of Victoria.

Harada, V. 2002. Personalizing the information search process: A case study of journal writing with elementary age students. *School Library Media Research* 5. Accessed Jan. 27, 2006, www.ala.org/ala/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume52002/harada.htm.

Harada, V. and J. Yoshina. 2005. *Assessing learning*. Westport, Conn.: Libraries Unlimited.

Henri, J., and M. Asselin. 2005. *The information literate school community 2: Issues of leadership*. Wagga Wagga, Australia: Centre for Information Studies, Charles Sturt University.

Herring, J. 2004. *The internet and information skills: a guide for teachers and school librarians*. London, Facet Pub.

------. 1996. *Teaching information skills in schools.* London, Library Association Publishing.

Herring, J., A. Tarter, and S. Naylor. 2000. Theory into practice: Using the PLUS model to teach information skills and support the curriculum in a secondary school. In *Developing information*

Langford, L. 2001. Critical literacy: A building block towards the information literate school community. *Teacher Librarian* 28, no. 5: 18-21.

Lankshear, C., and M. Knobel. 2004. A handbook for teacher research: From design to implementation. Maidenhead, Berkshire, UK: Open Univ. Pr.

Lewis, E. 1999. Science instruction and information literacy: Information is power. *Scan* 18, no. 1: 49-53.

Limberg, L. 2005. Informing information literacy education through empirical research. In *The information literate school community 2: Issues of leadership*, J. Henri and M. Asselin, 39-50. Wagga Wagga, Australia: Centre for Information Studies, Charles Sturt University.

Lloyd, A. 2003. Information literacy: Meta-competency of the knowledge economy. *Journal of Librarianship and Information Science* 35, no. 2: 87-92.

Lloyd, A. 2004. Working (in) formation: Conceptualising information literacy in the workplace. In *Lifelong learning: Whose responsibility and what is your contribution?* P. Danaher, 218-23. Rockhampton, Queensland, Australia: Central Queensland Univ. Pr.

Loertscher, D. and B. Wools. 2002. *Information literacy: Review of the research*. 2nd edition. Spring, Texas: Hi Willow Research and Pub.

Maxwell, E. 2000. Integrating information skills and exposition texts into the Year 7 science program. Scan 19, no. 2: 27-31.

McCarthy, L. 2002. Digital literacy--information literacy--the new literacies. Accessed Jan. 27, 2006, www.aset.org.au/confs/2002/mccarthy1.html.

McGregor, J., and D. Streitenbeger. 1998. Do scribes learn? Copying and information use. *School Library Media Quarterly Online*. Accessed Jan. 27, 2006, www.ala.org/ala/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume11998slmqo/mcgregor.htm .

Moore, P., and N. Poulopoulos. 1999. Butterflies and elephants in the classroom: teachers researching information literacy. *SCAN* 18, no. 4: 49-53.

Moore, P. 2002. *An analysis of information literacy education worldwide*. Accessed Jan. 27, 2006, www.nclis.gov/libinter/infolitconf&meet/papers/moore-fullpaper.pdf.

National Forum on Information Literacy. 2004. Definitions, standards, and competencies related to information literacy. Accessed Jan. 27, 2006, www.infolit.org/definitions/index.html.

NetDay. 2003. Voices & views from today's tech-savvy students: highlights from NetDay's national report on speak up day 2003. Accessed March 19, 2006, www.netday.org/speakupday2003_report.htm

North Central Regional Educational Laboratory. n.d. Action research. Accessed Jan. 27, 2006, www.ncrel.org/sdrs/areas/issues/envrnmnt/drugfree/sa3act.htm.

Oberg, D. 2004. Promoting information literacies: A focus on inquiry. Accessed Jan. 27, 2006, www.ifla.org/IV/ifla70/papers/088e-Oberg.pdf.

Patton, M. 2002. *Qualitative research and evaluation methods*. 3rd ed., Thousand Oaks, Calif.: Sage Pub.

Ryan, J. and S. Capra. 2001. Information literacy planning for educators: the ILPO approach. *School Libraries Worldwide* 7, no. 1:1-10.

Ryan, S., and V. Hudson. 2003. Evidence-based practice, transformational leadership, and information literacy at Santa Maria College. *Synergy* 1, no. 1: 29-41.

Shannon, D. 2002. Kuhlthau's information search process. *School Library Media Activities Monthly* 19, no. 2: 19-23.

Stripling, B. 2004. Building independent learners through inquiry. In *Constructing communities of learning and literacy*, J. Bales and K. Bonanno, 75-80. Zillmere, Queensland, Australia: Australian School Library Association.

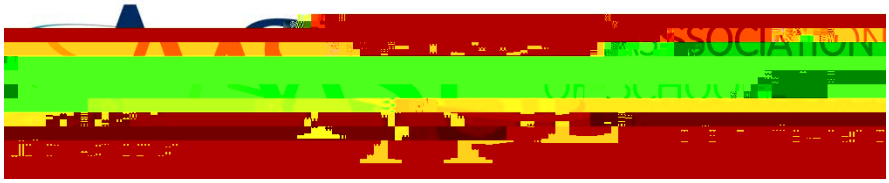
Tarter, A. 2005. A hotlist on sound technology. Accessed Jan. 27, 2006, www.kn.pacbell.com/wired/fil/pages/listsoundtemr.html.

Williams, D. 2001. Information literacy and learning on-line. In SCROLLA Networked Learning Symposium, University of Glasgow, 14.11.01. Accessed Jan. 27, 2006, www.scrolla.ac.uk/resources/s1/williams_paper.pdf.

Williamson, K. 2002. *Research methods for students, academics and professionals: Information management and systems*. 2nd ed., Wagga Wagga, Australia: Centre for Information Studies.

Wolf, S., T. Brush, and J. Saye. 2003. The Big Six information skills as a metacognitive scaffold: A case study. *School Library Media Research* 6. Accessed Jan. 27, 2006, www.ala.org/ala/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume62003/bigsixinformation.htm.

School Library Media Research (ISSN: *1523-4320*) *is the successor to School Library Media Quarterly Online and the predecessor to School Library Research, an official journal of the American Association of School Librarians. The purpose of School Library Media Research is to promote and publish high quality original research concerning the management, implementation, and evaluation of school library programs. The journal also emphasizes research on instructional theory, teaching methods, and critical issues relevant to the school library profession. Visit the website for more information.*



The mission of the American Association of School Librarians is to advocate excellence, facilitate change, and develop leaders in the school library field. Visit the AASL website for more information.