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EVALUATING THE EFFECTIVENESS OF SCHOOL LIBRARY WEB SITES

by Sheryl Laws

A Thesis

Submitted in partial fulfillment of the requirements of the Masters of Arts Degree of The Graduate School at Rowan University May 10, 2007

Approved by		
	Advisor	

Date Approved May 10, 2007

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ABSTRACT

Sheryl Laws EVALUATING THE EFFECTIVENESS OF SCHOOL LIBRARY WEB SITES 2006/2007 Dr. Marilyn Shontz Master of Arts in School and Public Librarianship

In today's society, the use of technology is growing rapidly. School libraries have a responsibility to their patrons to keep up with this trend by providing information about the school library on the Internet. These Web sites must be well maintained and up to date. The purpose of this study was to evaluate elementary and middle school library Web sites to find if they were meeting the standard of a Web page.

With the use of a checklist, the researcher evaluated the school library Web sites based on appearance, ease of use, age appropriateness, and information was included. After evaluating twenty elementary school library Web sites and twenty middle school library Web sites, it was found that only about 60% of the school libraries included information found necessary for a Web page. In conclusion, many school libraries were not utilizing technology in providing information to their patrons.

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CHAPTER 1

STATEMENT OF THE PROBLEM

In today's world, the Internet is becoming essential in the work place. The majority of organizations, businesses and institutions have Web sites available for people to look at to find information about their services. Libraries are a part of the business world and are adjusting to the changes needed to keep up with the technological advancements. But, as with many new things, there are few guidelines or rules set for librarians to follow when it comes to creating a Web page of information for use by their patrons. Therefore, as school librarians enter this world of technology, they come to it with little guidance about what would be useful to include in a school library media center Web site.

When it comes to a student's education, the community in which they are learning aims to provide the best and most useful information to assist them in their growing knowledge. A librarian needs to provide the tools that students need in this endeavor. By using the ever-growing Internet, the librarian is attempting to provide information in a more easily accessible format, as well as in a location that the students are most likely to use. Yet the information needs to be presented in a way that students find useful, which can be a problem when library media specialists have few guidelines to follow.

Purpose of the Study

The purpose of this study was to analyze K-8 school library Web sites to see what information was being provided to the student, staff, and parents. Web sites from schools

were evaluated from the Northeastern region of the United States including New Jersey, Pennsylvania, New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and Maine. The information found was compared to what recognized experts recommended to be included. The results were used to determine if the K-8 Web sites were providing useful information as defined by these experts.

There were three questions addressed in this research. The first two questions were addressed in the literature research: What information did most patrons need access to? What was the best design for a Web site to provide ease of use to its patrons? The answers to these questions were used to create the checklist needed for the evaluation. The third research question was addressed through the implementation of the checklist as an evaluation instrument. This question was: How well did the information most commonly provided for elementary and middle patrons match the checklist items?

Definitions

Evaluation- an act or instance of evaluating or appraising based on a set of recommendations (Dictionary.com, 2006).

Internet- The high-speed fiber-optic network of networks that uses TCP/IP protocols to interconnect computer networks around the world, enabling users to communicate via e-mail, transfer data and program files via FTP, find information on the World Wide Web, and access remote computer systems such as online catalogs and electronic databases easily and effortlessly, using an innovative technique called packet switching (Reitz, 2004).

OPAC-An acronym for online public access catalog, a database composed of

bibliographic records describing the books and other materials owned by a library or library system, accessible via public terminals or workstations usually concentrated near the reference desk to make it easy for users to request the assistance of a trained reference librarian (Reitz, 2004).

Patron- Any person who uses the resources and services of a library, not necessarily a registered borrower. For the purpose of this research, patrons will be the students, staff, and parents of the students (Reitz, 2004).

School library- A library in a public or private elementary or secondary school that serves the information needs of its students and the curriculum needs of its teachers and staff, usually managed by a school librarian or media specialist (Reitz, 2004).

Student- a person formally engaged in learning, especially one enrolled in a school or college; pupil. For the purpose of this study, a student is someone between the ages of 4 and 14 (Dictionary.com, 2006).

Technology- the branch of knowledge that deals with the creation and use of technical means and their interrelation with life, society, and the environment, drawing upon such subjects as industrial arts, engineering, applied science, and pure science (Dictionary.com, 2006).

Web sites-A group of related, interlinked Web pages installed on a Web server and accessible 24 hours a day to Internet users equipped with browser software. In this case the Web sites are created to represent a K-8 school library (Reitz, 2004).

Web pages-An electronic document written in HTML script, stored on a Web server and accessible using Web browser software at a unique Internet address (URL), usually one of a group of related, interlinked files that together comprise a Web site (Reitz, 2004).

World Wide Web- A global network of Internet servers providing access to documents written in a script called Hypertext Markup Language (HTML) that allows content to be interlinked, locally and remotely (Reitz, 2004).

Limitations and Assumptions

In this study, it was assumed that the Web sites that were being evaluated were created to provide information for staff, parents, and students within the school and that the information was understandable to the students with and without the assistance of an adult. It was also assumed that all of the Web sites evaluated were created by or with input from the school's librarian or media specialist.

The limitations of this study included the geographic location of the schools. All of the schools in this study were found with the Northeastern region of the United States. Secondly, all of the schools used were found using the School Library Index (Milbury, n.d.) owned by the H.W. Wilson Company, limiting the schools searched to those found and provided by a predetermined source. Another limitation was that the information evaluated on these sites was what was provided when the sites were accessed, however that information could change after the evaluation has occurred making the results inaccurate.

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- Reitz, J. M. (2004). *ODLIS-online dictionary for library and information science*. Retrieved November 13, 2006 from http://lu.com/odlis/

CHAPTER 2

REVIEW OF THE LITERATURE

Before the twentieth-first century, school librarians were viewed as information providers, the person to see if a student, or teacher, needed assistance in finding information. The layout of the library usually confused people and the librarian was there to help patrons looking for information. Most information to be found was in some sort of print form, whether a book, magazine, or microfiche. Since the late 1980s and 1990s, with the creation of the Internet, this view of school librarians has changed drastically. Most people looking for information now will first go to the Internet and a search engine. Some will simply be happy with what they found while others may go deeper in their Internet search. The last resort for some information seekers is the library building.

Today, most students in schools at any level are using the Internet as their primary, and many times, only source of information. Gone are the days when the library was a place a student went to find information. Now, if it is used at all, it is mostly an entertainment stop for the people who still enjoy reading. Yet, librarians are still being trained to help people of all ages in seeking the information they need when doing research or just simply looking for an answer to a question.

So how do we take these highly educated individuals and make them important to the information seekers? One simple way is to take their expertise to the Internet. Libraries need to start providing vital library information on the Internet. One way to do this is to create Web sites that combine information available on the Internet with information available in the library. This creates the best of both worlds right at the users' fingertips.

Combining Technology and School Libraries

"The Emerging School Library Media Center From the Past into the Future" was an article written by Betty J. Morris (2005) that discussed this particular topic. Her article started with changing the name school librarian to the term cybrarian. According to Morris these will be the people that combine the cyber world with the library. Her purpose for this was to prove that librarians need to be cyber-literate; that they need to understand and navigate fluently through the World Wide Web. In doing this school librarians may once again be seen as an important part of education and utilized when finding appropriate tools for students and teachers to use in teaching and learning. Her article revolved around some school librarians in Denver, Colorado who dreamed of a future where they would be viewed as trained professionals not just bodies needed to fill positions. They discovered that by combining their library skills with the Internet they might have a chance at fulfilling this dream. The biggest hurdle was getting their library on the Internet so everyone could see and use the resources available in their library as well as find some of the more useful sites on the Internet. In addition to this cybrarians will also be needed to teach both student and teachers how to use the Internet properly and find the information that is needed.

In corroboration of Morris's words, James E. Herring (2005) wrote an article called "The End of the Teacher-Librarian." In it, he showed the threats created by technology and the opportunities available through technology. His three technological

products were the Internet, Intranet, and Instructional websites. His basic conclusion was that though all three of these tools create a possibility of taking the place of librarians and that as librarians we could utilize these tools and make them and ourselves more effective for users. These tools were created to enhance and make information more accessible for users; librarians can use these tools to make the library resources more accessible and useable as well.

Because technology has taken over much of what the library stands for, librarians need to fight back by taking advantage of what technology has to offer. One of the most effective advantages to the Internet is to provide the whole school information through a Web site, or at least a Web page. Ken Vesey (2004) in his article "Building a better Clicks-and-Mortar Library" explained the reasons for having a Web site for a school library and what kind of Web site was needed. He introduced his argument with the questions,

If all the school librarian does is organize links to the free Web, what does this communicate about what the school library is all about? Why do so many library homepages seem only to endorse the Web for solving information queries? Is this the message you wanted to send when you created your library Web site? (Vesey, 2004, p.28).

These bring up very thoughtful points, what is the message we want to send? He answered these questions by comparing what a school library Web site should offer with what is available in a "bricks-and mortar library." He continued "We need to remind patrons of the strength and tradition of our bricks-and-mortar service; that at which we have excelled for decades—offering our school community quality, edited, age-

appropriate, verifiable information representing a variety of viewpoints and available in a variety of formats" (Vesey, 2004, p.28). In other words, we need to take our library, in structure and provisions, and put it into a Web site, including the integrity and necessity that is seen in the library as a building. This is how we reach the new age of library patrons. But our Web site needs to be more that just a directory to the popular search engines. The Web site needs to show what is available in the library through the OPAC and online services. These databases show the information that is traditionally only available within the walls of a library. The Web site also needs to show the resources on the Web that are usually overlooked or not found in simple searches. The school library Web site should be the beacon for finding information that most research novices would overlook.

Research and Recommendations for School Library Web Sites

It is clear that to enter the new world of technology and continue to be relevant, school libraries need to create a Web site to be posted on the World Wide Web. So the question becomes, what is necessary to make a school library Web site that students and teachers need and will use? Odin Jurkowski (2004) in his article "School Library Website Component" and Barbara Braxton (2004) in her article "Putting your School Library Online" both discussed the necessary components for having a useable and attractive school library Web site. In Jurkowski's research, he began by his article by stating that creating a website was not as difficult as some may think, and that it was something that librarians can achieve. Some of the important aspects he described that should be considered when creating a website were "navigation, colors, organization, readability..." (Jurkowski, 2004, p.56).

Jurkowski's (2004) research consisted of analyzing the Web sites of thirty-fourschool libraries in the state of Missouri. He first observed the basic functions such as contact the Webmaster, a list of employees, and date of last update. He found that 44% showed how to contact the Webmaster, 68% showed the employee list, and 53% provided a date last updated. He also found that 26% of the libraries provided information on contacting the library by phone, 32% provided an address, and 68% provided an email address.

The next group of items Jurkowski analyzed was those pieces of information that were specific to school libraries. This area was variable because different grade levels provided different information; therefore the information was dependent on the grades each school covered. To start with databases, (which may not be used for the lower grades,) were found on 76% of the Web sites analyzed. A total of 35% of the schools provided an OPAC accessible through the Internet (Jurkowski, 2004).

The third group of items Jurkowski felt should be available on all school Web sites was other Web site links, policies for that library, a mission statement, library news, and a print journal list. Jurkowski (2004) felt these items were necessary on the Web site "to save printing costs for ease of updating, these features become a source of information about the library itself, and can easily be kept current" (p. 57). His research found that 79% of the libraries provided Web site links, 47% had a policy available, 18% included a mission statement, 12% gave library news, and 3% provided a list of print journals. One last bit of information, 29% of the libraries gave a list of awards for books.

The last set of items Jurkowski analyzed was the break down of the Web site lists. He found 71% of the school libraries provided search engines, 65% showed reference links, 56% made new sites available, 41% showed teacher sites, and 18% showed sites used primarily by librarians. In the area of research subcategories, 32% showed college or career, 29% the weather, 18% government, 12% health, 18% online magazines, and 21% homework help. Jurkowski's concluded that since having a Web site was necessary, the best way to create one was by simply seeing what others were doing and consider what was necessary for your patrons (Jurkowski, 2004).

Barbara Braxton used her article to provide what she felt were necessary questions to consider when putting together a school library Web site and what the purpose of the site was. She used a quote from Stephen Covey stating "to begin with an end in mind..." (Braxton, 2004, par. 4) to emphasize her beginning point that in order to have an effective Web site, the creator needs to know who will be using the site and why it is needed. This idea gives the creator the direction needed in creating their Web site. Then they can address the issues and what it will be used for and how that information should be displayed. Braxton (2004) felt that an effective Web site should provide the following:

- An introduction to and information about your school.
- Access to materials which help parents understand how their children. develop and learn.
- A virtual staffroom to help your staff develop their professional expertise.
- Support for the implementation and delivery of the classroom curriculum.
- Access to virtual library of selected online resources.
- Opportunities for students to participate in national and international

online learning projects.

• Opportunities for students to celebrate their learning and share it with the world. (par. 3)

This list is a checkpoint that the Library Media Specialist can refer back to when creating Web sites. Once the why and who are established, a purpose needs to be considered. The purpose considers the mission statement, the educational philosophy, and the target audience. She felt the audience was the most important aspect of creating a Web site. They were the reason for it and as long as their needs were met, the rest would fall into place without the need to be overdone. Once the "priorities" of addressing who and why are finished, then the creator should decide the professionalism and design of the site. Braxton's conclusion was simply, consider the Web site as a plan and complete it step by step. Keep the main goals in mind and remember who the site is being created for and the rest will fall into place (Braxton, 2004).

Kathleen Rutkowski (1997) wrote an article called "School Cyberlibraries" in which she discussed particular schools at each level that successfully created a Web site for their library. These particular schools found a way to utilize the Internet in promoting their library and making it more accessible to its users. To start with she gave the school librarian the name "techonology/research mentor" because they were the people who train students and teachers. She also refered to them as "information specialists" because they also provided information that many people were not able to find.

The elementary school Rutkowski picked as the example for an elementary level Web site was the Mt. Laurel Hartford School Library Without Walls, in New Jersey, designed by Shayne Russell. Although her Web site was mainly for fifth and sixth graders, the layout was something that all elementary levels could take advantage of. She had three sections in her site, resources for students, resources for teachers, and resources for parents. The parents and teachers sections were arranged by subjects, including the items that would be of importance to the individual audiences. The students' section was organized by Dewey Decimal, first to reinforce the system used in the library, and second to cover the wide variety of topics the students may be interested in. The sites that were linked were well chosen and well thought out. Russell put time and effort into this site and it paid off with its user friendliness for all its viewers (Rutkowski, 1997).

Summary

In conclusion, it is becoming more important for libraries to tap into the next generation through technology. One of the major ways to reach technology literate patrons and keep current with the new trends is to create a Web site that keeps the users linked to information provided on the Internet. Creating a Web site that shows the information available both inside the library and out gives students greater access to the information they need as well as providing them with a better way to find it.

Since Web sites are becoming a must in libraries, the question becomes what should be included instead of should there be Web site. In order to have an effective Web site, librarians need to be open to what other librarians are doing with their sites as well as what their users are looking for in terms of a Web site. Web sites can also be used to keep patrons current on library news and updates as well as providing them easier access to the hard to find information on the Internet. Though the World Wide Web may be a threat to the profession of library science, there are many ways in which it can make the profession better and more necessary. Librarians need to use the advantages the Internet provides and continue to teach its users the effective ways to find the information they are looking for.

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CHAPTER 3

METHODOLOGY

Overall Design and Justification

This study was completed through creating and using a checklist to evaluate selected elementary and middle school library Web sites. Elementary and middle school Web sites from five different states were selected. Applied descriptive research was considered the best method to determine what these Web sites provided and to compare and evaluate the information on each.

Research Question/Purpose

This study was conducted to determine whether school library Web sites were providing accurate and pertinent information to patrons, including students, parents, and staff members. There were three questions addressed in this research. The first two questions were addressed in the literature research: What information did most patrons need access to? What was the best design for a Web site that provides ease of use to its patrons? The answers to these questions were used to create the checklist needed for the evaluation. The third research question was addressed through the implementation of the checklist as an evaluation instrument. This question was: How well did the information most commonly provided for elementary and middle patrons match the checklist items?

Population and Sample

In this study, 40-school library Web sites chosen from the Mid-Atlantic region of the United States were used. These states were New Jersey, Pennsylvania, New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and Maine. The schools selected were chosen from the Web site, School Library Directory (Milbury, n.d.). All the Web sites listed for elementary and middle school level on this site were used in this evaluation.

Checklist Design

There are many variables when conducting research. In this study, many of the variables were found in the checklist used to evaluate each Web page. The information chosen to be incorporated in this checklist came from the literature that was evaluated in Chapter 2 of this study. The design of the checklist came from the ideas of past researchers and experts in the field. For example, Jurkowski (2004) evaluated what items were necessary on a Web site. The researcher's checklist was divided into five different sections modeled after Jurkowski's evaluation tool. The first section contained basic information such as a list of employees and ways to contact them. The second section was general library information. This included policies, schedules, curriculum, and news related primarily to the library. The third section incorporated Web sites that were linked on the Web page for users to have access to. The fourth section was databases and other programs directly accessed through the school. Items in this section included OPAC, interlibrary loan, subscription databases, and print journals available in the library. The last section of the checklist was the overall appearance and use of each Web page. The

purpose of this section was to identify that users need to be able to use what is being presented to them. The guidelines for evaluating usability came from Braxton's (2004) checklist for Web site design. Each page had its own set up and this section critiqued its usability such as age appropriate, current information, and user-friendly.

Method/Technique of Data Collections

For the purpose of this study, a checklist was created to use in the evaluation of each Web site. This checklist was used for each of the 40 schools selected. It was designed by the researcher as a model for what was recommended as needed for a school library Web site. Using this model, each site was assessed to see if it provided all the checklist items. The checklist was designed based on the opinions of past researchers or studied writers in the field of Web design and library science. Once each site was evaluated using the checklist, the sites were compared to each other and percentages were created to see which checklist items were most likely to be found. They were evaluated in two ways, first a comparison was made of how many total Web sites included each of the listed checklist items. The second evaluation looked at each site separately to see how many of the necessary items were included.

Reliability and Validity

The validation of the checklist was completed by pretesting the checklist on three different school Web sites. The first school was Kincaid Elementary School found at http://home.gci.net/~acharvat/. The second school was Mission Trail Elementary School found at http://www.bv229.k12.ks.us/mtelmc/. The last school was Hiteon Elementary School located at http://www.beavton.k12.or.us/hiteon/library/index.html. These school

Web sites were not in the final sample of the 40 schools. After the pretest changes were made to the checklist, including adding a place for "Additional information" and omitting a place for "Information for students."

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Vesey, K. (2004). Building a better clicks and mortar library [Electronic version]. *Library Media Connection, 22*(7), 28-29.

CHAPTER 4

ANALYSIS OF DATA

Procedures and Methods Used

In order to retrieve the data necessary and in an organized fashion, the researcher created a checklist in Microsoft Excel. This checklist was made up of the different items that were found to be most important for a school library Web site. This information was determined based on the literature search completed as part of this study. The researcher evaluated a total of 40 Web sites all found within the states of Connecticut, Massachusetts, New Hampshire, New York, Pennsylvania, and Rhode Island. Fifteen Web sites were evaluated on February 11, 2007. Nine Web sites were evaluated on February 12, 2007. The last sixteen Web sites were evaluated on February 17, 2007. The descriptive statistics were analyzed by using counts and percentages in Microsoft Excel. The number of checklist items marked as "yes" by the researcher resulted in the percentages represented in the graphs.

Presentation of Results

The first analysis of data, as represented in Figure 1, compared, in percentages, how many of the schools, elementary and middle, included the five different major areas of information suggested to be included. These five sections were basic information, general information, Web site links, specific school information, and overall use and appearance. The basic information section appeared in 59% of the schools evaluated. The section on general information appeared in only 30% of the schools. The Web site links section appeared in 72% of the pages viewed. Items related to each specific school were provided in 43% of those evaluated. Finally a total of 69% of the schools met the requirements specified in the checklist for overall appearance and usability

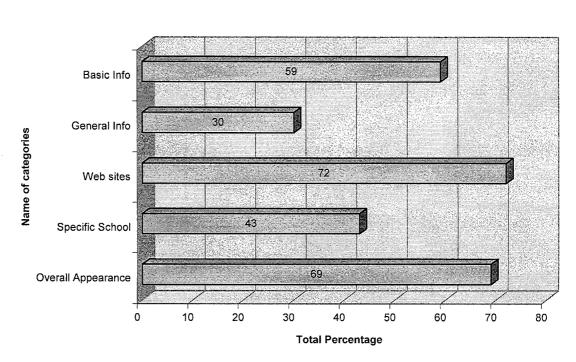


Figure 1: Total Percentage of Major Categories

The school library Web sites represented in Figure 2 are 10 out of the total of 20 elementary school Web sites that included 50% or less of the individual of items listed on the checklist. These school library Web sites were less than half way to reaching the goal of a well designed Web site for elementary school libraries. Of these 10 schools 3 fell into the 20% range, 1 fell into the 30% range, and 6 fell into the 40% range.

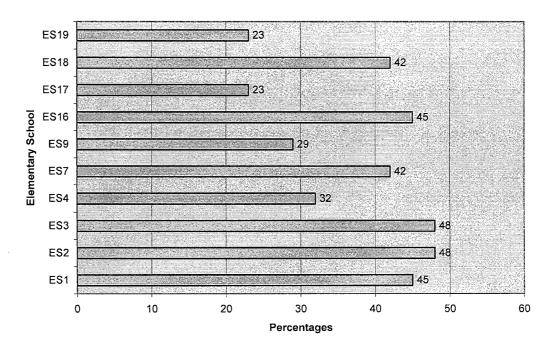


Figure 2: Elementary School Libraries With Lower Percentages

Figure 3 represents the remaining 10 sites out of a total of 20 elementary school library pages that included 50% or more of the individual items listed on the checklist. These school libraries were closest to achieving a well designed Web site for elementary school libraries. Of these schools, 5 fell in the 50% range and 5 fell in the 60% or higher range.

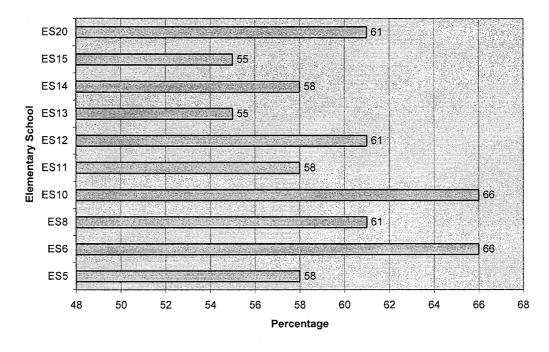


Figure 3: Elementary School Libraries with Higher Percentages

Figure 4 is a representation of the 10 middle school library Web pages, out of a total of 20, that displayed 60% or less of the individual items listed on the checklist. These school library sites were farther from reaching the goal of a well designed Web site for middle school libraries. Of these 10 schools, 4 fell into the 40% range and 6 fell into the 50% range. No school was higher than 66%.

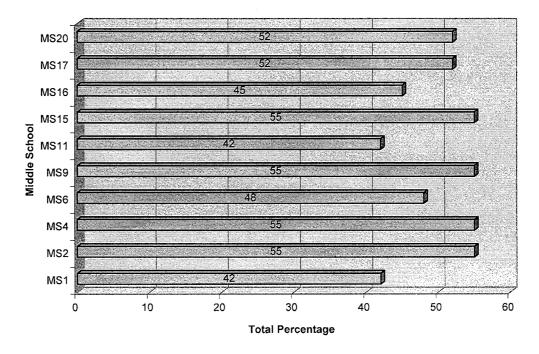


Figure 4: Middle School Libraries with Lower Percentages

The final figure, Figure 5, represents the remaining 10 middle school library sites, out of 20, that exhibited 60% or more of the individual items listed on the checklist. These school libraries were closest to achieving a well designed Web site for the middle school libraries. Of these 10 schools, 4 fell into the 60% range and 6 fell into the 70% or higher range. No school was higher than 74%.

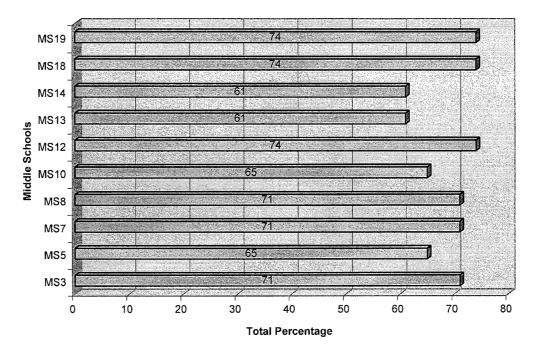


Figure 5: Middle School Libraries with Higher Percentages

In Table 1, the items on checklist that were used for the evaluation were compared. For each element included, the researcher calculated the total number of times each element was used and its percentage out of the total possible uses. Within this checklist, the elements that were used the most within both elementary and middle school libraries were "Web sites links included" and "Additional information," both at 95%, "Web sites considered user-friendly" at 88%, "information considered current" at 85%, and the "Date last updated", "Search engines included", and "Online databases" were included 83% of the time. The elements that were included the least were "Print journals" at 0%, "Other policies included" were 18%, a "Mission statement included" at 20%, a "Library schedule" and "Links provided for parents" at 25%.

Item to be assessed		Total Yes	Percentage of yes
Basic Information Employee List		31) 75%
		. 3.	
Date of last update	action	3.	00,0
Library contact Inform	Email	2:	
	Phone number	2.	
	Address	1	
	School District	10	
General Information	Total BI	16	
Mission statement	Total BI	10	8 20%
Library Schedule		10	
Library Curriculum		1	
Circulation Policy		1:	
Other Policy			7 18%
Other I only	If yes, which ones?		7 18%
Library News	ii yes, which ches.	2	
Lioiuly itens	Total GI	8	
Web site links		3	
	Search engines	3	3 83%
	Reference links	3:	2 80%
	Homework help	2	3 58%
	Special Interest	2	1 53%
	Core Curriculum links	2	5 63%
Specific to school	Total WSL	17	2 72%
OPAC		2	2 55%
Online database		3	3 83%
Print Journals			0 0%
Interlibrary Loan		1	3 33%
•	use of Web site Total SS	6	8 43%
Information current/u		3	4 85%
User-friendly, ease of	fuse	3	5 88%
Age-appropriate		2	9 73%
Information for paren	ts	1	5 38%
-	Link provided	1	0 25%
Information for teach	ers	3	1 78%
	Link provided	2	9 73%
Additional Information	on	3	8 95%
	Total OA	22	1 69%

Table 1: Total of Elements Included in Web Site

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Summary

Many school libraries are considered old fashioned because they are not using technology to reach their public. In order to continue to provide the best information possible to the patrons, a school library media specialist needs to utilize the Internet effectively. The purpose of this study was to study K-8 school library Web sites to see what information was being provided to the student, staff, and parents. The evaluation of multiple school library Web sites was conducted to answer the following question: How well did the information most commonly provided for elementary and middle patrons match the checklist items?

Interpretation of Results

In this study, the researcher evaluated both elementary and middle school library Web sites. Both categories had their strengths and weaknesses and both had areas in which they could improve to convey their information better to their public. Overall the elementary school libraries rated lower than the middle school libraries.

The majority of the elementary school libraries included grades K-5. On these Web sites the researcher was looking for information to inform parents of what was happening in the library as well as provide grade level tools to enhance the students learning.

In the elementary school libraries, the librarians who created them were consistent with creating Web sites that were user friendly and age appropriate. They included large fonts and bold colors and graphics to catch the students attention and guide them, through to what they needed to find. Though these sites did not include many links for parents there were links for teachers to assist in their planning and general use of information. There were links to Web sites, including reference, search engines, and specific content areas, to provide the students places to go on the Internet to enhance their learning. The last section most of them did well on was providing information about the school. The majority of the schools included the name of the school librarian and an email address for contact. Using email to contact the staff members was the most popular choice in these Web sites. They also, for the most part, were up-to-date on their information. This is vital because as librarians the goal is to provide the most accurate and best information possible. Therefore links and facts should be as updated as possible to fulfill this goal.

Though these sites had a lot of good aspects, there were many areas lacking information. Two areas that needed the most improvement were information about the library and information specific to the school. Few of the libraries provided policies for the library or the curriculum used to teach the students. These pieces of information were important because the community members need to be aware of how the library is run and what their philosophies are on education and instructing the students. It is also good for parents and teachers to know what is being taught in the media center and how it is vital to the child's education. Information such as the OPAC and online databases are also important to have on the Web site so students can have access to it more easily to become familiar with them and learn to use them.

When it comes to providing information for the students, the middle school percentages were higher, though their areas of excellence were the same. The majority of the middle schools offered information to students in grades 6-8. The middle school libraries provided many Web sites that would be useful to the students for research and learning purposes. The designs of their sites were age appropriate and user friendly for the age groups using them. They also provided links for the teachers to use in their teaching. These sites were also up-to-date with their information and links.

One area in which the middle schools rated at almost exactly 50%, was the basic information. Half the schools provided contact and half did not. Within that section the majority of the schools included the name of the media specialist and an email to contact them.

Although the middle school percentages were higher than elementary school, there were still some areas in which the middle school libraries were lacking in information. These areas were the same as the elementary schools. These schools did include access to the OPAC or online databases more frequently and had reference sites linked, but the percentages were low in comparison to what was expected. They also did not have Interlibrary Loan information listed. For this age group, Interlibrary Loan is more important because the students are researching more and in need of additional information. Another area deficient with information was the policies and procedures. Few libraries posted what they were teaching and what their purpose was.

Conclusion

The results of the evaluation showed that both the middle and elementary school libraries were consistent with what they included and what they lacked. Many of the

areas with little or no information were in fact important areas to include, especially on the Web site. The majority of the school libraries did not provide information on policies and procedures, something every library should have and provide access to. A lack of access to policy information brings up the question, does that information exist? Libraries need to include this information so the public knows what to expect and what limitations there are. All librarians should sit down with the administration and write up the policies and curriculums that fit the needs of the school and give their library a purpose. Posting these items to the Web site will open doors to more people reading and understanding the role of the library.

Another area lacking in information was what the individual libraries offered to the students. Not all school libraries have an online OPAC, but this is something that all schools should be considering. This is something that will allow students, staff, and parents access to see what is available from any location. Also providing links to databases will encourage students to use them more than having to find the sites on their own. The general trend for student learners today is to go to the search engines for information. Library media programs need to continue to provide tools and instruct our students in the direction of finding the best information, not the easiest. For the older students especially, but for all students providing information about Interlibrary Loan will also meet this goal. This is something that will allow students access to even more information in the form of books and periodicals and encourage them to use multiple sources to find information.

The Web sites studied in general provided good information for their students but were also lacking in information that was important to include. One way to improve on

these Web sites is to provide more professional development on technology in the library. Many librarians, especially ones who have been in field for a while, may not have the education needed to create Web sites or include technology in their curriculum. These skills need to be improved on so the libraries can enter the twenty-first century and provide the essentials for their patrons. This research could be used to discover what areas need to be focused in creating professional development by defining what areas most school library Web sites did not include.

Recommendations

This study is just the beginning in understanding the importance of school library Web sites and how they should be used and are being used. Research could be done more specifically on how up-to-date Web sites are or how useable they are for their patrons. Researchers could continue to find out information about how many schools have Web sites and how many of those Web sites are active. The research could be looked at from the other side to see the perspective of the user and how useful they consider the Web sites to be. The requirements for what is necessary could be investigated deeper and more thoroughly to discover what really is essential and what the patrons use on the Web sites. And last, as stated before, education for school librarians could be created to improve on the quality and use of technology on the school library system.

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APPENDIX

Web Site Checklist

APPENDIX

School Library Web site Evaluation Checklist

Basic Information Employee List Date of last update Date of last update Library contact Information Email Phone number Address School District General Information Mission statement Library Schedule Library Schedule Library Curriculum Circulation Policy Other Policy If yes, which ones? Library News Web site links Search engines Reference links Homework help Special Interest Core Curriculum links Special Interest Ohline database Print Journals Information current/up-to-date User-friendly, ease of use Age-appropriate Link provided Information for parents Link provided	Item to be assessed	Yes	No	Comments	
Date of last update	Basic Information				
Library contact Information	Employee List				
Email	Date of last update				
Phone number	Library contact Information				
Address	Email				
School District General Information Mission statement Library Schedule Library Curriculum Circulation Policy Other Policy If yes, which ones? Library News Web site links Search engines Reference links Homework help Special Interest Core Curriculum links Specific to school OPAC Online database Print Journals Information current/up-to-date User-friendly, ease of use Age-appropriate Information for parents Link provided Information for parents Link provided	Phone number				
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Mission statement	School District				
Library Schedule	General Information				
Library Curriculum	Mission statement				
Library Curriculum	Library Schedule				
Circulation Policy					
If yes, which ones?	Circulation Policy				
Library News	Other Policy				
Library News	If yes, which ones?				
Search engines					
Reference links Homework help Special Interest Core Curriculum links Specific to school OPAC Online database Print Journals Interlibrary Loan Overall appearance and use of Web site Information current/up-to-date User-friendly, ease of use Age-appropriate Information for parents Link provided Information for teachers Inform	Web site links				
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Online database	Specific to school				
Print Journals	OPAC				
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