ABSTRACT

by

Audrey M. Peters

The school library has evolved to keep up with changing student needs over the past twenty years. This research paper discusses three aspects of the library that have transformed to keep up with these needs. While many aspects of the library have changed since the 1990s, three main areas were the focus of this research. They are, the role of the librarian, library technology and the possible future outcomes for the school library. The research for this literature review was conducted mainly through online databases and through sources such as library magazines and using organizations like the American Library Association.
20 YEARS OF SCHOOL LIBRARY HISTORY

by

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER 1: INTRODUCTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>2</td>
</tr>
<tr>
<td>Research Questions</td>
<td>3</td>
</tr>
<tr>
<td>Limitation of the Study</td>
<td>4</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>5</td>
</tr>
<tr>
<td>Research Design</td>
<td>6</td>
</tr>
<tr>
<td>Conclusion</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 2: REVIEW OF THE LITERATURE</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Role of the Librarian</td>
<td>7</td>
</tr>
<tr>
<td>Librarian Roles in the 1990s</td>
<td>8</td>
</tr>
<tr>
<td>Librarian Roles in the 2000s - 2010s</td>
<td>9</td>
</tr>
<tr>
<td>Roles Librarians Feel They Take On</td>
<td>10</td>
</tr>
<tr>
<td>Technology in the Library</td>
<td>12</td>
</tr>
<tr>
<td>Technology in the 1990s</td>
<td>12</td>
</tr>
<tr>
<td>Technology in the 2000s</td>
<td>13</td>
</tr>
<tr>
<td>Technology in the 2010s</td>
<td>15</td>
</tr>
<tr>
<td>The Move to E-Resources</td>
<td>17</td>
</tr>
<tr>
<td>The Future of Libraries</td>
<td>19</td>
</tr>
<tr>
<td>Positives to Keeping Print Resources on hand</td>
<td>19</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

The school library is an ever-changing entity. This paper will focus on three aspects of the school library and what has changed over the course of the past twenty years. While this is a broad topic, this paper focuses on the role of the librarian, technology, and E-resources, and what the future of the school library might hold. While information about the school library during certain time frames is available, not many articles compile this information into one paper. This paper provides one source to gain an insight into how the school library has evolved to keep up with the changing needs of its students.

Statement of the Problem

In 1988, the roles of the school librarian were outlined in Information Power: Guidelines for School Library Media Programs. The roles included in this were information specialist, teacher, and instructional consultant. From 1988 to 1998 when Information Power: Building Partnerships for Learning was published, the role of the school librarian grew from three roles to four. These new roles were: teacher, instructional partner, information specialist, and program administrator. Once more, in 2009, the American Association of School Librarians released Empowering Learners, which defined five roles of the school librarian: leader, instructional partner, information specialist, teacher, and program administrator. Mark Lea and Anne McCracken both completed studies on how well school librarians felt they fulfilled their designated roles. Both Lea and McCracken discovered that librarians feel they do not fulfill their roles to their fullest potential.
Technology used in libraries of all kinds from the 1990s to the 2010s changed dramatically. The Online Public Access Catalogue went from having simple search capabilities in the 1990s to adding more access points in the 2000s, to being put on the Internet. By the 2010s, it included blogs, wikis, and RSS feeds. Library technology went from simple desktop computers to interactive whiteboards, 1:1 initiatives, tablets, and E-books. The evolution of technology has been one of the most drastic changes in the library.

E-resources have become more prominent and have some issue with implementation. Some of these issues are changes in software and hardware, constant updates, and digital rights. Libraries have had to create policies and procedures to keep up with the addition of E-resources to their collections. The International Federation of Library Associations and Institutions gave suggestions to make the transition easier, including finding vendors who offer training or a trial before purchasing.

Even with all of these changes shared by all libraries, the future of the school library holds still more. Some libraries may choose to go entirely digital, and some school districts have chosen to go this route. While some have gone digital, it is costly and does not come without its issues. Although some schools have gone digital, others choose to keep their print collections as well as having E-resources available for students.

**Purpose of the Study**

The purpose of this study was to review the literature to determine what school libraries were like in the 1990s, 2000s, and 2010s. For each decade, research was conducted about each of the three aspects and presented in this paper. This included researching what the roles of the librarian were, what technology was used in the library on a daily basis, including issues with the addition of E-resources. This research concluded that much has changed over the course of the
last twenty years and that the future of the school library is unclear. Some school libraries may choose to go digital while others may keep their print collections.

**Research Questions**

To begin with, the research process generated more questions than answers. The general plan for this research was to briefly detail the history of school libraries, focusing on the past twenty years. From there, the research was narrowed down to three subtopics. Once some research had been completed, the research questions were formed to guide the continuing research. The following research questions guided the research:

1) How have librarian roles changed since the 1990s?
2) How has technology changed the library over the past twenty years?
3) What are some issues with the addition of E-resources and solutions to them?
4) What might the future hold for school libraries?

**Limitations of the Study**

This paper includes some limitations to the research. While a great number of articles have been written about each specific time period, some were difficult to find. Articles from the 1990s were not as numerous as articles from the 2000s or 2010s. The research was also limited to existing research on librarian roles and technology. Technology also changes rapidly, so some information may be outdated within a short time. While there is ample information available on the Internet, articles from peer-reviewed journal articles were harder to discover. While this research paper shows what some libraries are like currently, it is not an example of how all school libraries have evolved or what they will be like in the future.

**Definition of Terms**

The following are definitions of terms that will be used throughout the literature review:
1:1 technology initiative: Each student is issued a mobile device, such as a tablet or laptop to access the Internet and other online resources.

Access point: An access point is a searchable piece of information in a digital record describing an item, such as the author, title, or subject of a work. They are common to all records and are used to locate resources and additional information.

American Association of School Libraries (AASL): AASL is a division of the American Library Association that focuses specifically on the needs of school libraries.

American Library Association (ALA): The ALA is a non-profit organization that promotes libraries throughout the United States.

Coverflow: A coverflow is a three-dimensional digital user interface that includes snapshots of items in the collection and can be easily navigated with the mouse.

Fixed schedule: With a fixed schedule, the librarian meets with every class at a set time each week. The library is only utilized during class time, and the librarian sees all students in the school.

Flexible schedule: With a flexible schedule, classes come to the library as needed if the library is available. This leaves more time for the school librarian to collaborate with teachers.

Library policies: Library policies include, but are not limited to, selection policies, collection policies, and Internet acceptable use policies.

Online databases: An online database is an Internet based collection of articles from books, journals, and other multimedia resources.
Online public access catalogue (OPAC): The OPAC is an online database of books and other resources included in a library. Patrons can search the OPAC to locate materials in the library.

Open-ended question: An open-ended question cannot be answered with a “yes” or a “no.” The person asking the question determines whether the answerer has answered the question in an appropriate fashion.

RSS feed: An RSS feed uses a web feed format to publish updated information, such as blog entries, news headlines.

User interface: A user interface is the virtual space where interactions between humans and computers occur.

Virtual classroom: A virtual classroom is an online space where students receive instruction from a qualified teacher and have immediate feedback and direction.

Web 2.0: Web 2.0 is widely used to refer to these technologies that reflect substantial changes in the traditional model of how content for the Web is created and consumed. These technologies include blogs, wikis, podcasts, and social media.

Research Design

The research for this paper started with the question of how libraries have changed over the past twenty years. This was a rather large topic, so the research was narrowed to three subtopics. The areas are library evolution in the roles of the librarian, technology, and E-resources. From here the research focused on each of these categories and narrowed them down to the 1990s, 2000s, and 2010s.

To discover articles about technology, some of the search terms used were “library technology in the 2000s,” “OPAC in the 1990s,” and “changes in library technology.” When
researching librarian roles, the term, “librarian roles,” was used, while narrowing down the time frame of the article written. This process produced the most pertinent articles. When searching for information about E-resources, the topic was narrowed by searching “issues when implementing E-resources” and “solutions to E-resource issues.” This did not deliver many results, so the search changed to “issues with E-resources,” and this finally delivered sources.

Some of the sources utilized for the research were from the University of Central Missouri’s James C. Kirkpatrick Library. Most peer-reviewed articles were found in online databases such as Academic Search Complete, Library, Information Science and Technology Abstracts with Full Text, Library, Information Science and Technology Full Text, Education Research Complete, and ProQuest Central. Several articles were also used from sources such as School Library Journal, the New York Times, Education Week, and the American Library Association.

Conclusion

This research paper discusses how the school library program has changed over the course of the past twenty years. The role of the school librarian has evolved to keep up with the ever-changing needs of the students and the needs of the library program. New technology has been released and has made its way into the school library. Technology is now an integral part of the library and how it is run. For example the OPAC has gone from being a simple card catalogue to a computerized, interactive search engine. The future of the school library has changed from what it looked like 20 years ago, and it continues to evolve.
CHAPTER 2
REVIEW OF THE LITERATURE

School libraries continuously adapt to keep up with the changing world. While many things have changed in libraries during the course of the past twenty years, the purpose of the library to provide services and resources has not wavered. The first section of the paper explores how librarians have taken on new roles to keep up with the evolving needs of students. The second section describes how libraries keep up-to-date with new technology. One technological adaptation is the move from using the card catalogue to the implementation of the Online Public Access Catalogue (OPAC) and Web-OPACs in recent years. Other emerging technologies such as blogs, wikis, e-readers, and digital libraries have all played a major part in the way libraries are changing. The library continues to change, and the final section of the paper proposes how the future of libraries is unclear. Some school libraries are going all digital, whereas others prefer to keep a mixture of print and digital resources. Change is the only constant.

The Role of the Librarian

Research shows that having a full-time, qualified school librarian in each school is a benefit for all students. Roscello points out that the types and quantities of resources have changed over the years, but qualified librarians are still in need (6). Kachel and Lance mention many benefits to keeping full-time, qualified librarians in schools, stating that reading and writing scores are consistently better for students who have a full-time librarian, and that writing scores are more positively impacted than reading. Students who are poor, minority, and who have an individual education plan (IEP) benefit particularly from having a full-time librarian in their schools. These students have been shown to have higher test scores than similar students who do not have full-time, qualified librarians in their schools (Kachel and Lance). The benefits
of a librarian and a larger collection are proportionally greater for these students. Library staffing is a key factor to helping students with not only their test scores, but also their general learning. No real substitute exists to a full-time, certified librarian who is willing to put in the effort to make the library a place of learning. Having a qualified librarian will help improve test scores, create a better and larger collection, and improve learning for all students.

**Librarian Roles in the 1990s**

The librarian’s importance lies in the many roles that he or she takes on. While the title of several of the roles of the librarian have stayed the same over the years, the duties that each role includes have altered to keep up with the needs of the library. In 1988 *Information Power: Guidelines for School Library Media Programs*, librarians had three roles outlined: information specialist, teacher, and instructional consultant. These roles are similar to the roles later outlined in 1998. In *Information Power: Building Partnerships for Learning*, librarians have four defined roles: teacher, instructional partner, information specialist, and program administrator. As a teacher, librarians were expected to work with students and teachers to find materials, be knowledgeable about what was being taught in the classrooms, and help teach students critical thinking and problem solving using the information they access in the library. The role of information specialist entailed acquiring and evaluating resources for the library, modeling and teaching effective research strategies, and staying up-to-date on new technology. The instructional partner aspect of being a librarian included working with teachers to help find resources to meet their content needs, assisting in the development of curricula and policies in the school, and helping teachers design authentic learning tasks. The final role of program administrator included advocating for the library media program, staffing the library, budgeting,
acquiring needed equipment, and making sure the program was running smoothly. Each of these roles helps school librarians know what duties are expected of them.

**Librarian Roles in the 2000s-2010s**

In the 2000s-2010s, librarians follow many of the same roles as in previous years, but with some significant changes. In 2009, The American Association of School Librarians released *Empowering Learners*. This details five roles for school librarians rather than four, adding the role of leader. These roles are: leader, instructional partner, information specialist, teacher, and program administrator. According to *Empowering Learners*, a leader is one who listens and acts upon ideas from peers, teachers, and students; continues learning about the profession; is an active member of the local and global learning community; and builds relationships with organizations that can help to develop effective programs. The instructional partner role requires the librarian to work with others to develop the policies, practices, and curricula of the school, collaborate with teachers to develop lessons, and helps teachers with instructional design. *Empowering Learners* outlines the information specialist role as someone who uses technology to supplement school resources, assists in the creation of learning tasks, connects the school to the global learning community, communicates with students and teachers at any given time, provides access to library materials, is an expert in copyright information, and keeps up-to-date on new and emerging technologies. As a teacher, the school librarian strives to help students become critical thinkers, keen readers, researchers, and ethical users of information. The final role outlined in *Empowering Learners*, program administrator, requires that the librarian ensure all of those in the learning community have access to learning resources in enough variety to meet everyone’s needs. The program administrator works with others to develop the mission, plan, and policies of the program, and manage staff, the budget, and the
physical and digital spaces. For the library media program to flourish, all of these roles must be present.

It is evident these roles have changed significantly, even though the name has not. The roles of program administrator, information specialist, instructional partner, and teacher outlined in *Information Power: Partnerships for Learning* are all very similar to those same roles outlined in *Empowering Learners*. The only exception is the addition of the role of leader. Librarians in the 21st century are committed to their profession and willing to advocate for the library. They face challenges and look for opportunities to lead that come their way. The roles of leader, instructional partner, information specialist, teacher, and program administrator are also necessary for future growth and the progression of the school library.

**Roles Librarians Feel They Take On**

With all of these roles that librarians must take on, many librarians feel they give more attention to one role than the others due to a lack of time, funding, scheduling conflicts, or a lack of teacher interest. In 2001 Anne McCracken surveyed 1,000 school librarians and used the 505 returned surveys to determine how well school librarians felt they were achieving the three roles mentioned in *Information Power: Guidelines for School Library Media Programs*. In this survey, librarians determined that the role of information specialist was the most important, followed by program administrator, teacher, instructional partner, and instructional consultant. School librarians placed more importance on different roles depending on the grade level of the school where they were and the type of library schedule, whether it was fixed or flexible. The key to school librarians’ having the ability to expand their roles lies in the following: supportive administrators and teachers, new technology, professional development opportunities, their own abilities and attitudes, funding, and clerical support. Many librarians feel they have several
obstacles to taking all of the roles necessary to make their programs flourish. Some obstacles are lack of time, lack of funding, lack of interest of classroom teachers, having a fixed schedule, no clerical staff, and too many schools or students to provide for.

McCracken’s survey determined that school librarians “feel they are unable to practice any role to the degree they feel they should.” Every role was perceived to be more important than the librarian had time to implement. Lack of time was the number one reason why school librarians did not take on instructional roles more fully. Going along with a lack of time was a lack of clerical staff. Librarians who had no clerical staff were less likely to have time to put toward instructional roles.

In 2013 Mark Lea completed a study on what roles librarians believed they took on. He interviewed librarians in Wisconsin public schools and based the roles on Information Power: Building Partnerships for Learning. His study involved interviewing librarians using open-ended questions about what they believed their roles were. He also collected other information, such as the grade levels served and whether the library was on a fixed or flexible schedule. Lea determined that role expectations are influenced in part by two main factors: the size and the grade level of the school. Lea’s study determined that elementary school librarians rated the role of teacher more highly than other roles, whereas high school librarians rated the information specialist role higher.

Through his study, Lea supplied librarians with three new roles rather than the ones outlined in Information Power. The roles suggested by Lea are custodian, information specialist, and educator. As a custodian, the school librarian is a keeper of technology and materials. The information specialist role involves teaching library users how to access information and helping them get to information. In the final role of educator, librarians work to “open students and staff
to a world of knowledge” (Lea 168). While these roles are not the same as the ones outlined in *Information Power*, they might be a more accurate view of how librarians see themselves. The responses to these surveys show that many librarians do not feel they are successfully fulfilling all of the roles outlined for them, mainly due to a lack of time.

**Technology in the Library**

Technology in the school library has changed drastically since the 1990s. Schools have gone from having minimal computers when there was no Internet to having broadband Internet access and e-readers. Technology changes have not only had a major impact on students, but have impacted the way the library works. For example, the move from card catalogs to Online Public Access Catalogs (OPACs) and then to Web-OPACs has revolutionized the way cataloging is done and how patrons can search for needed information.

The transition from the card catalogue to the Online Public Access Catalog (OPAC) occurred around the 1980s. Shiv Kumar states that the OPAC has three distinct functions: it acts as a bibliographic database, it functions as a portal to other data such as overdue books and fines, and it is a promotional artifact, promoting the existence of the library and the services the library provides.

**Technology in the 1990s**

The very first OPACs were very simple and could not cover all types of materials the library held. During the 1990s, the third generation of OPAC made its appearance and had many new features. Initially schools had OPAC systems that were very similar to the card catalog, except that they were computerized records of documents and materials in the library. Kumar mentions that in the 1990s, OPACs were more user friendly than previous versions had been. They had better search capabilities and users could select the exact term they were looking for.
Third generation OPACS would also display the most relevant records first. Some other improved features of the third generation OPACs were interactive interfaces that allowed users to alter search methods and narrow their search to find relevant records more easily.

M.S. Sridhar completed a study about OPAC usage at the ISRO Satellite Centre and found that if students were trained to use the OPAC, they were more successful in finding the resources they needed. Sridhar also discovered that few students wanted to put the time and effort in to learning how to use the OPAC. Sridhar stated that in many instances of students using the OPAC, their searches ended with aborted sessions or no matches returned. Training students to use the OPAC proved to be an important skill. As students learn to use the OPAC correctly, they become more adept at finding the resources they need.

In the mid-1990s, the other types of technology available in the library were vastly different than what is available in the 2010 library setting. Students would use desktop computers, the OPAC, and CD-ROMS containing periodical indexes and bibliographies to do research. However they primarily read print books. In Hayden’s 1996 article “A Book in the Hand is Worth Two on a Disk,” she mentions computers and CD-ROMs and how these types of technology changed the way students were able to research and read for pleasure. Students were able to access the Internet through telephone connections to find even more resources than were physically in the library, and they could read electronic books on the computer. This kind of new technology in the 1990s changed how the library worked, from how students did research, to reading and finding books in the library.

**Technology in the 2000s**

User interfaces, while better than previous versions, were improved upon between the 1990s and the mid-2000s. With OPACs in this time, users had more access points through which
to search for resources, more ways to access resources, and could access the OPAC over the
Web. They could search for ISBN and ISSN, keywords, author, title, or subject (Husain and
Ansari, 2006). Users had more access points to information in the OPACs than they did in
previous versions or the card catalogue. During this time, the Web OPAC also became available.
The Web OPAC uses the Internet to allow patrons to access the catalog without coming to the
library. During the early to mid-2000s students could search the Web OPACs, but the practice
became more widespread later. New components to the OPAC made searching for items easier
than it had ever been before. In addition to having more access points, students had the ability to
access the OPAC over the Web so they could search for resources at home and find them when
they got to school.

From 1996 when “A Book in the Hand is Worth Two on a Disk” was published to 2006
when School Library Journal released their 2006 Technology Survey, other library technology
had changed drastically with the expansion of Internet use, whiteboards, and the introduction of
e-books. Most schools had electronic reference tools, such as online databases, and on average,
schools had one computer for every four students. Multimedia projectors and ‘smart’
whiteboards had been released and many libraries were fitted with them. E-books also made their
appearance during this decade, and were starting to become popular. At this time, e-books were
not as portable as they are in the 2010s because of limited access to E-readers. School librarians
were also beginning to use wikis and blogs in their teaching along with other Web resources to
help counter plagiarism and to help students build citations.

From 1996 to 2006, technology use grew by leaps and bounds. The 2006 Technology
Survey pointed out some issues for libraries. Many librarians had a lack of funding and could not
keep up with the cost of new technology. Not only was a lack of funding problematic, in many
schools, teachers and staff had little to no training on how to use this new technology. With wikis, blogs, and other online resources available at this time, teachers and staff needed to be trained to use these tools to their fullest potential. The rapid development of new technology in the 2000s improved technology available for students, but it came at a cost, both of time and money.

**Technology in the 2010s**

Throughout the 2000s into the 2010s, the OPAC grew from being based in the library to being on the Web. Library patrons were able to access the OPAC from their own homes rather than making the trek to the library. In the 2010s, Web OPACs transformed to much more than simply a place to remotely check the library catalog. Shiv Kumar discussed new Web 2.0 technology that began to make an appearance in the OPAC. The OPAC provided a way for students to pay fines, put holds on books, and keep up-to-date on library events. Many Web OPACs have RSS feeds, blogs, downloadable e-media, and instant messaging available. These can be used as services to tell students about new books the library has added to the collection, when they have overdue books, and keep them up-to-date about what is going on in the library. In 2012 Michael Kelley and Meredith Schwartz stated apps had been created and released that allowed users to use the library’s OPAC straight from social media. Web OPACs have joined the participatory culture by being available from social networks where students spend much of their time. These additions allow the OPAC to take on a greater role to help students utilize the library.

More drastic changes in other library technology came in 2013, such as Wi-Fi, tablets, and 1:1 programs. Once again, these advancements in technology came with the cost of money and time. *School Library Journal’s* 2013 “School Technological Survey” discusses some of
these new technology options. Not only did most schools have Internet in 2013, many were equipped with Wi-Fi to keep up with modern technology such as smartphones and tablets. With the advent of tablets, some schools began to make the move to providing tablets for student use. Tablets are used for anything from accessing the Internet, reading e-books, to accomplishing classwork. More schools have e-books in 2013 than they did in 2006, most likely due to the addition of portable e-reading devices.

Lauren Barack mentioned that whiteboards and desktop computers were still the most common technology available in the library in 2013. Many schools began providing laptops for student use as well as tablets. In this transition to laptops and e-readers, Barack points out that librarians are consistently seen as the technology leaders in their schools, and they continuously instruct teachers and students in the use of technology tools such as online databases, multimedia, and free Web-based resources such as wikis and blogs.

These Web 2.0 technology changes have required a change in the way librarians assist students. In 2013 Mary Mintz Marie L. Radford, Emily Ford, and Joyce Valenza pointed out that information is no longer lacking; however, time is of the essence. The librarian’s goal is to create efficient and meaningful experiences for each student who visits the library, whether through online connections such as a chat, or in person, or visiting the library website. Students have many ways to access the library and to visit the library to see what resources are available to them.

Changing technology brings about other necessary changes for school libraries. Miranda Carpenter and Ravonne Green point out several of these changes that libraries have had to make to keep up with the needs of the patrons. One of these is a change to the facility. No longer are libraries rooms filled with stacks of books. They are meeting places for students to collaborate on
group projects, places for students to relax and read a book, and for teachers to bring students to do research. These new communal spaces have changed the look of the library. Now, libraries have more tables and chairs with power outlets where students plug in their laptops or e-readers. The physical space of the library has altered to keep up with the needs of students. The addition of tablets and laptops to student equipment has been one of the biggest changes in the 2010s. It has shifted the role of the library so drastically that the physical space has changed to keep up with the evolving needs of students and teachers.

The Move to E-resources

E-books’ popularity has grown immensely since the mid-2000s. With this move to E-resources comes complications and issues, as with any new technology. The International Federation of Library Associations and Institutions (IFLAI) released “Key Issues for E-resource Collection Development” to inform librarians about the issues that arise when beginning the development of an E-resource collection. Several of the big issues they mentioned when beginning E-resource collection development are as follows: licensing, networking, pricing, ownership, and changing technology. Hardware and software change rapidly, so they may require frequent updates to keep all devices ready and able to use E-resources. Another issue that arises is the compatibility the E-resources have with the devices that are already owned by the library and by patrons. If it is going to cost extra to purchase software to make the devices compatible for the E-resources, it may not be worth it to go with that hardware vendor.

Scan’s article “E-resources: a Taster of Possibilities and Issues” also gives a few general issues that arise when entering the world of E-resources. Their list also includes several issues that IFLAI mentioned. Their list includes the following: digital rights, publishing options, varieties of reading devices, software, and file formats, and cost-effective approaches.
IFLAI offers suggestions on how to make the transition to E-resources a little easier. With these suggestions in mind, finding an E-resource vendor may be an easier task. They give ideas on what attributes to look for in an E-resource vendor. They suggest looking into what kind of support the vendor offers when it comes to learning about the product. Vendors that offer a trial or a demonstration give librarians the opportunity to see how the product may affect their library. IFLAI also suggests determining what kind of training and support the vendor provides after purchase. Technical and customer support should be available to resolve technical issues in a timely manner. All of these suggestions will aid in the development of an E-resource collection.

The American Library Association (ALA) also has suggestions on how to develop an E-resource collection. In their 2009 article “Guidelines for the Introduction of Electronic Information Resources to Users” they give guidelines on how to prepare for new E-resources and how to avoid some of the issues that come along with them. They first suggest checking over the policies and procedures of the library. If there are no policies or procedures in place for the new resources, ALA recommends they be developed. Next, ALA suggests heading off the compatibility issues by testing compatibility with different operating systems; determining if new software is needed to make the resource usable, and reviewing options with the E-resources. Training both staff and students in the use of E-resources is next on their list of suggestions. Those who are better able to utilize the resources at hand will be more likely to use them and be able to use them to their fullest potential. Next, ALA lists publicity as a priority. Advertise new E-resources so students know they are available. If they do not know that the library has new E-resources, they will not know to use their tablets or laptops to access them. Lastly, ALA suggests assessment and evaluation to determine the success of the new E-resource. Students
could suggest changes and give feedback on how well they feel the E-resources worked for their needs. Preparing to begin an E-resource collection requires a lot of work, including creating policies, checking to see if the current technology is compatible, training for staff and students, and advertising the new resources. By following these suggestions, it may help the transition to E-resources go a little smoother.

The Future of Libraries

With all of these rapid changes in technology in the library, and the librarian’s role transforming to keep up with the changes, the future of the school library is unclear. In many instances school libraries still have a mostly print collection, but others have begun to go entirely digital. In both cases, libraries are ever changing entities that work to keep up with the needs of the students.

Positives to Keeping Print Resources on Hand

Moving to E-resources does not always come at the cost of losing the print collection. Electronic resources are expensive, and having all resources online does not give students the opportunity to browse the collection to physically see how topics relate to one another. Ruth Hayden warns against letting the print collection decline in order to gain the most modern technology (6). While this 1996 article does not take into account that students now have access to tablets and other portable devices, Hayden makes several points that are valid still. She remarks many elementary librarians “find themselves in the proverbial catch 22 situation. How can they continue to offer a full range of current print materials that children may borrow and enjoy while simultaneously building technological support in the library in times of considerable financial restraint” (Hayden 6). Finding a balance between what electronic resources and print resources to purchase is an ongoing library issue. Hayden goes on to say technology should not
be purchased unless it will help develop a desire to read. Even with all the technology that a library has, if a young student does not think the library is an exciting place to go, it will be to the library’s detriment.

Thomas Mann also discussed the merits to keeping print collections on hand. He remarks that when books are classified together, users are able to find sources that they might not otherwise find through a keyword search. Some books may be related, but would not show up in a specific search, but would be close together on the shelves. He also mentions when searching for resources in databases, searches will bring back all items on one subject or another, but cannot tell how they are related to one another.

Having print collections on hand for students to peruse the titles could help them gain ideas and let them branch their topics out when they have the ability to see physically how the topics relate. Having print resources gives students an opportunity to see related topics near each other on the shelves, and this might allow them to find other resources they never would have found when searching online. By having physical books on hand, students also gain the chance to learn about the features of nonfiction books. They can learn about the table of contents, index, and glossary with a book in front of them and will then have the skills to use these features with E-resources.

**Online Libraries**

While many schools have expanded their libraries to include online E-resources, some have taken it to the next step and completely digitized their libraries. Three such schools are Benilde-St. Margaret in Minnesota, the Cushing Academy in Massachusetts, and the WestShore Centre for Learning and Training. Cushing and Benilde-St. Margaret went entirely digital, whereas WestShore completed a study to determine if going entirely digital would best serve
their needs. Cushing Academy was thought to be the first school to mostly digitize their library (Antolini, 2009). The transition occurred when school officials noticed students were not utilizing the print collection the school library had on hand. Students’ first reaction was to go online to find the information they needed. To allow the move to an entirely digital collection, the school went to a 1:1 program, giving each student a laptop, and providing Amazon Kindles for students to use. According to Antolini, the library’s circulation numbers had improved quickly after making the change to digital resources.

Lauren Barack wrote about the Benilde-St. Margaret high school that made the move to a mostly digital library in 2011. Even though most of the physical books are gone, the library was still an integral part of student learning. Students from high school and middle school used the library to work together on projects, get help from math or literacy coaches, or read silently. Benilde-St. Margaret was able to make the move to a digital library due to their 1:1 technology initiative instituted in 2010. Each student received a MacBook at the beginning of the year and they could access numerous online databases such as Gale and ProQuest.

Part of Benilde-St. Margaret’s digital library success could also be attributed to the nearby university and public libraries students could visit when they needed to. Teachers and school librarians helped students request books from these libraries. The physical setup of the library was set so students could work as a group or work alone. The librarian hoped for an interactive whiteboard and a monitor where students could put things on the screen as they collaborated. Access to more power stations to help keep the MacBooks powered was a concern.

In 2010, Patterson, Stokes-Bennett, Siemens, and Nahacheswsky published a study about a school’s trial run at a digital library. In Langford, British Columbia, Canada, WestShore Centre for Learning and Training worked toward creating a school library that would be
accessible to students with diverse needs, have relevant and engaging content, and have assistive technology. The online library was developed and became an extended virtual classroom space where teachers could post assignments and have discussions. In designing the virtual library, they took into account what both students and teachers wanted. The students wanted more interactive features such as rating and recommendation system and profiles, whereas the teachers were more concerned about the ease-of-use, student management within the online classroom, and easy content upload. Throughout this pilot program, the researchers discovered that students were more likely to use the interactive features of the online library. The library included a user graphic called a coverflow on the front page of the library webpage that showed recently added books. Students could scroll through these books to find ones of interest. Teachers, however, used the classroom features the most. They posted assignments, put information in groups, and planned lessons that utilized many parts of the online library.

Students were able to read books of their choice without fear of being teased for reading an easier book, they were able to interact with teachers and other students in an online community. The online library was more successful than the e-readers used to access it. Some issues that came along with instituting the online library were wireless access, security systems, and wasting time getting technology issues sorted out before beginning class. On the positive side, students were able to access the online library from any location at any time.

Another online library would be Google’s online collection of books. In 2004, Markoff and Wyatt wrote an article announcing that Google was going to work with several research libraries such as Harvard, the University of Michigan, Stanford, New York Public Library, and Oxford University to convert their resources into digital files. The goal of this collaborative effort was to create a searchable library for many of the world’s print resources. Google was not
the only project taking place in 2004. The Library of Congress also announced that they were going to collaborate with several international libraries from the United States, Canada, Egypt, China, and the Netherlands to make one million books available on the Internet.

Discussing the library of the future, Matthew Lynch stated that, “students are going to have, at their disposal, a greater range of resources than ever before and that is saying something.” While many of the elements of the school library such as e-books, academic databases, and multimedia programs will remain similar, libraries will become more effective at utilizing these tools and provide greater access to them. Lynch believes the cost-efficiency of the library will improve in the future as well; as students are able to access resources remotely, library management costs will be reduced. Space will become less of a factor with more resources becoming digital. School libraries will also be more likely to partner with nearby public or university libraries to let the students gain access to a wider variety of resources.
CHAPTER 3
CONCLUSION

Over the past twenty years, school libraries have worked to keep up with the changing world. This paper has discussed several aspects of what has changed. One aspect of librarianship that has changed is the role of the librarian. School librarians have had to take on new roles to assist students and keep up with changing technology. This paper discussed that technology changes have been one of the hardest things for librarians to keep up with. New technology is released nearly every day and many schools do not have the funding to purchase it or the training to use it. The online public access catalog (OPAC) has also changed dramatically since the 1990s. It has gone from something resembling the card catalogue on computer to being an interactive resource for students. This paper also discussed what the future might hold for school librarians. Some schools have moved to having only digital resources, whereas others have held on to their print resources. The four questions posed in chapter 1 are answered in this chapter. The role of the librarian from the 1990s to the 2010s, new and evolving technology over the past twenty years, E-resource issues and solutions, and the future possibilities of the library were all discussed in Chapter 2.

Librarian Roles

Having a full-time, qualified librarian in each school is an asset for students. Schools that employ a full-time qualified librarian have shown higher testing scores in reading and writing for all students and an even higher increase for students who are poor, minority, or have an IEP. All of these students have shown higher test scores than students who attend schools that do not have full-time librarians. Not only does a full-time librarian help improve test scores, they improve
students’ general learning. There is no true substitute to having a full-time certified librarian in each school.

In the 1990s, librarians followed the roles outlined in *Information Power: Building Partnerships for Learning*. These roles were teacher, instructional partner, information specialist, and program administrator. In 2009, when *Empowering Learners* was released, the American Association of School Libraries added a fifth role to those already outlined. They added the role of leader so librarians would be leaders, teachers, instructional partners, information specialists, and program administrators.

Although there are five roles librarians adopt, most librarians feel that they cannot be fully successful in all roles. Anne McCracken’s 2001 survey discovered that the role of information specialist was, on average, the most important role to librarians. The emphasis placed on different roles was dependent on what grade level librarians were at and whether they had a fixed or flexible schedule. McCracken found that librarians need supportive administrators and teachers, up-to-date technology, professional development opportunities, funding, and clerical support to more fully take on the roles outlined in *Empowering Learners*.

Mark Lea found that role expectations depended on the size and grade level of the school. He also found that elementary librarians placed more value on the role of teacher whereas high school librarians valued the role of information specialist. Lea suggested three replacement roles for the ones outlined in *Information Power*. These new roles are custodian of technology and materials, information specialist, and educator.

**Changing Technology**

Technology changes in the past twenty years have been drastic. In the 1990s, OPACs were simple but had better search capabilities than the card catalogs they replaced. They were
user friendly and displayed relevant records first in a list of results from a search. This was a large jump from the OPACs in previous years. M.S. Sridhar’s study about OPAC usage at the ISRO Satellite Centre found that if students were trained on how to use the OPAC, they were more successful than if they had not been trained. Other technology in the 1990s included desktop computers and the use of CD-ROMs containing periodical indexes and bibliographies. These were all used to do research along with print books.

In the 2000s, the OPAC developed even further with the addition of more access points to search through, such as ISBN, ISSN, keywords, author, subject, and title. The Web-OPAC was also making its first appearance during the 2000s. Meanwhile school libraries were adding new digital technology such as Smartboards, provided access to the Internet, started acquiring e-books, and maintained online databases. Librarians also began to utilize blogs, wikis, and other online resources in their teaching. With the growth in technology came several setbacks. Many libraries did not have the funding to keep up with new technology and librarians and their staff did not have the necessary training to use the new technology effectively.

In the beginning of the 2010s, the OPAC was more fully integrated to the library website. OPACs included RSS feeds and blogs, and students were able to pay fines, place holds on books, and know what events were occurring in the library. Some OPACS even allowed students to access them from social media websites. By the 2010s, most schools had Internet access along with Wi-Fi, and some provided tablets for students or had a 1:1 program.

With these changes in technology, the library changed its physical space to meet the needs of students. Tables and chairs have taken the place of book stacks, and electrical outlets have been put in easily accessible areas. Libraries are no longer a place to only check out books. They are a place where students collaborate on projects, read books, and do research.
Adding E-resources

With the addition of E-resources to the library’s collection, several issues arise. Some of these issues include licensing, networking, pricing, ownership, and changing technology. With changes in software and hardware happening constantly, frequent updates make sure the library’s devices are compatible with the devices they already own. Other issues of concern are digital rights, publishing options, availability of various reading devices, software to be purchased, and making numerous file formats accessible.

With all of these issues, many offer suggestions on how to make the addition of E-resources easier. When selecting a vendor, the International Federation of Library Associations and Institutions (IFLAI) suggests librarians investigate what kind of support they offer, whether they offer a trial or demonstration, and what kind of training they provide. The American Library Association also gives several suggestions on how to make the transition smoother. They advise librarians to determine if they have policies or procedures in place for E-resources. If not, recommends that libraries develop them. They also suggest checking compatibility issues before purchasing, training staff and students how to use E-resources, and publicizing the accession of the new E-resources.

A View of the Future

With the availability of E-books and online databases, some schools have debated the possibility of dropping their print collection. However, there are some arguments against this. The number one argument is that electronic resources are expensive. Not only that, but students are not able to browse the stacks of books to find books related to their topic. Browsing the stacks can offer up books that would never turn up in a keyword search. Many libraries are trying to find the balance between print and electronic resources that works for them.
Several school libraries have experimented with the possibility of going paperless. Cushing Academy in Massachusetts and Benilde-St. Margaret in Minnesota have both made great strides to making their libraries entirely digital. Along with these two schools, WestShore Centre for Learning and Training completed a study to determine if going entirely digital was right for them. Cushing Academy went digital and went to a 1:1 program, providing a laptop for each student. This change brought a quick improvement to circulation numbers for e-books.

Benilde-St. Margaret high school went mostly digital in 2011. While they took out most of the physical books, students still used the library on a regular basis. Students worked on projects, read, and got help from their teachers. Benilde-St. Margaret was able to make the shift to a digital library because of the 1:1 initiative they began in 2010. This transition was successful, in part, due to the school’s collaboration with the nearby public and university libraries. The school librarians helped students acquire needed books from these libraries to help with research.

WestShore Centre for Learning and Training attempted a trial at a digital library. They created an online library and learning space for students to use. Teachers could post assignments and students could have discussions in this online space. Students were able to browse and read books, complete assignments, and do research, all from the tablet they had been provided. Online libraries are part of every library’s future. Google has worked for the past ten years to create a large online library for users. They have collaborated with Harvard, the University of Michigan, Stanford, the New York Public Library, and Oxford University to convert resources into digital files. Google is not the only online library. The Library of Congress has worked with several international libraries to make one million books available on the Internet.
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