Information Literacy:
What Every High School Senior
Needs to Know

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Information Literacy is a familiar term to most school library media specialists in today's world. Many understand the theoretical aspects surrounding this phenomenon, but little has been offered that provides practical help in preparing students to become active lifelong learners and efficient seekers and users of information. This paper addresses the AASL Information Literacy Standards for Student Learning and the ACRL Information Literacy Standards, including specific lessons to teach these standards; checklists to make sure students know, understand, and can demonstrate their use; and formative and summative assessment ideas to assure that the students are "information literacy ready" for college. The overall purpose of this paper/presentation is to offer help and guidance to librarians concerned that high school students are not ready to tackle the college library and/or college level research assignments. It is a practical guide about what seniors actually need to know before leaving high school; that they are information literate from A to Z.

Introduction

Conley (2005) conducted a research study called "Standards for Success," which identified the content knowledge in six subject areas that students need in order to succeed in entry level university courses. This study indicated that mastery of not only specific subject content is necessary for success, but also the equally important associated cognitive skills, along with research skills, critical thinking skills, connective intelligence, and the ability to think independently.

Achieve, Inc. (2005) conducted a research project involving recent public high school graduates called "Raising to the Challenge: Are High School Graduates Prepared for College and Work?" In this study, high school graduates (40 percent of whom went on to college and 45 percent went to work) identified research skills as one area in which they were lacking. Also noted in this study, Craig Barrett, a board member of Achieve, Inc. stated that each and every one of the nation's 16 million high school students today must master complex skills and knowledge if they are to be able to get good jobs and compete in the global economy. Barrett goes on to explain that the students are telling us that they need to be challenged with higher expectations, and that tougher academic standards help them build the foundation they need to be successful in college and work—we need to listen to them (2005).

Details of this study can be found at www.achieve.org).

A Brief Review of the Literature

"College librarians and high school library media specialists have lots to share with one another…they face many similar issues and challenges, and the solutions we adapt from one level to another" (Donham, 2003, p. 1). In 2005, Diane Mittermeyer conducted a study that looked at the following question: "When entering the first year of undergraduate study, how information literate are the students? Over 3,000 participants returned a mail questionnaire representing a response rate of 56%...the results indicated that for many respondents, their knowledge of the basic elements characterizing the information seeking process is rather limited" (p. 203). Mittermeyer also explained that academic librarians are very concerned by what seems to be a low level of knowledge regarding the information-seeking process, particularly among incoming first-year undergraduate students. Fortunately, in 2000, ACRL published Information Literacy Competency Standards for Higher Education. This document highlights the importance and role of higher education in the use of information in academic pursuits and, overall, in lifelong learning.

Information literacy is certainly not a new concept; in fact, it dates back to 1986 (Doyle, 1995). This term has been used for almost two decades internationally. In 1995, Carol Kulthau noted three important trends in library media center instruction, the first being a shift from instruction in library skills to instruction in information skills and information literacy. In 2004, Boekhorst and Britz stated that information literacy has become one of the most important skills in the information society; they also contend that: 1) information and knowledge have become the most important assets of society, 2) the primary economic questions no longer deal with scarcity, but focus on the management of abundance of information that has become available as a result of technology, and 3) the rapid development of information and communication technologies has become the engine in the process of globalization.

Breivik, in 2005, explained it this way, "It is a world with an over abundance, indeed, a tidal-wave of information that bombards students from the time they turn on the television in the morning to the moment they turn off the computer before they go to sleep. In between, they gather information from messages on cell phones, books, magazines, DVDs and a multitude of other sources. Young people today send and receive emails, engage in chat rooms and find most of the information they use on the Internet" (p.2). Breivik also stated, "It is time for both technology and information literacy skills to be accepted as a core competency to be acquired systematically through all levels of formal learning…[however many teachers] operate on the comfortable assumption that students acquire these skills before coming to their classes. Efforts to develop students' information literacy skills need to take place at the institutional, program and classroom levels" (1998, p. 24).

As early as 1992, Peter Drucker warned, "Few executives yet know how to ask: 'What information do I need to do my job? When do I need it? In what form? And from whom should I be getting it?'" (p. 3). The continuing concern with information overload and the inability of most people to deal with it are indications of the low level of understanding of information management within organizations. To achieve this, information literacy skills must be actively and visibly valued by the organization, and people must be given the time, space and encouragement to develop them.

As Jenson (2004) explained, "Much of the research that students now do is conducted online; the context of that research has been lost. In addition, professors complain about the quality of their students' end products, while at the same time students express equal

frustration that they can't find anything on the topics addressed…students have trouble producing good research because they have not been given the foundation necessary for doing so…" (p. 109). Finally, in 2004, Abilock remarked, "Information literacy is a transforming process in which the learner needs to find, understand, evaluate and use information in various forms to create for personal, social or global purposes…" (p. 10).

Sample Lesson, Checklist and Evaluation

Below is one lesson, four checklists and three formative evaluations that can be used with Standard 1 of Information Literacy Competency Standards for Higher Education (ACRL, 2000).

(The presentation will include numerous additional examples of information literacy lessons, checklists and evaluations for several ACRL Standards.)

Standard 1:
The information literate student determines the nature and extent of the information needed.

Lesson: Choosing a Topic

What are you going to research? Sometimes a topic is the most difficult part of conducting research. Your instructor may assign you a topic or the choice may be yours. Knowing where to locate ideas will help you find an interesting, exciting research topic.

So, where can you get ideas? There are a number of places to look. Sometimes, just focusing on your specific interests, the things you have read about and conversations with others is a good place to start. Otherwise, current journals and magazines can be used to locate timely research topics. Also, browsing the shelves of a library may spur an interesting topic: Encyclopedias (and subject encyclopedias) are good sources for topics. Finally, the Internet can be an extremely useful place to locate ideas. Several good Web sites for obtaining research topics are:

- http://lib1.uwec.edu/research/index.asp
- http://library.sau.edu/bestinfo/Hot/hotindex.htm
- http://poynteronline.org/column.asp?id=49
- http://www.nwmissouri.edu/library/courses/english2/termindex.htm

Using one or more of the resources listed above, choose a research topic of interest to you. Remember to keep the following in mind:

- It should not be too broad or too narrow.
- It should keep your interest for a period of time.
- It should be a topic for which you can locate information easily.

Also, by answering the following questions, your research will become more organized:

- What kind of assignment is it? (e.g., is it a 50-page paper, a 3-minute oral presentation, or a PowerPoint presentation?)

- Will you be able to find enough information about your topic—how much information do you need?
- What kind of information do you need? (e.g., statistical, opinion, etc.)
- Is currency of information important?
- What formats do you need? (e.g., printed, electronic, visual, audio, etc.)
- How much time do you have?

For this lesson, research as explained above and determine a topic of interest to you.

Checklists

1. The information literate student will:
   1. Participate in class discussions
   2. Consult with instructors
   3. Participate in peer workgroups
   4. Participate in electronic discussions
   5. Develop a thesis statement
   6. Formulate questions based on the information need

2. The information literate student:
   1. Knows how information is produced
   2. Knows how information is organized
   3. Knows how information is disseminated
   4. Recognizes that knowledge can be organized into disciplines
   5. Identifies the value of potential resources in a variety of formats
   6. Identifies the differences of potential resources in a variety of formats
   7. Identifies the purpose of potential resources
   8. Identifies the audience of potential resources
   9. Differentiates between primary and secondary sources
   10. Recognizes that primary and secondary sources vary with each discipline
   11. Realizes that information may need to be constructed with raw data

3. The information literate student:
   1. Determines the availability of needed information
   2. Makes decisions on broadening the information-seeking process
   3. Considers the feasibility of acquiring a new language or skill
   4. Defines a realistic overall plan to acquire needed information
   5. Defines a realistic overall timeline to acquire needed information

4. The information literate student:
   1. Reviews the initial information need to clarify the question
   2. Reviews the initial information need to revise the question
   3. Reviews the initial information need to refine the question
   4. Describes criteria used to make information decisions
   5. Describes criteria used to make information choices

Formative Evaluations

1. (Teacher Assessment of Students)

Students write a proposal describing a research paper. They do research for the paper, but do not actually write the paper. The proposal must include:

- Thesis statement
- Questions to be answered by the research
- Sources consulted (numbers, quality, appropriateness)
- Bibliography of resources in APA format

Checklist

<u>Superior-3</u>   <u>Good=2</u>   <u>Needs Improvement=1</u>

Thesis Statement
Questions
Sources
Bibliography

2. (Teacher Assessment of Students)

Research Worksheet

- Students create a printed worksheet that guides them through research in one or more resources, such as catalogs, journal indexes, reference books, and so forth.

- The worksheet provides instructions for using the source(s) and includes space for writing about what was found in that source.

Students may choose their own topic(s) or the topic(s) may have been assigned. When the worksheet is completed, it will include:

- Key words and subject headings that led to useful information in the source
- Citations found (number and appropriateness)
- Location of the materials used (worksheet provided by the instructor
- Evaluation of the source's usefulness for the project
- One or more bibliographic citations in APA format

Checklist

<u>Superior-3</u>   <u>Good=2</u>   <u>Needs Improvement=1</u>

Key words/Subject Headings
Citations Found
Location Used

3. (Student Self Assessment)

Checklist: Information literacy skills using secondary sources

I understand research models. I understand and effectively use secondary sources. I use and cite electronic information sources. I use computer productivity software. I use technology and share the results of my research with others. I reinforce information literacy skills on a daily basis as opportunities arise=3

I have library research projects and I support the library skills taught. I am familiar with secondary sources and am aware that there are electronic resources available for my use=2

I am not familiar with the terms information literacy or secondary sources, nor do I know why such skills are important=1

Checklist: Information literacy skills using primary resources

I collect original data to answer genuine questions. I may use tools to collect data, like computerized probes and sensors, online surveys, interviews, or digitized sources of historical records, as well as tools to record, organize, and communicate the data such as databases and spreadsheets=3

I collect and use original data. I generally can predict the outcome of such experiments=2

I only use secondary resources, like books, magazines, or reference materials=1

Checklist: Newsgroups and electronic mailing lists

I read the newsgroup that interests me on a regular basis, and I can contribute to newsgroups. I can subscribe, unsubscribe, and contribute to electronic mailing lists (listservs) related to my research. I know how to find, configure, and use the specialized tools for newsgroups and mailing lists. I can access and search mailing list archives=3

I know that there are resources in a variety of formats available on the Internet, but cannot confidently access them=2

I have no knowledge of newsgroups or electronic mailing list functions=1

Conclusion

According to Bill Gates (2005), "When we looked at the millions of students that our high schools are not preparing for higher education—and we looked at the damaging impact

that has on their lives—we came to a painful conclusion: America's high schools are obsolete. By obsolete, I don't just mean that our high schools are broken, flawed, and under-funded—though a case could be made for every one of those points. By obsolete, I mean that our high schools—even when they're working exactly as designed—cannot teach our kids what they need to know today. Training the workforce of tomorrow with the high schools of today is like trying to teach kids about today's computers on a 50-year-old mainframe. It's the wrong tool for the times. Our high schools were designed fifty years ago to meet the needs of another age. Until we design them to meet the needs of the 21st century, we will keep limiting—even ruining—the lives of millions of Americans every year. Today, only one-third of our students graduate from high school ready for college, work and citizenship" (p. 2).

References

Abilock, D.(2004). Information literacy from prehistory to K-20: A new definition. *Knowledge Quest.* 32(4).9-11

Achieve, Inc.(2005). *Rising to the Challenge. Are High School Graduates Prepared for College and Work?*Retrieved May 4, 2006, From http://www.achieve.org

Association of College & Research Libraries (ACRL).(2000). *Information Literacy Competency Standards for Higher Education: Standards, Performance Indicators and Outcomes.* Retrieved January ,2005, from http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm

Boekhorst, A.K.& Britz, J.J. (2004). Information literacy at school level: A comparative study between the Netherlands and South Africa. *Journal of Library and Information Science* ,70(2),63-71.

Breivik, P.S.(2005). 21st century learning and information literacy. *Teacher Librarian*,37(2),20-28.

Breivik, P.S.(1998). *Student learning in the information age.* Phoenix: Oryx Press.

Conley, D.(2005). *Standards for Success. College Knowledge: What It Really Takes for Students to Succeed and What We Can Do to Get Them Ready.* San Francisco: Jossey-Bass.

Donham, J.(2003). My senior is your first year student. *Knowledge Quest*, 32(1).

Doyle, C.(1995). Information literacy in an information society. *Emergency Librarian*, 72(4),30-35.

Drucker, P.(1992). Be Data Literate: Know What to Do.

Jenson, J.(2004). It's the information age, so where is the information? *College Teaching* ,52(3),107-112.

Kuhlthau, C.(1995). The instructional role of the library media specialist in the information age school.*Information for a new age.* Englewood, CO: Libraries Unlimited.

Mittermeyer, D.(2005). Incoming first year undergraduate students: How information literate are they?*Education for Information*, 23,203-232.